

ALCOHOL USE AND OUTCOMES IN CHICAGO

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**HEALTHY
CHICAGO**

CHICAGO DEPARTMENT OF PUBLIC HEALTH

Executive Summary

Alcohol use contributes to many health problems nationally. An estimated 88,000 people in the United States die annually due to excessive alcohol consumption, making alcohol one of the top five preventable causes of death.¹ Six percent of adults nationally reported meeting criteria in the *Diagnostic and Statistical Manual of Mental Disorders* for alcohol use disorder.² Alcohol accounted for 28% of all traffic-related deaths and 16% of all motor vehicle crashes in the U.S. in 2016.³ In 2017 in Chicago, there were 1,982 arrests for driving under the influence of alcohol.⁴

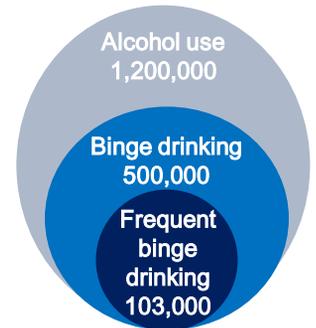
In addition to harms to the individual engaging in drinking, alcohol use can cause harms to others, also called secondhand drinking. These harms affect approximately 60% of Americans and include assault, family problems, harassment, financial loss, school problems, loss of sleep, lack of community safety, anxiety, and depression.⁵

Healthy Chicago 2.0 is a collaborative plan to improve the health of all Chicagoans and reduce health inequities. This plan includes seventy-five objectives, many of which include a data-informed priority population that is disproportionately impacted. For example, two **Healthy Chicago 2.0** objectives are: reduce breast cancer mortality among non-Hispanic African American/Black women by 10%; and decrease percentage of Hispanic/Latinx adults without health insurance by 20%. The **Healthy Chicago 2.0** objective related to alcohol is: reduce adult binge drinking among non-Hispanic White males by 5%. In 2011, at baseline, 46% of non-Hispanic White males in Chicago reported binge drinking.⁶ In order to assess progress towards the objective, the Chicago Department of Public Health (CDPH) reviewed and analyzed data related to alcohol use, alcohol-related hospitalizations, and alcohol-related deaths. This is the first report of its kind for the City of Chicago.

A higher percentage of adults in Chicago report any alcohol use compared to adults nationally, but a lower percentage of adults in Chicago report binge drinking and frequent binge drinking compared to adults nationally. In Chicago, binge drinking rates were highest among men; non-Hispanic whites; young adults (21-29 years); and those with an income of 400%+ the federal poverty level (FPL). Chicago public high school students were less likely to report binge drinking than high school students nationally. Unlike adults, female students were more likely to report drinking alcohol than males. Rates of emergency department (ED) visits related to alcohol in Chicago were highest among men; non-Hispanic African-American/blacks; adults aged 55-64 years; and persons living in communities experiencing high economic hardship. There were 223 alcohol-induced deaths and another 257 deaths due to liver disease and cirrhosis in Chicago in 2017. The rate of alcohol-induced death was highest among males; Hispanic or Latinx individuals; adults aged 55-64 years; and persons living in communities experiencing low economic hardship. Different subpopulations suffer different harm from alcohol use.

Data reported are intended to provide an overview of alcohol use among adults and youth in Chicago, as well as the scope of certain health outcomes of alcohol use, with the acknowledgement that available data may not reflect the entire picture of alcohol use and health outcomes in Chicago. CDPH intends this report to be a resource to those developing relevant interventions and policies. Understanding where health inequities exist will help CDPH and partners understand how to collaborate on a multi-sector approach to ensure every Chicagoan has the opportunities and resources to live a healthy life.

Figure 1. Alcohol use in Chicago, estimated annual count*



Data source: Chicago Department of Public Health, Healthy Chicago Survey, 2017

Figure 2. Alcohol-related health outcomes in Chicago, annual count*



Data source: Illinois Department of Public Health, Division of Patient Safety and Quality (ED and inpatient hospitalization, 2017) and Division of Vital Records (death certificates, 2016)

**Alcohol use disorder is separate from these measures and outcomes, but may be associated with some of them.*

Adult Alcohol Use

The Healthy Chicago Survey (HCS) is an annual telephone survey conducted by CDPH. It includes randomly selected adults (ages 18 and older) living in the City of Chicago, and is administered in English and Spanish. All data are self-reported and weighted to be representative of Chicago's adult population. The measure of *any recent alcohol use* is defined as one or more alcoholic drink (one drink equals a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor) consumed in the past 30 days. This is increasingly relevant as recent research indicates that even one drink may increase the risk of negative health outcomes.^{7,8}

According to HCS in 2017, an estimated 60% of Chicagoans drank alcohol in the past 30 days. This percentage has been declining over the past three years. This is greater than the 55.9% who drank alcohol in the past month nationally as assessed by the National Survey on Drug Use and Health (NSDUH) administered by the Substance Abuse and Mental Health Services Administration.² In Chicago, the highest rates of recent alcohol use occurred among males; non-Hispanic Whites; those aged 21-44 years; respondents with an income over 400% FPL; and respondents who identified as lesbian, gay, or bisexual. Adults in Chicago with an income of at least 400% FPL were almost twice as likely to report recent alcohol use compared with those with an income below the FPL.

Sixty percent of adults in Chicago drank alcohol in the past month.

Table 1. Estimated adult recent alcohol use – Chicago, 2015-2017

	2015		2016		2017	
	Number	Percent (95% CI)	Number	Percent (95% CI)	Number	Percent (95% CI)
Chicago	1,318,000	64.3 (61.7-66.8)	1,271,000	61.5 (57.5-65.5)	1,226,000	59.7 (57.7-61.7)
Gender						
Male	677,000	69.4 (65.6-73.2)	657,000	68 (62.2-73.9)	637,000	65.2 (62.3-68.2)
Female	640,000	59.6 (56.1-63.1)	613,000	55.7 (50.4-61.1)	587,000	54.7 (52.0-57.4)
Race-Ethnicity						
Hispanic/Latinx	337,000	61.0 (55.5-66.4)	303,000	59.8 (51.4-68.2)	307,000	54.7 (50.4-59.0)
NH AA/Black	357,000	58.1 (53.8-62.3)	326,000	51.2 (44.2-58.2)	300,000	51.1 (47.8-54.4)
NH Asian/PI	79,000	59.1 (46.2-72.0)	57,000	56.4 (34.9-77.9)*	75,000	52.6 (43.4-61.8)
NH White	526,000	73.2 (69.0-77.3)	569,000	71.9 (65.8-78)	519,000	71.4 (68.3-74.5)
Age (in Years)						
18-20	57,000	48.0 (34.3-61.7)	48,000	49.8 (25.2-74.4)*	40,000	31.8 (22.3-41.4)
21-29	295,000	72.0 (65.9-78.1)	269,000	77.9 (68.3-87.4)	271,000	68.1 (63.2-73.1)
30-44	469,000	75.0 (70.5-79.6)	481,000	69.8 (63.3-76.2)	423,000	68.7 (65.3-72.0)
45-64	364,000	61.2 (56.9-65.5)	356,000	58.7 (51.7-65.6)	348,000	57.2 (53.7-60.7)
65+	129,000	43.5 (37.7-49.2)	114,000	35.2 (27.6-42.7)	143,000	47.3 (42.8-51.7)
Federal Poverty Level						
0-99%	218,000	52.2 (46.5-57.8)	164,000	43.7 (34.2-53.2)	179,000	43.2 (38.8-47.6)
100-199%	209,000	62.6 (55.9-69.2)	179,000	52.1 (41.6-62.6)	170,000	51.2 (46.0-56.3)
200-399%	201,000	70.2 (63.6-76.8)	203,000	64.9 (54.3-75.5)	158,000	60.8 (55.4-66.3)
400%+	458,000	75.5 (71.1-79.9)	534,000	79.1 (73.8-84.3)	540,000	75.9 (72.8-78.9)
Sexual Identity						
Heterosexual	1,176,000	65.7 (62.9-68.4)	1,087,000	60.8 (56.5-65.1)	1,067,000	59.7 (57.5-61.8)
Lesbian, gay, or bisexual	81,000	68.7 (58.4-79.0)	151,000	76.2 (63.7-88.7)	120,000	69.5 (62.5-76.6)

Data Source: Chicago Department of Public Health, Healthy Chicago Survey 2015-2017

NH = non- Hispanic, AA = African American, PI = Pacific Islander.

**Rates should be interpreted with caution due to small counts or small population denominators which might make the rate unstable when comparing across years.*

Adult Alcohol Use: Binge Drinking

Binge drinking is a common form of excessive alcohol use,⁵ which is associated with many adverse health outcomes,⁸ contributes to early death,⁷ and is very costly to the United States.⁷ Binge drinking is defined by the National Institutes of Alcohol Abuse and Alcoholism as “a pattern of drinking that brings blood alcohol concentration levels to 0.08 g/dL,” and the common indicator used to capture this is men drinking 5+ drinks or women drinking 4+ drinks on one occasion or within a few hours.⁹ Of Chicagoans who currently drink alcohol, nearly half (49%) report binge drinking.

The **Healthy Chicago 2.0** objective around alcohol is to reduce adult binge drinking among non-Hispanic white males by 5%. In 2011, the baseline of **Healthy Chicago 2.0**'s indicator of binge drinking among non-Hispanic White males was 46%, according to CDC data.⁶ In 2017, the percentage of binge drinking among non-Hispanic White males in Chicago was 33%, according to HCS, higher than the citywide percentage of 24.8%. From 2015-2017, there was no discernable trend in adult binge drinking. Chicago's binge drinking rate is slightly below the reported national percentage of adult binge drinking of 26.4% as assessed by NSDUH.²

Both non-Hispanic White and Hispanic/Latinx Chicagoans were more likely than non-Hispanic African-American or Black Chicagoans to report binge drinking.

Table 2. Estimated adult binge drinking – Chicago, 2015-2017

	2015		2016		2017	
	Number	Percent (95% CI)	Number	Percent (95% CI)	Number	Percent (95% CI)
Chicago	515,000	25.4 (22.9-27.9)	496,000	24.2 (20.6-27.9)	505,000	24.8 (23.0-26.6)
Gender						
Male	302,000	31.0 (27.1-35.0)	318,000	33.1 (27.0-39.3)	293,000	30.3 (27.4-33.2)
Female	213,000	20.1 (17.1-23.2)	178,000	16.4 (12.6-20.2)	211,000	19.8 (17.6-22.0)
Race-Ethnicity						
Hispanic/Latinx	132,000	24.0 (19.0-28.9)	154,000	30.6 (21.8-39.4)	151,000	27.3 (23.3-31.3)
NH AA/Black	127,000	20.8 (17.1-24.5)	105,000	16.7 (11.2-22.2)	108,000	18.5 (15.9-21.1)
NH Asian/PI	25,000	19.8 (9.1-30.5)	29,000	28.8(10.5-47.2)*	26,000	18.2 (10.9-25.4)
NH White	225,000	31.4 (26.8-36.1)	197,000	25.3 (19.8-30.7)	209,000	28.9 (25.8-31.9)
Age (in Years)						
18-20	30,000	24.9 (13.0-36.7)	16,000	16.3 (1.2-31.4)*	17,000	13.7 (6.6-20.9)
21-29	149,000	37.3 (30.5-44.1)	131,000	39.3 (28.0-50.7)	143,000	36.5 (31.5-41.6)
30-44	210,000	33.9 (28.8-39.0)	254,000	36.8 (29.8-43.8)	195,000	31.9 (28.4-35.3)
45-64	113,000	19.0 (15.4-22.6)	83,000	13.8 (9.0-18.6)	130,000	21.4 (18.4-24.4)
65+	14,000	4.9 (2.5-7.2)	11,000	3.5 (0.7-6.4) *	20,000	6.7 (4.5-8.9)
Federal Poverty Level						
0-99%	77,000	18.6 (14.1-23)	71,000	19.3 (11.6-27.0)	78,000	19.1 (15.5-22.7)
100-199%	84,000	25.3 (19.0-31.7)	61,000	17.8 (9.4-26.2)	78,000	23.5 (19.0-28.1)
200-399%	77,000	27.6 (20.7-34.5)	94,000	30.4 (18.9-41.9)	57,000	22.0 (17.3-26.6)
400%+	198,000	32.6 (27.7-37.6)	224,000	33.3 (27.0-39.6)	233,000	32.8 (29.5-36.1)
Sexual Identity						
Heterosexual	449,000	25.4 (22.7-28.1)	415,000	23.4 (19.6-27.3)	441,000	24.8 (22.9-26.8)
Lesbian, gay, or bisexual	43,000	36.4 (25.5-47.2)	70,000	35.3 (22.0-48.5)	54,000	31.7 (24.6-38.7)

Data Source: Chicago Department of Public Health, Healthy Chicago Survey 2015-2017

NH = non- Hispanic, AA = African American, PI = Pacific Islander.

** Rates should be interpreted with caution due to small counts or small population denominators which might make the rate unstable when comparing across years.*

A higher percentage of males (30.3%) than females (19.8%) reported binge drinking in Chicago in 2017. A higher percentage of non-Hispanic Whites (28.9%) reported binge drinking, compared with Hispanic/Latinx (27.3%), non-Hispanic African-American/Black (18.5%), and non-Hispanic Asian/Pacific Islander (18.2%) Chicagoans in 2017. A higher percentage of Chicagoans aged 21-29 years (36.5%) reported binge drinking in Chicago in 2017 compared with other age groups.

Figure 3a. Percentage of adult binge drinking by gender with 95% confidence intervals – Chicago, 2015-2017

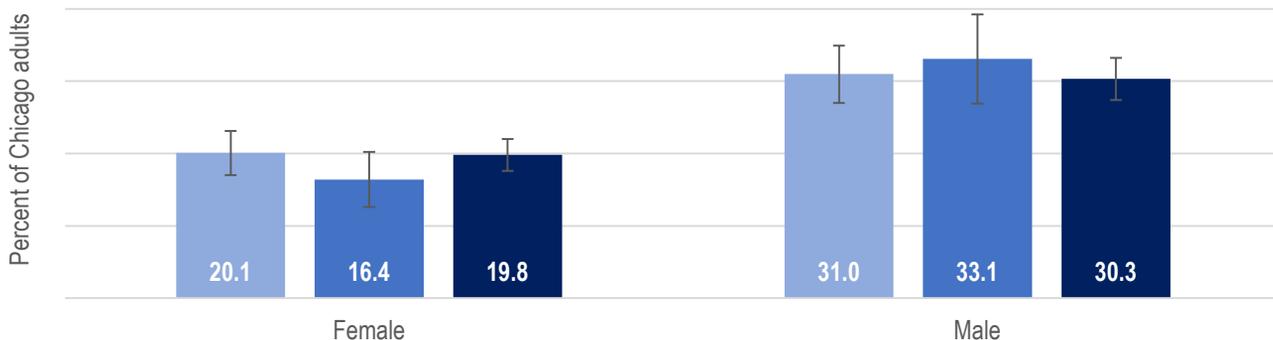


Figure 3b. Percentage of adult binge drinking by race-ethnicity with 95% confidence intervals – Chicago, 2015-2017

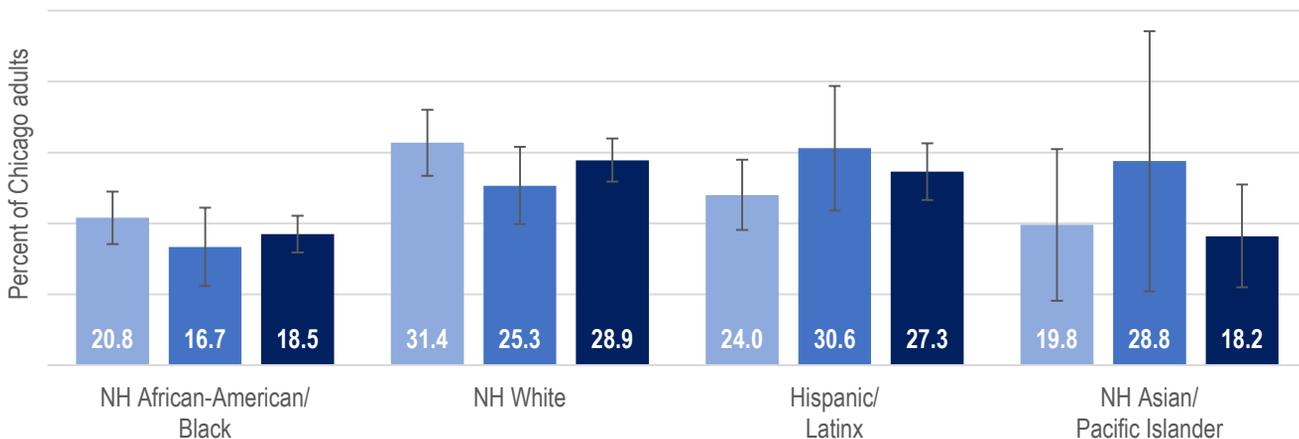
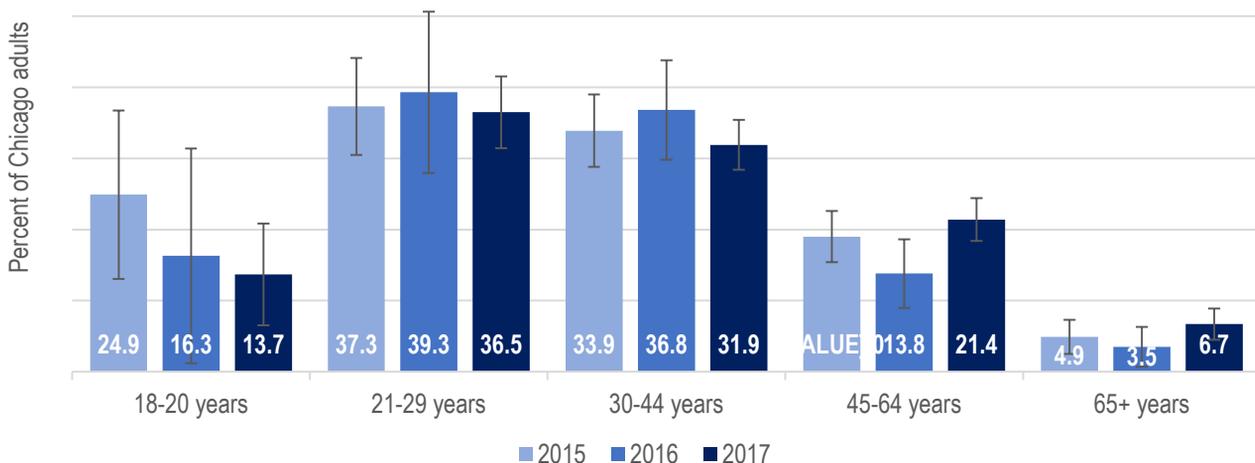


Figure 3c. Percentage of adult binge drinking by age group with 95% confidence intervals – Chicago, 2015-2017



Binge drinking was more common among respondents who identify as lesbian, gay or bisexual (31.7%) than among those who identify as heterosexual (24.8%) in Chicago in 2017. A higher percentage of those at 400%+ FPL reported binge drinking (32.8%) than in other income brackets in Chicago in 2017. Binge drinking was highest among residents of North Center (46.9%), Riverdale (45.2%), West Town (43.7%), and Lakeview (42.8%). Binge drinking was lowest among residents of Hyde Park (9.0%), Jefferson Park (10.3%), South Deering (10.5%), and Englewood (10.9%). See Figure 4 and Table 3 for more details on each community area.

In 2017, Chicago adults who earned more than 400% FPL were more likely to report binge drinking compared with all lower income groups.

Figure 3d. Percentage of adult binge drinking by sexual identity with 95% confidence intervals – Chicago, 2015-2017

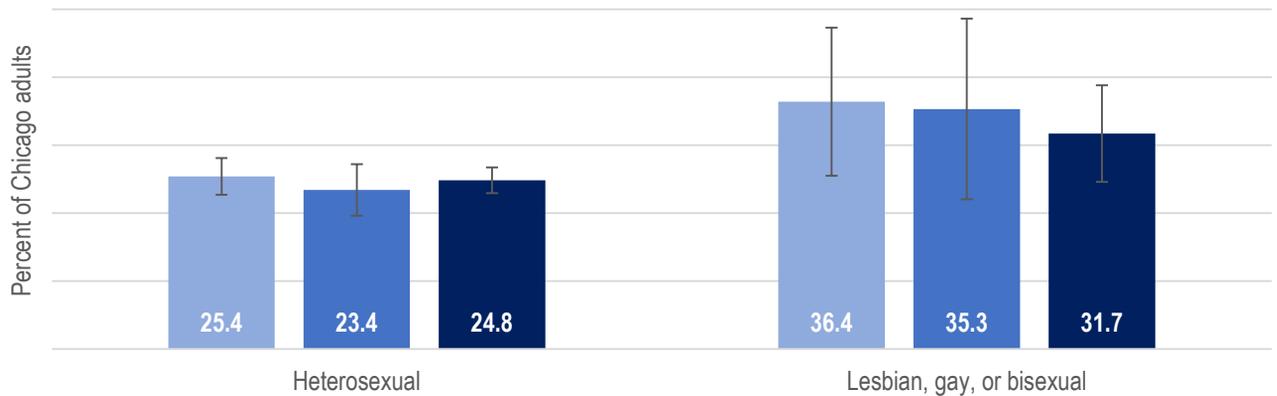
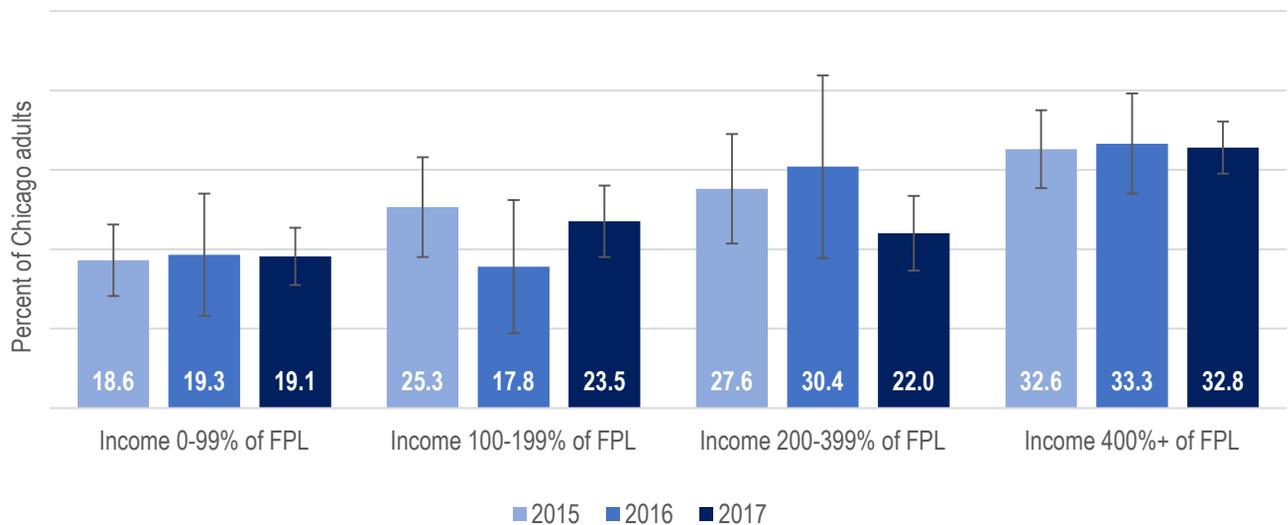
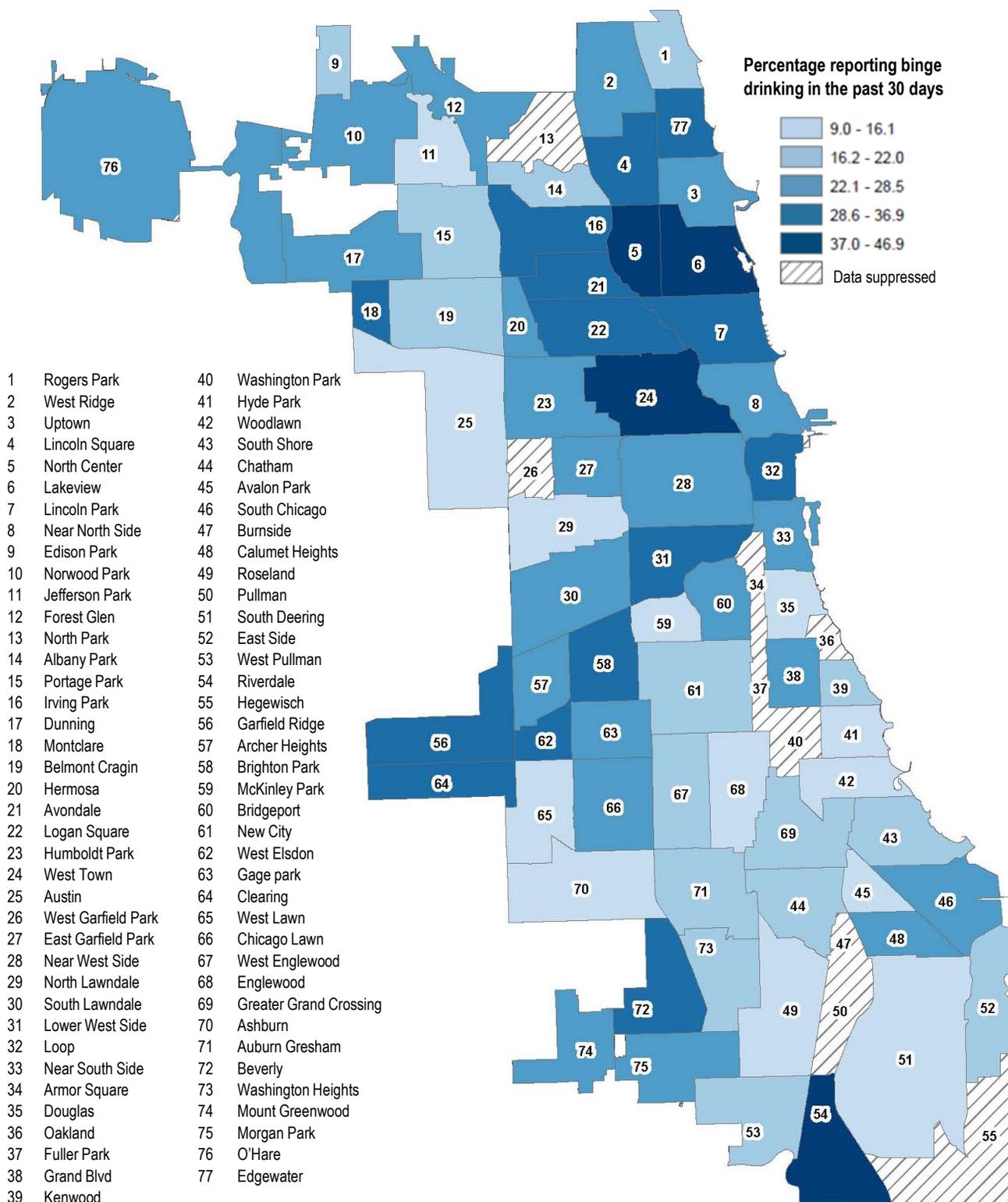


Figure 3e. Percentage of adult binge drinking by income with 95% confidence intervals – Chicago, 2015-2017



Data Source: Chicago Department of Public Health, Healthy Chicago Survey 2015-2017

Figure 4. Adult binge drinking by community area of residence — Chicago, combined years 2015-2017



Data Source: Chicago Department of Public Health, Healthy Chicago Survey, data from 2015-2017 are pooled. Threshold values for map quintiles are based on Jenks natural breaks among value distribution. Data are suppressed and, thus, unavailable when the thresholds for counts, sample size are extremely small or parameter estimates such as relative standard error or 95% confidence intervals are deemed to be unfit for display.

Table 3. Percentage of adult binge drinking by community area of residence — Chicago, combined years 2015-2017

	Community Area	Percent (95% CI)		Community Area	Percent (95% CI)
1	Rogers Park	21.9 (13.7, 30.1)	40	Washington Park	Data Suppressed
2	West Ridge	26.5 (17.1, 35.9)	41	Hyde Park	9.0 (2.2, 15.8)*
3	Uptown	23.5 (13.4, 33.7)	42	Woodlawn	14.7 (5.2, 24.3)*
4	Lincoln Square	30.4 (18.7, 42)	43	South Shore	18.9 (11.1, 26.7)
5	North Center	46.9 (32.7, 61.1)	44	Chatham	17.8 (8.1, 27.6)
6	Lakeview	42.8 (33.9, 51.7)	45	Avalon Park	16.1 (0.5, 31.6)*
7	Lincoln Park	32.6 (23.3, 42)	46	South Chicago	27.1 (12.2, 42.1)
8	Near North Side	28.0 (20.0, 36)	47	Burnside	Data Suppressed
9	Edison Park	22.0 (3.1, 40.9)*	48	Calumet Heights	25.9 (8.8, 42.9)*
10	Norwood Park	27.6 (14.1, 41.1)	49	Roseland	15.7 (7.6, 23.8)
11	Jefferson Park	10.3 (2.1, 18.5)*	50	Pullman	Data Suppressed
12	Forest Glen	24.5 (8.1, 40.9)*	51	South Deering	10.5 (1.2, 19.7)*
13	North Park	Data Suppressed	52	East Side	17.4 (3.3, 31.6)*
14	Albany Park	20.2 (11.0, 29.5)	53	West Pullman	21.4 (8.6, 34.1)*
15	Portage Park	20.0 (11.9, 28)	54	Riverdale	45.2 (16.3, 74.2)*
16	Irving Park	33.0 (22.0, 43.9)	55	Hegewisch	Data Suppressed
17	Dunning	28.3 (13.7, 42.9)	56	Garfield Ridge	36.9 (20.6, 53.1)
18	Montclare	30.1 (3.5, 56.7)*	57	Archer Heights	24.3 (1.4, 47.3)*
19	Belmont Cragin	21.7 (11.9, 31.4)	58	Brighton Park	30.4 (16.4, 44.3)
20	Hermosa	23.7 (7.8, 39.6)*	59	McKinley Park	12.7 (0.3, 25.1)*
21	Avondale	32.1 (20.2, 44)	60	Bridgeport	26.0 (12.2, 39.8)
22	Logan Square	32.1 (22.9, 41.2)	61	New City	18.3 (8.8, 27.8)
23	Humboldt Park	28.5 (18.3, 38.7)	62	West Elsdon	29.6 (8.3, 50.9)*
24	West Town	43.7 (34.6, 52.7)	63	Gage Park	23.4 (9.9, 37)
25	Austin	15.3 (10.2, 20.4)	64	Clearing	34.0 (17.3, 50.6)
26	West Garfield Park	Data Suppressed	65	West Lawn	15.6 (4.7, 26.6)*
27	East Garfield Park	23.2 (9.1, 37.4)*	66	Chicago Lawn	23.7 (12.9, 34.5)
28	Near West Side	24.0 (15.2, 32.7)	67	West Englewood	20.0 (8.8, 31.1)
29	North Lawndale	15.7 (7.4, 24)	68	Englewood	10.9 (4.6, 17.2)
30	South Lawndale	23.3 (14.3, 32.3)	69	Greater Grand Crossing	21.6 (10.4, 32.8)
31	Lower West Side	32.4 (16.2, 48.5)	70	Ashburn	13.9 (4.2, 23.6)*
32	Loop	33.2 (21.6, 44.8)	71	Auburn Gresham	20.0 (11.5, 28.4)
33	Near South Side	26.4 (11.9, 40.9)	72	Beverly	33.3 (17.1, 49.5)
34	Armor Square	Data Suppressed	73	Washington Heights	17.6 (7.7, 27.4)
35	Douglas	13.6 (3.3, 23.9)*	74	Mount Greenwood	24.8 (10.9, 38.6)*
36	Oakland	Data Suppressed	75	Morgan Park	23.2 (9.3, 37.2)*
37	Fuller Park	Data Suppressed	76	O'Hare	28.5 (2.3, 54.7)*
38	Grand Blvd	25.2 (11.9, 38.5)	77	Edgewater	29.7 (19.9, 39.5)
39	Kenwood	19.3 (5.8, 32.7)*			

Data source: Chicago Department of Public Health, Healthy Chicago Survey, 2015 - 2017 combined years

**Rates should be interpreted with caution due to small counts or small population denominators which might make the rate unstable. Data are suppressed and, thus, unavailable when the thresholds for counts, sample size are extremely small or parameter estimates such as relative standard error or 95% confidence intervals are deemed to be unfit for display.*

Adult Alcohol Use: Frequent Binge Drinking

Another measure of alcohol use is frequent binge drinking — drinking 5+ drinks for men or drinking 4+ drinks for women — on one occasion five or more times in a month. This is an important measure because the risk of all-cause mortality increases as level of consumption increases.⁶ According to the most recent HCS, approximately 102,000 Chicagoans, or 4% of all adults, reported frequent binge drinking in the past 30 days. Chicago's rate of frequent binge drinking is lower than the reported national percentage of 6.7%, as assessed by NSDUH.² Eight percent of all Chicagoans who drink alcohol and 16% of Chicagoans who binge drink also report frequent binge drinking.

Frequent binge drinking in Chicago is higher among men; non-Hispanic White residents; those earning more than 400% of the FPL; and those who identify as lesbian, gay, or bisexual. This is similar to other patterns of adult alcohol use in Chicago. Frequent binge drinking is more common among those aged 21-29 years compared to other age groups.

Among Chicagoans who drink any alcohol, 8% report frequent binge drinking (binge drinking 5+ times in the past 30 days).

Table 4. Estimated adult frequent binge drinking – Chicago, combined years 2015 - 2017

	Number	Percent (95% CI)
Chicago	102,000	4.0 (3.4-4.6)
Gender		
Male	71,000	5.8 (4.8-6.9)
Female	31,000	2.3(1.7-3.0)
Race-ethnicity		
Hispanic/Latinx	24,000	3.4 (2.2-4.7)
NH AA/Black	22,000	3.0 (2.3-3.7)
NH Asian/PI	5,000	2.9 (0.7-5.1)*
NH White	48,000	5.3 (4.2-6.5)
Age (in Years)		
18-20	5,000	4.1 (1.3-6.8)*
21-29	37,000	7.1 (5.1-9.0)
30-44	32,000	4.2 (3.1-5.3)
45-64	25,000	3.2 (2.3-4.1)
65+	4,000	0.9 (0.4-1.4)
Federal Poverty Level		
0-99%	14,000	2.8 (1.7-3.8)
100-199%	12,000	2.9 (1.7-4.0)
200-399%	19,000	5.5 (3.4-7.6)
400%+	48,000	5.7 (4.5-6.9)
Sexual Identity		
Heterosexual	90,000	4.0 (3.4-4.7)
Lesbian, gay, or bisexual	11,000	5.6 (3.1-8.1)

Data Source: Chicago Department of Public Health, Healthy Chicago Survey, data from 2015-2017 are pooled

NH = non- Hispanic, AA = African American, PI = Pacific Islander.

*Rates should be interpreted with caution due to small counts or small population denominators

Adult Alcohol Use: Use of Alcohol to Manage Stress

Stress is a risk factor for excessive alcohol use. People may cope with stress by using alcohol, commonly referred to as “self-medicating.”^{8,9} Twenty percent of adults in Chicago report that one of their stress-management methods is drinking alcohol, alone or in combination with other stress management techniques. More adults report using alcohol to manage stress (20%) than seeing a mental health professional or accessing other local resources (13%), but more still report managing stress by spending time with friends/family (81%) and exercising (72%). Sixty-one percent of people who report using alcohol to manage stress also reported binge drinking, while only 16% of people who did not report using alcohol to manage stress reported binge drinking.

One in five Chicago adults drink alcohol to manage stress.

Figure 5. Percentage of adults who report each activity to manage stress — Chicago, 2017

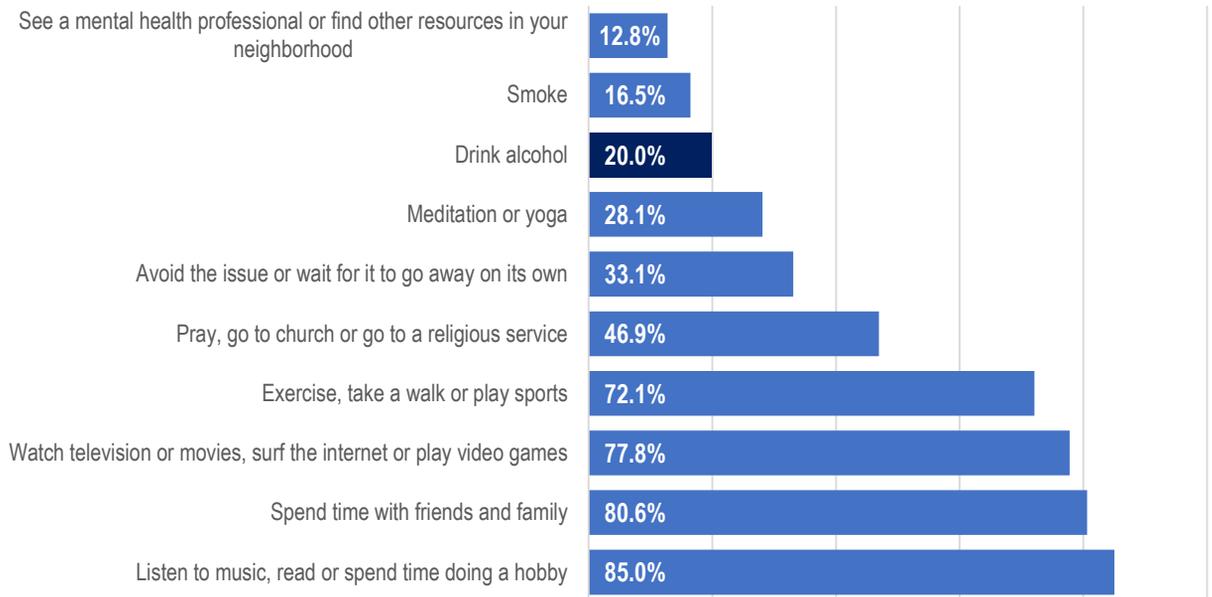
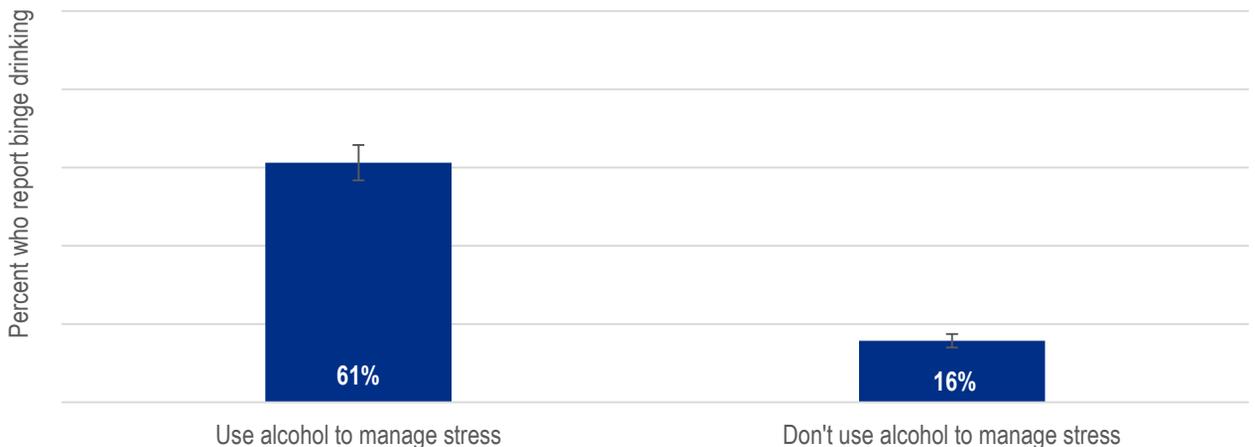


Figure 6. Level of binge drinking among adults who report drinking alcohol to manage stress—Chicago, 2017



Data Source: Chicago Department of Public Health, Healthy Chicago Survey, 2017

Note: Respondents could choose multiple options so options are not exclusive and percentages do not equal 100%.

Youth Alcohol Use

In addition to immediate outcomes of youth alcohol use, such as injury, assault, school problems, and legal problems,¹¹ people who start drinking alcohol earlier are more likely to develop alcohol use disorder. Alcohol can additionally alter brain development, potentially leading to long-term cognitive and learning problems and memory impairment.¹² These risks are greater for youth who start drinking earlier and drink heavily.^{12,13}

Youth alcohol use is measured by the Youth Behavior Risk Survey (YRBS), a biannual self-report survey conducted by the CDC that includes a multi-stage random sample and is weighted to be representative. Locally, it is administered by the Chicago Public Schools Office of Student Health and Wellness and includes a sample of 37 Chicago public high schools and 1,883 students. According to YRBS, 57% of Chicago high school students report ever drinking alcohol in 2017.

The percentage of students who have ever drank increases across grade levels. A higher percentage of female high school students than male students in Chicago report ever drinking alcohol, any recent drinking, and recent binge drinking (i.e. past 30 days). This is in contrast with demographic differences seen in adult alcohol use in Chicago. A lower percentage of African-American/Black students report ever drinking, recent drinking, and recent binge drinking compared with students of other races and ethnicities. Hispanic/Latinx students are more likely to report initiating drinking before age 13 and less likely to report drinking or binge drinking in the past 30 days, as compared with students of other races and ethnicities. Students who identify as lesbian, gay, or bisexual are more likely to report all measures of alcohol use than students who identify as heterosexual.

Female students in Chicago are more likely than male students to report any alcohol use.

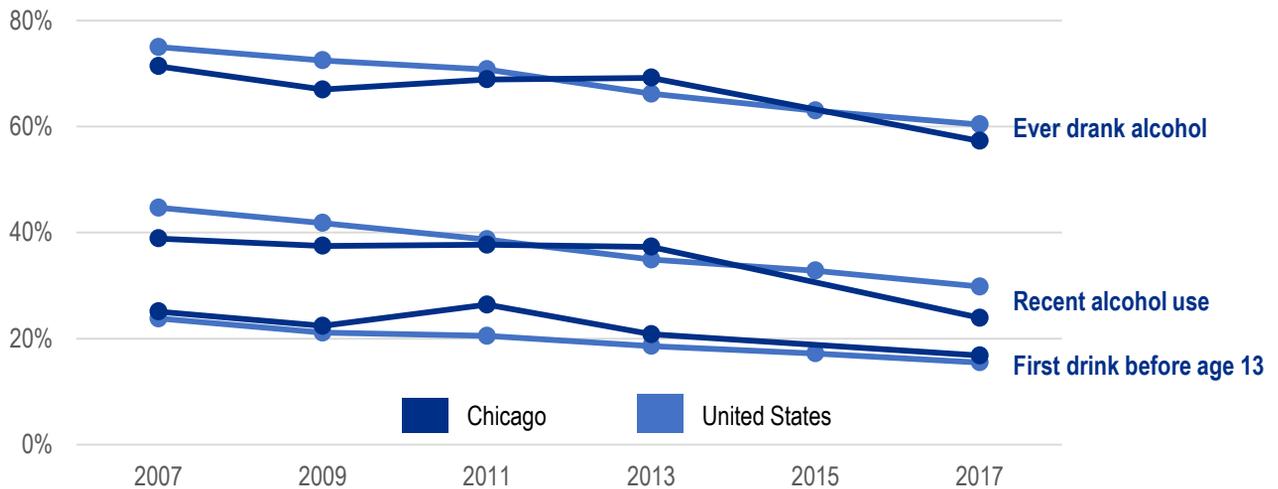
Table 5. Alcohol use among public high school students -- Chicago, 2017

	Percentage ever drank alcohol (95% CI)	Percentage first drink before 13 (95% CI)	Percentage recent alcohol use (95% CI)	Percentage recent binge drinking (95% CI)
Chicago	57.3 (52.4-62.1)	16.8 (14.3-19.8)	23.9 (19.8-28.6)	9.1 (6.9-12.0)
Gender				
Male	50.8 (45.4-56.1)	17.4 (14.1-21.2)	20.1 (15.4-25.9)	7.8 (4.9-12.1)
Female	63.0 (56.6-69.0)	16.0 (13.2-19.4)	26.9 (21.2-33.5)	10.3 (7.8-13.4)
Race-Ethnicity				
Hispanic/Latinx	66.5 (59.4-73.0)	21.3 (18.0-24.9)	29.5 (22.6-37.4)	11.7 (8.4-16.1)
NH AA/Black	45.5 (37.1-54.2)	13.2(9.5-18.1)	14.5 (10.3-20.0)	4.6 (2.8-7.6)
NH White	64.6 (54.4-73.6)	11.0 (6.8-17.2)	35.8 (28.4-44.0)	16.7 (10.8-25.1)
Grade				
9 th grade	45.7 (39.4-52.3)	22.5 (17.7-28.2)	16.2 (11.9-21.7)	5.3 (3.8-7.3)
10 th grade	53.4 (44.1-62.4)	16.3 (11.6-22.3)	19.9 (13.0-29.2)	7.0 (3.7-12.8)
11 th grade	59.9 (49.1-69.9)	15.0 (11.0-20.0)	24.8 (18.3-32.7)	8.9 (6.4-12.1)
12 th grade	70.5 (63.3-76.8)	12.9 (9.5-17.3)	34.4 (27.3-42.2)	16.0 (11.5-21.7)
Sexual Identity				
Heterosexual	54.4 (49.1-59.7)	15.0 (12.7-17.7)	21.3 (17.4-25.9)	8.5 (6.3-11.4)
Lesbian, gay, or bisexual	73.7 (62.6-82.4)	25.5 (17.2-36.0)	36.8 (26.7-48.3)	12.5 (8.2-18.6)

Data Source: Centers for Disease Control and Prevention. [2017] Youth Risk Behavior Survey Data of sample of Chicago Public Schools
NH = non- Hispanic, AA = African American

Alcohol use among high school students in both Chicago and the United States has decreased over the past decade.

Figure 7. Youth alcohol use — Chicago and United States, 2007-2017*



Data Source: Centers for Disease Control and Prevention. [2017] U.S. Youth Risk Behavior Survey Data
YRBS data is not available for Chicago for 2015 so Chicago trendline jumps from 2013 to 2017. 2015 United States data is included and reflected in trendlines.

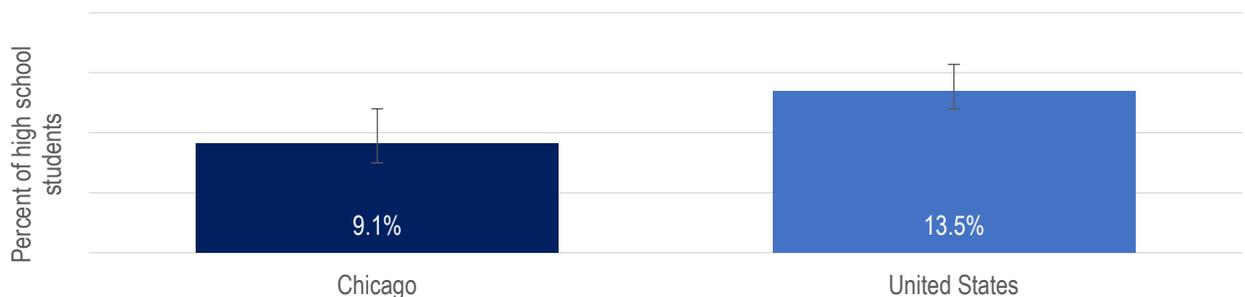
Table 6. Alcohol use among high school students over time — Chicago and United States, 2007- 2017

	Percentage ever drank alcohol (95% CI)		Percentage first drink before 13 (95% CI)		Percentage recent alcohol use (95% CI)	
	United States	Chicago	United States	Chicago	United States	Chicago
2007	75.0 (72.4–77.4)	71.4 (64.7–77.3)	23.8 (21.9–25.7)	25.1 (20.1–30.8)	44.7 (42.4–47.0)	38.9 (32.9–45.4)
2009	72.5 (70.6–74.3)	67.0 (63.0–70.7)	21.1 (19.6–22.6)	22.4 (19.4–25.7)	41.8 (40.2–43.4)	37.5 (32.7–42.5)
2011	70.8 (69.0–72.5)	68.9 (64.9–72.7)	20.5 (19.2–21.8)	26.4 (24.4–28.5)	38.7 (37.2–40.3)	37.7 (34.3–41.3)
2013	66.2 (63.7–68.5)	69.2 (65.0–73.1)	18.6 (17.2–20.0)	20.8 (17.5–24.5)	34.9 (32.8–37.1)	37.3 (34.1–40.6)
2015	63.2 (60.6–65.8)	NA	17.2 (16.0–18.4)	NA	32.8 (30.4–35.2)	NA
2017	60.4 (57.9–62.8)	57.3 (52.4–62.1)	15.5 (13.9–17.2)	16.8 (14.3–19.8)	29.8 (27.3–32.4)	23.9 (19.8–28.6)

Data Source: Centers for Disease Control and Prevention. [2017] U.S. Youth Risk Behavior Survey Data
NA = YRBS data is not available for Chicago for 2015

In 2017, youth binge drinking rates were lower in Chicago (9%) than in the U.S (13.5%).

Figure 8. Recent youth binge drinking— Chicago and United States, 2017



Data Source: Centers for Disease Control and Prevention. [2017] U.S. Youth Risk Behavior Survey Data

Alcohol-Related Hospitalizations and Emergency Department Visits

Alcohol use can have immediate outcomes, such as acute alcohol intoxication, and can contribute to the development of chronic health problems such as liver disease and cancer.⁷ Alcohol-related health outcomes are not just influenced by alcohol use. Morbidity differences across demographics also may indicate the importance of social determinants of health and comorbidities.

In Chicago in 2017, there were over 15,000 emergency department (ED) visits with a primary diagnosis of acute alcohol intoxication and over 18,000 ED visits with a primary diagnosis of alcohol-related disorder. There were almost 1,800 inpatient hospitalizations due to acute alcohol intoxication and almost 6,000 inpatient hospitalizations due to alcohol-related disorders. Many of these visits included additional factors that contributed to the ED visit or hospitalization.

Rates of all alcohol-related ED and inpatient visits were higher among males compared to females; and those aged 55-64 compared to other ages. The rates of all alcohol-related ED visits were highest among those living in zip codes of high economic hardship compared with low and medium economic hardship. Non-Hispanic African-American/Black Chicagoans had the highest rate of all alcohol-related ED visits and acute alcohol intoxication inpatient hospitalizations compared to other races and ethnicities, even though this group reported lower rates of binge drinking. Non-Hispanic White Chicagoans had the highest rate of inpatient hospitalization for alcohol-related disorders.

Table 7. Acute alcohol intoxication and alcohol-related hospitalizations – Chicago, 2017

	Acute Alcohol Intoxication				Alcohol Related Disorders			
	ED Visits		Inpatient Hospitalizations		ED Visits		Inpatient Hospitalizations	
	Count	Rate [‡]	Count	Rate [‡]	Count	Rate [§]	Count	Rate [§]
Chicago	15,022	54.2	1,742	6.4	18,224	65.9	5,687	21.3
Gender								
Female	3,612	24.9	423	3.0	4,233	29.3	1,237	8.9
Male	11,410	86.0	1,319	10.2	13,991	105.5	4,450	34.6
Race-ethnicity								
Hispanic/Latinx	2,764	38.8	258	4.1	3,487	49.4	1,181	18.7
NH AA/Black	5,908	65.9	787	8.7	6,939	77.4	1,486	16.4
NH Asian/PI	256	16.1	44	2.9	371	23.5	221	14.9
NH White	4,572	49.1	524	5.6	5,545	59.4	2,310	24.9
Age (in years)								
0 - 20	601	8.1	22	0.3	625	8.4	12	0.2*
21 - 34	3,853	55.2	290	4.2	4,569	65.5	849	12.2
35 - 44	2,693	71.2	319	8.4	3,415	90.3	1,296	34.3
45 - 54	3,552	104.9	498	14.7	4,400	129.9	1,696	50.1
55 - 64	3,252	123.7	465	17.7	3,949	150.2	1,373	52.2
65 - 74	915	60.6	115	7.6	1,095	72.5	402	26.6
75 - 84	104	11.6	27	3.0	117	13.0	50	5.6
85+	52	14.0	6	1.6*	54	14.6	9	2.4*
Economic Hardship Level								
Low	2,754	53.8	335	6.9	3,296	64.9	1,164	23.8
Medium	4,961	46.0	512	4.9	6,145	57.0	2,149	20.2
High	7,290	60.2	894	7.5	8,765	72.5	2,367	20.2

Data Source: Discharge Data, Division of Patient Safety and Quality, Illinois Department of Public Health, 2017

NH = non-Hispanic, AA = African American, PI = Pacific Islander.

[‡]Age-adjusted rate of ED visits/hospitalizations admissions with primary diagnosis of acute alcohol intoxication per 10,000 population

[§]Age-adjusted rate of ED visits/hospitalizations admissions with primary diagnosis of alcohol-related disease, injury or condition per 10,000 population

**For counts less than 20, rates may be unstable and should be interpreted with caution.*

Alcohol-Related Deaths

In 2017, there were 223 alcohol-induced deaths and another 257 deaths due to liver disease and cirrhosis in Chicago. "Alcohol-induced deaths" is a standard CDC measure that includes deaths due to use of alcohol or accidental poisoning by alcohol. This does not include motor vehicle deaths, homicide, or other deaths exacerbated by alcohol, such as stroke or injury. It is estimated that alcohol accounts for more than 4% of all U.S. deaths, with excessive drinking accounting for one in ten deaths among working-age adults nationwide.¹

Males were more than three times more likely to experience alcohol-induced death than females in Chicago in 2017 and twice as likely to experience death due to liver disease or cirrhosis. The rate of alcohol-induced death and the rate of liver disease and cirrhosis are highest among Hispanic/Latinx residents compared to other races and ethnicities. Over the past ten years, the rate of alcohol-induced deaths in Chicago has increased overall, but it decreased from 2016-2017.

Table 8. Number and rate of deaths due to alcohol use, liver disease and cirrhosis — Chicago, 2017

	Alcohol-induced deaths		Chronic liver disease and cirrhosis deaths	
	Count	Rate [§]	Count	Rate [§]
Chicago	223	8.5	257	10.1
Gender				
Male	163	13.1	166	14.2
Female	60	4.4	91	6.7
Race-ethnicity				
Hispanic/Latinx	62	10.7	76	16.3
NH AA/Black	62	6.7	72	7.6
NH Asian/PI	3	2.1*	5	3.9*
NH White	94	10.2	101	11.0
Age (in years)				
15-24	0	0.0*	0	0.0*
25-34	13	2.5*	4	0.8*
35-44	38	10.0	21	5.6
45-54	62	18.3	46	13.6
55-64	79	30.1	93	35.4
65-74	25	16.5	59	39.0
75-84	6	6.7*	26	29.0
85+	0	0.0*	8	21.6*
Economic Hardship				
Low	93	9.1	103	10.8
Medium	60	7.9	103	10.8
High	69	8.2	69	9.1

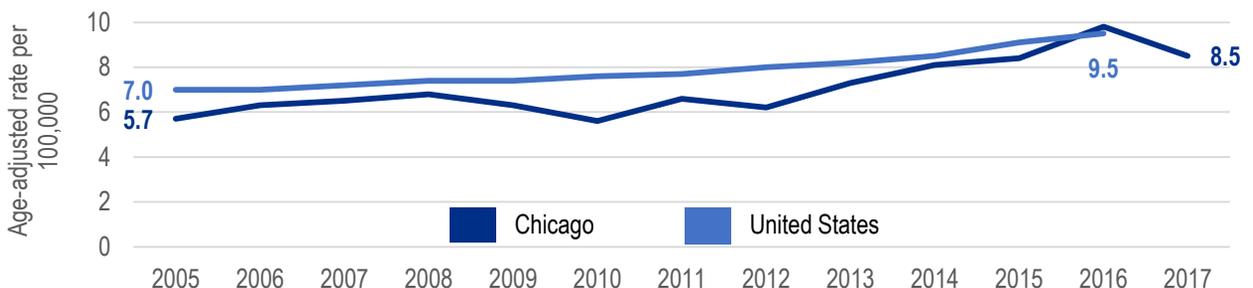
Data Source: Illinois Department of Public Health, Division of Vital Records, Death Certificate Data Files

NH = non-Hispanic, AA = African American, PI = Pacific Islander.

[§] Age-adjusted rate per 100,000 population

*For counts less than 20, rates may be unstable and should be interpreted with caution.

Figure 9. Alcohol-Induced Death Rates — Chicago and United States, 2005-2017



Data Source: Illinois Department of Public Health, Division of Vital Records, Death Certificate Data Files; National Vital Statistics Reports

How to Lower Health Risks Related to Alcohol

No amount of alcohol is good for your health, but as consumption increases, so do health risks. While everyone is different, the CDC and federal guidelines recommend that men drink no more than two drinks per day, and women drink no more than one drink per day.^{14,15} It's safest to avoid alcohol for:

- Those taking medications that interact with alcohol or managing a medical condition that alcohol can worsen;
- Individuals younger than 21 years;
- Anyone planning to drive or operate machinery;
- Women who are pregnant or trying to get pregnant — there is no level of alcohol consumption known to be safe during pregnancy.^{14,15}

FOR WOMEN, up to
1 drink a day



FOR MEN, up to 2
drinks a day



Below are the some of the ways CDPH is addressing alcohol use in Chicago:

CDPH funds and supports screening, brief intervention, and referral to treatment (SBIRT), an evidence-based practice to identify, reduce, and prevent harmful use of alcohol and other substances. More information for providers available here: www.integration.samhsa.gov/clinical-practice/sbirt.

CDPH also monitors specific events that contribute to increased alcohol consumption and related outcomes. For example, the Public Health Emergency Preparedness Program has been collecting aggregate de-identified patient data from Chicago acute care hospitals during a large, 4-day music festival since 2014, during which hospitals typically see more than 200 additional ED patients, primarily for alcohol-related intoxication. CDPH has used this data to encourage hospitals and event-planners to accurately prepare for these events both in the ED and on-site at the festival.

CDPH will use and encourage partners to use this data and to continue to promote our vision of a city of thriving communities where all residents are able to live healthy lives.

If you or someone you know is interested in learning more about alcohol use disorder, screening, or treatment, you can get help from www.ChicagoConnects.org, the Illinois helpline: 833-2FINDHELP, or your primary care provider.

Data Sources

Healthy Chicago Survey

The Healthy Chicago Survey (HCS) is an annual telephone survey of adults living in Chicago conducted by CDPH. It is conducted to collect information on the population's health status, health access patterns, disease and risk factor prevalence and health behaviors. CDPH relies on the HCS as a key resource for monitoring the health of Chicago's adult population. The HCS is a cross-sectional survey with an annual sample of approximately 2,500 randomly selected adults aged 18 and older who live in private residences in the City of Chicago. Participants are able to complete the survey via landline or cell phone and interviews are conducted in English and Spanish. All data collected are self-reported. Data are weighted to be representative of Chicago's adult population.

Assessment of trends may be limited due to seasonality, response rate, and other factors. Some estimates should be interpreted with caution (indicated by *). For these estimates, Relative Standard Error (a measure of estimate precision) is greater than 30% or the sample size is too small (denominator is less than 50), making the estimate potentially unstable. Some data are suppressed and, thus, unavailable when the thresholds for counts, sample size are extremely small or parameter estimates such as relative standard error or 95% confidence intervals are deemed to be unfit for display. Estimates are suppressed if the Relative Standard Error is greater than 50%, indicating an imprecise and unreliable estimate. For some measures, data from years 2015-2017 are pooled to increase sample size (i.e., frequent binge drinking and community area-level binge drinking).

Economic hardship is a zip-code level measure composed of six indicators listed below. Higher hardship indicates worse economic conditions such as:

- Crowded housing, percentage of housing units with more than one person per room;
- Poverty, percentage of people living below the federal poverty level;
- Unemployment, percentage of people over age 16 who are unemployed;
- Education, percentage of people over age 25 without a high school education;
- Dependency, percentage under age 18 and over age 64; and
- Income, per capita income of the community.

The *Federal Poverty Level (FPL)* is a measure of household income issued every year by the Department of Health and Human Services based both on household income and household size. For reference, in 2014, for a 4-person household, the 100% FPL was \$23,850 and for a 1-person household, 400% FPL was \$46,680.

Specific HCS indicators referenced in this report:

Recent alcohol use: All adults (18+) who reported a number greater than zero in response to the following question: "During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?"

Binge drinking: All adults (18+) who reported a number greater than zero in response to the following question: "Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 (for males) or 4 (for females) or more drinks on one occasion?"

Frequent binge drinking: All adults (18+) who reported a number greater than five in response to the following question: "Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 (for males) or 4 (for females) or more drinks on one occasion?". This indicator is sometimes referred to as heavy drinking.

Managing stress: Adult (18+) responses to the following question: "What do you do to manage stress? Each option is listed and respondents choose yes or no (other options include some other way, don't know, and no stress)."

Youth Risk Behavior Survey

The Youth Risk Behavior Survey (YRBS) is administered biennially in odd numbered years to 9-12th graders in Chicago Public Schools (CPS). The survey uses a two-stage cluster sample design to produce a representative sample of students within the jurisdiction. The first stage involves selecting schools with a probability proportionate to their population size. The second stage randomly selects classes or periods within a school. This enables data from the survey respondents to be weighted to represent the CPS student body. The survey itself is self administered and only available in English. Results are available at www.cdc.gov/healthyyouth/data/yrbs/

Specific YRBS indicators referenced in this report:

Ever drank alcohol: High school students who reported a response greater than zero for the following question “During your life, on how many days have you had at least one drink of alcohol?”

First drink before age 13: High school students who reported a response less than 13 for the following question “How old were you when you had your first drink of alcohol other than a few sips?”

Recent alcohol use: High school students who reported a response greater than zero for the following question: “During the past 30 days, on how many days did you have at least one drink of alcohol?”

Recent binge drinking: High school students who reported a response greater than zero for the following question: “During the past 30 days, on how many days did you have 4 or more drinks of alcohol in a row (if you are female) or 5 or more drinks of alcohol in a row (if you are male)?”

Emergency Department and Hospital Discharge Data

Emergency Department (ED) Discharge Data, Illinois Department of Public Health (IDPH), Division of Patient Safety and Quality. This dataset contains all ED visits that occurred among Chicago residents. It only includes ED visits that did not result in an inpatient hospital stay. ED visits to Veterans Administration hospitals are not included in this dataset. Because the dataset provides information on ED visits and not individual persons, the counts and rates reported may not necessarily reflect rates per person; that is, persons who visit the ED more than once in a year may be counted more than once. IDPH specifically disclaims responsibility for any analysis, interpretations, or conclusions.

Hospital Discharge Data, IDPH, Division of Patient Safety and Quality. This dataset contains all discharges for inpatient hospitalizations that occurred among Chicago residents. Inpatient hospitalization discharges to Veterans Administration hospitals are not included in this dataset. Because the IDPH dataset provides information on hospital inpatient discharges and not individual persons, the counts and rates reported may not necessarily reflect rates per person; that is, persons who are hospitalized more than once in a year may be counted more than once. IDPH specifically disclaims responsibility for any analysis, interpretations, or conclusions.

Specific ED and Hospitalization indicators referenced in this report:

Acute alcohol intoxication or poisoning: Inpatient hospitalization or ED visit for acute alcohol intoxication or poisoning defined by a first listed ICD-10-CM code of T51% (excluding codes for sequela), F10.12-F10.129, F10.22-F10.229, F10.92-F10.929, Y90.4-Y90.8)

Alcohol-related disorders: Inpatient hospitalization or ED visit for an alcohol-related disorder defined by first listed ICD-10-CM code of F1010 F10120 F10121 F10129 F1014 F10150 F10151 F10159 F10180 F10181 F10182 F10188 F1019 F1020 F1021 F10220 F10221 F10229 F10230 F10231 F10232 F10239 F1024 F10250 F10251 F10259 F1026 F1027 F10280 F10281 F10282 F10288 F1029 F10920 F10921 F10929 F1094 F10950 F10951 F10959 F1096 F1097 F10980 F10981 F10982 F10988 F1099 G621 I426 K2920 K2921 K700 K7010 K7011 K702 K7030 K7031 K7040 K709 O99310 O99311 O99312 O99313 O99314 O99315 P043 Q860.

Death Certificate Data Files

This Division of Vital Records of IDPH dataset reflects deaths occurring among Chicago residents.

Specific mortality indicators referenced in this report:

Alcohol induced deaths: Residents who died due to dependent and nondependent use of alcohol or accidental poisoning by alcohol, excluding unintentional injuries, homicides, other causes indirectly related to alcohol use, and fetal alcohol syndrome (ICD-10 codes: F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15)

Chronic liver disease and cirrhosis deaths: Residents who died due to liver disease and cirrhosis (ICD-10 codes: K70 or K73–K74). Only a portion of these deaths are attributable to alcohol use; others are attributable to causes, such as hepatitis or fibrosis.

United States Alcohol-induced Deaths

Deaths: Final data for 2016. National Vital Statistics Reports; vol 67 no 5. Hyattsville, MD: National Center for Health Statistics. 2018.

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