



Data Brief

Substance Use Disorder (SUD) Prevalence in California Emergency Departments

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Summary

- Approximately 1.12 million unique patients with at least one primary or secondary diagnosis for any substance use disorder are reported to have visited emergency departments (ED) in California in 2021.

This is about 1 in 7 of all ED visits.

- 39% of the SUD diagnoses were for alcohol related disorders; 26% were for stimulant related disorders; 20% for cannabis related disorders; and 9% for opioid related disorders.
 - Medi-Cal is the expected payor for 51% of the SUD related patients.
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Data

California's Department of Health Care Access and Information (HCAI) maintains some data on the number of visits (or encounters) to Emergency Departments (EDs) statewide.¹ Additionally, they maintain a dataset that contains counts of ED visits (or encounters) for patients with behavioral health disorders; including mental health disorders, substance use disorders, along with co-occurring mental health and substance use disorders.² The data covers all of calendar year 2021 statewide. The number of ED visits includes both treat-and-release visits and visits that ended with inpatient hospitalization.

The definitions for behavioral health categories that HCAI uses were “adopted from the Center for Health Information and Analysis, which consulted with clinicians and the Agency for Healthcare Research and Quality.”³ HCAI used Clinical Classification Software Refined codes to define the subcategories of behavioral health disorders. Mental health disorders include mood disorders; intentional self-harm, suicidal ideation, and suicide attempts; schizophrenia and other psychotic disorders. Substance use disorders include alcohol-related disorders; cannabis-related disorders, hallucinogens-related disorders. Co-occurring disorders include at least one mental health disorder and at least one substance use disorder.

First, we use this public data to count the number of ED visits made by patients with either a primary or secondary SUD diagnosis including those with co-occurring mental health disorder diagnosis. Note that SUD is under-diagnosed in the clinical setting and that the true prevalence of SUD among patients may be much higher than the diagnosed prevalence. One study (Williams, E. C., Fletcher, et al., 2022)

¹ [HCAI – Patient Discharge, Emergency Department](#)

² [HCAI – Patient Discharge, Emergency Department – Hospital Encounters for Behavioral Health, 2021 – 2022](#)

³ [CMSR Technical Appendix](#)

estimated SUD to be under-diagnosed by 1.48 times.⁴ Second, we approximate the number of unique patients from the aggregate number of visits.

Number of ED Visits by Patients with Diagnosed SUD

1,993,126 Number of ED visits in which patient had primary or secondary SUD diagnosis (2021)

1,993,126 / 14,465,437 = 13.78% Percent of all ED visits in which patient had primary or secondary SUD diagnosis (2021)

Number of Specific SUD Diagnoses in ED Visits

Diagnosis Type	Total Number of Given Diagnoses in ED ⁵	Share of All SUD-Related ED Diagnoses with Given Diagnosis
Alcohol-related disorders	511,670	39%
Stimulant-related disorders	344,516	26%
Cannabis-related disorders	262,376	20%
Opioid-related disorders	124,648	9%
Miscellaneous substance-related disorders	52,325	4%
Sedative-related disorders	31,009	2%
Total	1,326,544	100%

Estimating the Number of Unique ED Patients with Diagnosed SUD

We assume the ratio of unique ED patients to total ED visits is roughly 0.56.⁶ There is no publicly available unduplicated count of unique patients who visited the ED in 2021. However, a past study (McConville, Raven, et al., 2018) gives us an idea about the number of individual patients who make up the total number of ED visits. In a 12-month period 2014-2015, there were 12,825,966 ED visits and approximately 7,125,467 unique patients (unique patients/total visits ratio = 0.56). The authors found this ratio to be approximately stable across time. Note that it is difficult to de-duplicate ED medical records to find the unique number of patients; the procedure involves a degree of imprecision. This ratio of patients/visits is measured using data from all ED patients and is therefore likely lower than the ratio of patients/visits among ED users with SUD because patients with SUD are also more likely to more frequently utilize the ED than those without SUD.

1,993,126 * 0.56 = 1,116,150 Estimated number of unique patients who visited the ED with a primary or secondary SUD diagnosis (2021)

⁴ See table 2 in [Williams, E. C., Fletcher, et al., 2022](#)

⁵ ED visits for a patient with multiple behavioral health diagnoses will be counted for each separate diagnosis. Therefore, patients may be double counted across the individual SUD diagnosis categories.

⁶ see exhibit 1 in [McConville, Raven, et al., 2018](#)

Number of SUD Diagnoses by Expected Payer

Expected Payer	Total Number of SUD Diagnoses in ED	Share of SUD-Related Diagnoses with Given Expected Payer
Medi-Cal	1,010,619	51%
Medicare	397,920	20%
Uninsured	136,018	7%
Private	384,371	19%
Other	64,198	3%
Total	1,993,126	100%

About California Health Policy Strategies (CalHPS), L.L.C.

CalHPS is a mission-driven health policy consulting group based in Sacramento. For more information, visit www.calhps.com.

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