Name: Adult Binge Drinking

Short Description: Percentage of adults reporting binge drinking in the past 30 days (calculated as a crude prevalence).

Data Source(s):
- <u>Name</u>: The Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), accessed via the PLACES Project Data Portal
- <u>Link to Source</u>: https://chronicdata.cdc.gov/browse?category=500+Cities+%26+Places&sortBy=newest&utf8

Year(s): 2020

Source Geographic Level: Zip Code Tabulation Area (ZCTA)

Stratification: Not available

Selection Rationale: A person's risk for developing alcohol use disorder (AUD) depends on how much, how often, and how quickly they consume alcohol. Binge drinking over time increases the risk of AUD.[1] Heavy alcohol use increases the odds of having mental health problems for those over the age of 50,[2] and alcohol dependence has been found to be associated with major depression among adults 18 and over.[3]

Strengths and Limitations
- **Strengths**:
    - [*Importance*] Binge drinking has been found to produce depressive symptoms in the general population, and has been found to contribute independently to the occurrence of depressive symptoms.[4]
    - [*Feasibility*] The data are easily downloadable from PLACES and maintained by the CDC Division of Population Health, Epidemiology and Surveillance Branch.
    - [*Scientific Soundness*] The methods used by the CDC to generate these small area estimates account for the associations between individual health outcomes,

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[1] National Institute on Alcohol Abuse and Alcoholism. (2021). *Understanding Alcohol Use Disorder*. https://www.niaaa.nih.gov/sites/default/files/publications/Alcohol_Use_Disorder_0.pdf

[2] Choi, N. G., DiNitto, D. M., & Marti, C. N. (2015). Alcohol and other substance use, mental health treatment use, and perceived unmet treatment need: Comparison between baby boomers and older adults. *The American Journal on Addictions*, *24*(4), 299–307. https://doi.org/10.1111/ajad.12225

[3] Kuria, M. W., Ndetei, D. M., Obot, I. S., Khasakhala, L. I., Bagaka, B. M., Mbugua, M. N., & Kamau, J. (2012). The association between alcohol dependence and depression before and after treatment for alcohol dependence. *ISRN Psychiatry*, *2012*, Article 482802. https://doi.org/10.5402/2012/482802

[4] Paljärvi, T., Koskenvuo, M., Poikolainen, K., Kauhanen, J., Sillanmäki, L., & Mäkelä, P. (2009). Binge drinking and depressive symptoms: a 5-year population-based cohort study. *Addiction*, *104*(7), 1168–1178. https://doi.org/10.1111/j.1360-0443.2009.02577.x

individual characteristics, and spatial contexts. CDC's internal and external validation studies confirm strong consistency between small area estimates and direct BRFSS survey estimates at state and county levels. [5]

- **Limitations**:
  - o [*Relevance and Usability*] This measure is a model-based estimate,[6] so it may be difficult to interpret on its own. Further, the measure does not convey the frequency of binge drinking or the specific amount of alcohol consumed.[7]
  - o [*Scientific Soundness*] This measure is self-reported and depends on the accuracy of the person surveyed.
  - o [*Scientific Soundness*] Age adjusted prevalence is not available at the census tract level, so these data are reported as a crude prevalence.

Calculation:

$$Adult\ binge\ drinking$$
$$= \frac{Respondents\ aged\ \geq 18\ years\ who\ report\ binge\ drinking\ in\ the\ past\ 30\ days^*}{Respondents\ aged \geq 18\ years\ who\ report\ having\ a\ specific\ \#\ of\ drinks\ on\ an\ occasion\ in\ the\ past\ 30\ days^{**}}\ x\ 100\%$$

*Where binge drinking is defined as a woman consuming more than four alcoholic drinks during a single occasion or a man consuming more than five alcoholic drinks during a single occasion.
** Denominator excludes those who refused to answer, had a missing answer, or answered "don't know/not sure".[8]

Note - BRFSS estimates the crude prevalence based on self-reports using small area estimation and multilevel regression and poststratification, which links geocoded health surveys and high spatial resolution population demographic and socioeconomic data.[9]

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[5] Centers for Disease Control and Prevention. (2020a, December 8). *PLACES Methodology*.
https://www.cdc.gov/places/methodology/

[6] Ibid

[7] Centers for Disease Control and Prevention. (2020b, December 8). *Unhealthy Behaviors Measure Definitions*.
https://www.cdc.gov/places/measure-definitions/unhealthy-behaviors/index.html#binge-drinking

[8] Centers for Disease Control and Prevention. (2020c, December 8). *PLACES Measure Definitions*.
https://www.cdc.gov/places/measure-definitions

[9] Centers for Disease Control and Prevention. (2020a, December 8). *PLACES Methodology*.
https://www.cdc.gov/places/methodology/