



The Prevalence of Mental Illness in California Jails is Rising: An Analysis of Mental Health Cases & Psychotropic Medication Prescriptions, 2009-2019

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Topline Findings

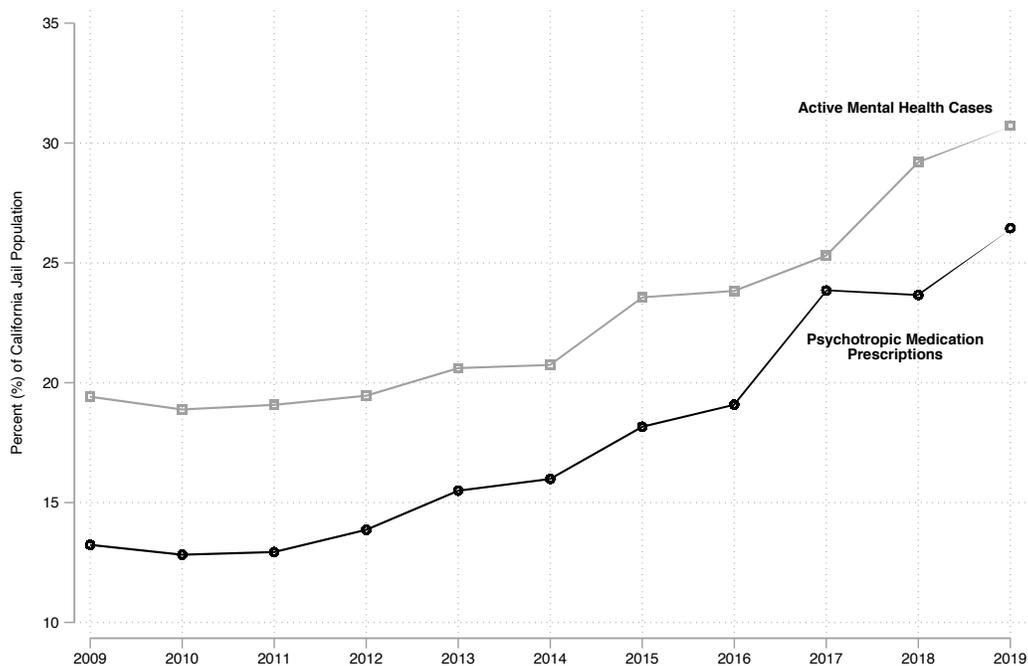
In this brief we use data from the Board of State and Community Corrections (BSCC) to estimate the relative prevalence of mental illness among jail-incarcerated individuals in California over the past ten years. We reviewed data from counties that completed the BSCC Jail Profile Survey (JPS) between 2009 and 2019. On average, we used data from 50 counties each year for our analytical sample.

Based on our sample, the share of the California statewide jail population either with an active mental health case or a prescription for a psychotropic medication increased significantly between 2009 and 2019 (see Figure 1 on the next page):

- **Active Mental Health Cases.** On the last day of any given month in 2009 there were roughly 80,000 people in jail custody throughout California and 15,500 people with an active mental health case. On the last day of any month in 2019 there were approximately 72,000 people in jail custody and 22,000 people with an open mental health case. This represents a 42 percent increase in the number of active mental health cases. In addition, the proportion of incarcerated people in California jails with an active mental health case rose by approximately 63 percent, rising from 19 percent in 2009 to 31 percent in 2019.
- **Psychotropic Medication Prescriptions.** In 2009, on the last day of any month, there were roughly 80,000 people in jail custody across the state and about 10,500 individuals receiving psychotropic medications. However, in 2019, on the last day of any given month, there were approximately 72,000 people in jail custody and roughly 19,000 individuals receiving these psychotropic medications. This represents an 80 percent increase in the total number of inmates receiving these medications. Moreover, the proportion of jail-incarcerated people throughout California with a psychotropic medication prescription roughly doubled from 13 percent in 2009 to 26 percent in 2019.

Although these JPS data pertaining to mental illness in jail are useful for estimating the prevalence of mental illness among the jail incarcerated population in California, these data are incomplete at times. In our report we provide specific, actionable recommendations to improve the overall data quality.

Figure 1. Prevalence of Active Mental Health Cases and Psychotropic Medications, Statewide from 2009 to 2019



Background

Data on mental illness among incarcerated populations is difficult to obtain. However, the available data, which mostly comes from surveys, suggests that mental illness in jail or prison is prevalent and that individuals with a mental illness are overrepresented in jail or prison. About 1 in 4 jail inmates self-reported experiences that met the threshold for serious psychological distress (SPD) in the 30 days prior to incarceration, according to the Bureau of Justice Statistics' 2011-12 National Inmate Survey.¹ In comparison, data from the National Survey on Drug Use and Health² found that only about 1 in 19 persons in the standardized U.S. general population met the threshold for SPD. In this study we rely upon administrative data from the state of California to estimate the prevalence of mental illness among the jail population. There are justifiable concerns about the prevalence of mental illness in jails and prisons.

- **Individuals experiencing mental illness are likely to remain incarcerated longer than their peers.** On average, individuals with mental illnesses receive sentences that are 12 percent longer than individuals convicted of the same crimes but without mental health diagnoses.³
- **Incarcerated people experiencing a mental illness are also more likely to be disciplined and isolated in segregated housing (i.e., solitary confinement).** Once in solitary confinement the harsh conditions of the segregation worsen the symptoms of mental illness. Moreover, not only are the mentally ill more likely to be placed in solitary confinement, they often find it exceedingly difficult to meet the requirements for release.
- **People with a mental illness diagnosis are more likely to commit suicide and/or be victimized.** Suicide is the leading cause of death in correctional facilities, and as many as half of all inmate suicides are committed by the estimated 15 to 25 percent of inmates with serious mental illness. Untreated mental illness can also contribute to violent victimization in custody. Individuals with serious mental illness in jail were five times more likely to report that they were sexually victimized by another inmate than individuals with no mental illness.⁴
- **It is expensive to incarcerate individuals with mental illnesses since jails in the United States are improperly equipped for treatment.** Correctional health care professionals are constantly constrained by limited or improper resources and large caseloads. Community mental health treatment is less costly and more effective than incarceration.⁵

¹ [BJS National Inmate Survey \(NIS\).](#)

² [SAMSHA National Survey on Drug Use and Health \(NSDUH\).](#)

³ Stanford Justice Advocacy Project. "[The Prevalence and Severity of Mental Illness Among California Prisoners.](#)" 2017.

⁴ Bureau of Justice Statistics. "[Sexual Victimization in Prisons and Jails Reported by Inmates, 2011-2012.](#)" 2013.

⁵ The annual cost of incarcerating an average jail inmate in California is estimated at \$30,000, not including mental health care costs, while the cost of treating a person with mental illness in the community is approximately \$20,000, according to the Judicial Council of California report entitled "Task Force for Criminal Justice Collaboration on Mental Health Issues: Final Report" from 2011.

Methodology

Since 2002, the BSCC has conducted the Jail Profile Survey (JPS) to collect data regarding local agency jails and jail systems.^{6,7} County-wide data are gathered monthly and counties submit their data on a voluntary basis. In the monthly survey, counties are asked to report average daily population (ADP) for the month. ADP is the monthly average, excluding people on holding status. Importantly, the survey also requests that counties report the “number of inmates on the last day of the month who are receiving psychotropic medications for identified mental health disorders.” The survey also asks counties to report the “number of open mental health cases on the last day of the month.” Active (i.e., open) mental health cases are inmates identified as having a psychological disorder and who are actively in need of and receiving mental health services. The number of psychotropic medication prescriptions and the number of inmates receiving mental health services are counted on the last day of each month, and so they represent point-in-time counts.

We developed analytical samples of all California jails independently by both survey question and year. Furthermore, we generated two samples per year – one for our analysis of active mental health caseloads and another for our analysis of psychotropic medications. Jurisdictions that responded to the JPS questions about mental illness for at least two reporting periods during a given year are included in that respective analytical sample. Appendix A details which counties are included. We use data from the vast majority of jails across the state and the sample is diverse.⁸ The JPS data is incomplete at times and there are some notable issues that should be addressed with the survey series to improve its quality and usefulness. In this report we took a conservative, descriptive approach to our analysis that uses the maximum amount of the available non-missing data and summarizes it. In the final section of this report we offer recommendations to improve the data. We believe that the mental health data gathered from the JPS can be significantly enhanced with greater BSCC oversight.

In this report we use the results from this JPS series to better estimate the prevalence of mental illness in jail. We focus our analysis on the data gathered from the questions pertaining to (1) the month-end number of psychotropic medication prescriptions, (2) the month-end number of active mental health cases, and (3) the month-end jail population (i.e., ADP). From these questions we calculated both annual and statewide estimates for the following measures:⁹

- **Raw number (i.e., count)** of individuals with either an open mental health case or a psychotropic medication prescription;
- **Percent** of the jail population with either an open mental health case or a psychotropic medication prescription; and
- **Total Change (i.e., long-run change) in the percent** of the jail population with either an open mental health case or a psychotropic medication prescription.

⁶ The BSCC provides a “workbook” with instructions for reporting entities. [This form is publicly available.](#)

⁷ The BSCC administers the JPS using an Excel fillable form. [This form is also publicly available.](#)

⁸ The sample is diverse in terms of geographic coverage since counties from every region of California are consistently included. Moreover, the sample is diverse with respect to the underlying demographic makeup of the reporting county jails.

Statewide Findings

A growing number of jail-incarcerated individuals are experiencing mental illness in California. Moreover, the share of the statewide jail population experiencing some form of mental illness, as reported to the BSCC, has increased significantly since 2009.

Active Mental Health Cases

The raw count of open mental health cases in California jails increased by a total of about 42 percent between 2009 and 2019. In 2009 there were an average of approximately 15,500 open mental health cases on the last day of any given month, across all the jurisdictions in our sample. During 2019 there was an average of about 22,000 open mental health cases on the last day of any given month across all the reporting counties.

The percent of the statewide annual ADP with an open mental health case increased by 11 percentage points or about 62 percent. In 2009, approximately 19 percent of the annual ADP had an active mental health case across the jurisdictions that reported. During 2019 though, approximately 30 percent of the annual ADP had an open case in these same jurisdictions.

Psychotropic Medication

The raw number of incarcerated individuals receiving psychotropic medications increased by roughly 81 percent between 2009 and 2019. During 2009, there was an average of about 10,500 individuals on psychotropic medications on the last day of any given month across all the jurisdictions in this sample. During 2019,¹⁰ there was an average of 19,000 individuals receiving psychotropic medications on the last day of any given month across the same reporting jurisdictions.

The percent of the statewide annual ADP on psychotropic medications increased by 13 percentage points or about 100 percent between 2009 and 2019. During 2009, approximately 13 percent of the annual ADP received these medications across the jurisdictions that reported. In 2019, roughly 26 percent of the annual ADP received psychotropic medications throughout these same jurisdictions.

¹⁰ January 2019 to June 2019.

Figure 2a. *Estimated Count and Prevalence of Active Mental Health Cases Statewide, 2009 - 2019*

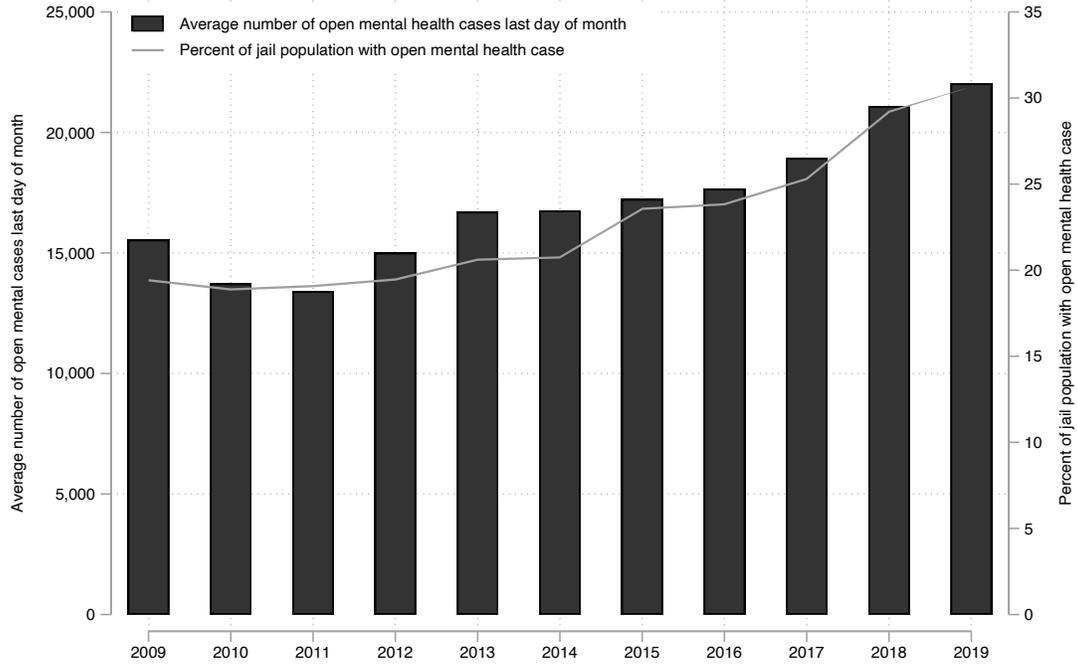
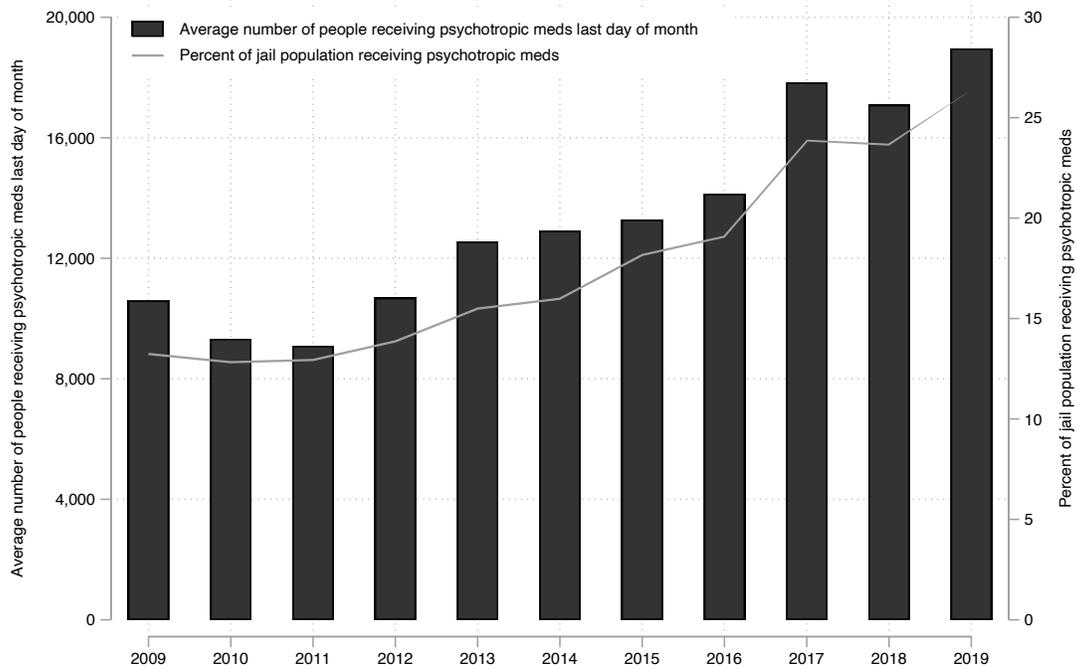


Figure 2b. *Estimated Count and Prevalence of Psychotropic Medications Statewide, 2009 - 2019*



County Findings – Prevalence of Mental Health Indicators, 2019

The share of the county jail population experiencing some form of mental illness appears to differ significantly across the state. There is considerable variation in between jurisdictions with respect to the relative prevalence of both open mental health cases and psychotropic medications among the jail-incarcerated.

Open Mental Health Cases

In 2019, the share of the jail ADP with an open mental health case varied across the state. In the median California county approximately 32 percent of the jail-incarcerated people have an open mental health case.¹¹ However, in Kern and Santa Clara County, roughly 86 to 88 percent of the ADP receive psychotropic medications. Conversely, in Trinity and San Benito County only about 9 or 18 percent of the ADP have an active case, respectively. About 45 percent of San Diego’s jail population and 42 percent of San Francisco’s have open cases.

Psychotropic Medications

In 2019, the share of the jail ADP receiving psychotropic medications varied widely between counties. About 23 percent of the jail population receives at least one psychotropic medication in the median California county.¹² However, in Modoc and Siskiyou County, roughly 50 to 56 percent of the annual ADP receives psychotropic medications. Conversely, in Glenn and Madera County only about 8 or 9 percent of the ADP receives psychotropic medications. In Los Angeles approximately 35 percent of the jail population receives psychotropic medications. Roughly 25 percent of San Diego and San Francisco’s jail population receives some medications.

¹¹ Orange county was the “median” (50th percentile) jurisdiction in terms of the prevalence of open mental health cases amongst the jail population in 2019.

¹² Fresno county was the “median” (50th percentile) jurisdiction with respect to the prevalence of psychotropic medications amongst their jail population in 2019.

Figure 3a. Percent of Jail Population with Active Mental Health Case in 2019

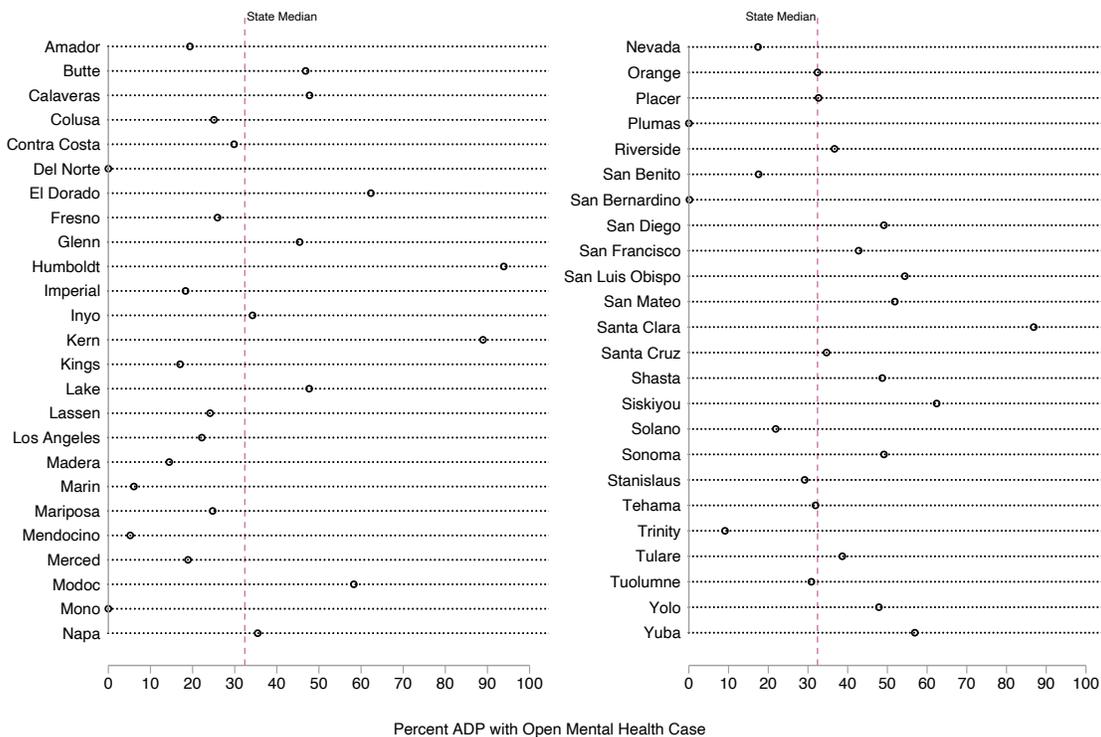
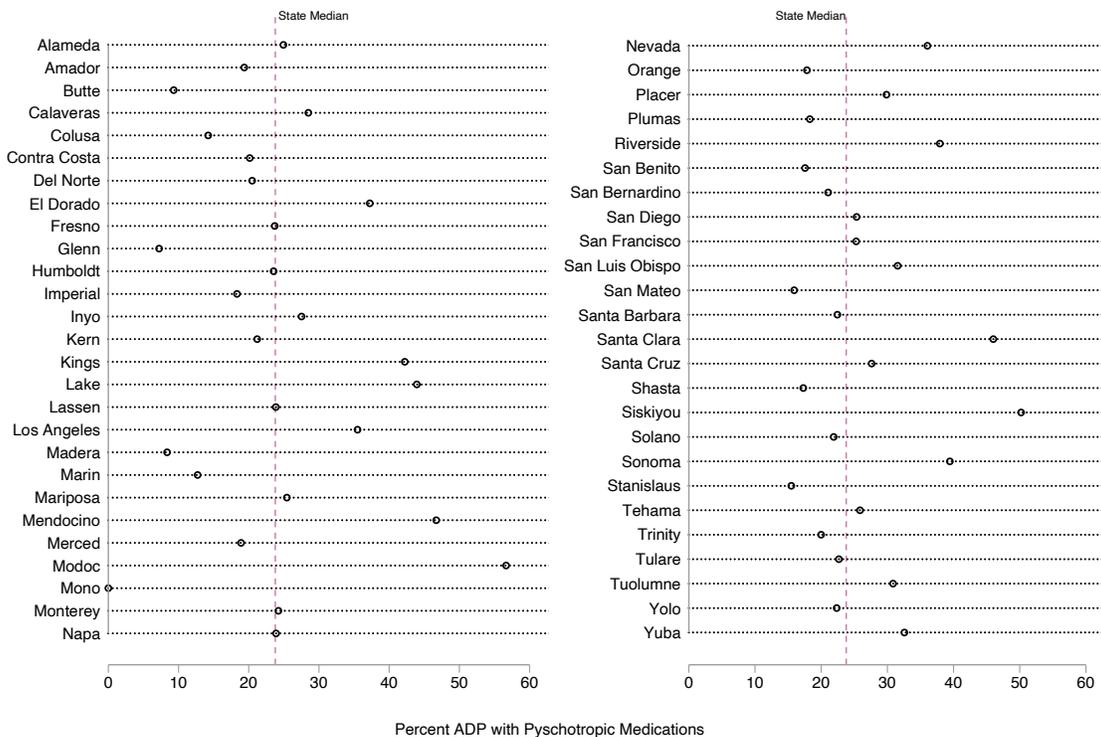


Figure 3b. Percent of Jail Population Receiving Psychotropic Medications in 2019



County Findings – Trends in the Prevalence of Mental Health Indicators, 2009-2019

Nearly all California jails have experienced a cumulative rise in the share of their incarcerated population with some mental illness. However, the amount of total change has been markedly different between jurisdictions.¹³

Open Mental Health Cases

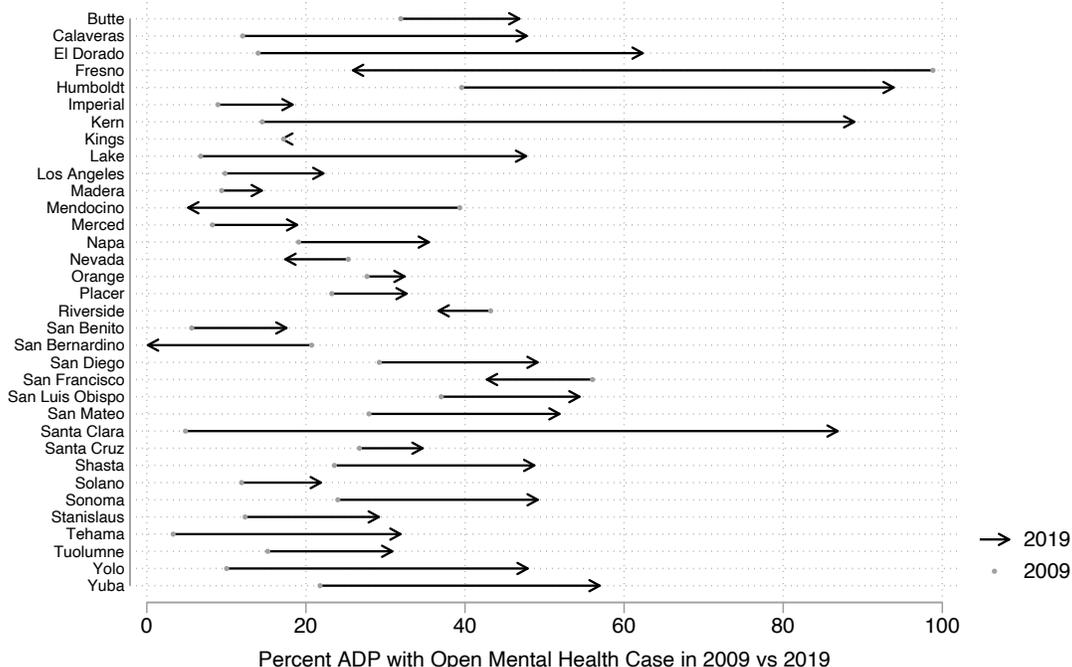
Since 2009 California jails have experienced different amounts of total change in the estimated share of their jail population that requires behavioral healthcare and counseling. In both Yolo and Yuba Counties, the proportion of their ADP with an active mental health case increased by about 35 percentage points from 2009 to 2019. In Los Angeles County, this rate increased by a full 12 percentage points over this same period. However, in Orange County this rate increased by only a total of 2 percentage points. The average county experienced a 15 percentage point increase in the segment of their jail population with an active mental health case between 2009 and 2019.

Psychotropic Medications

Similarly, counties have experienced markedly different degrees of total change in the estimated share of their jail population receiving psychotropic medications since 2009. In Santa Clara County, the share of their jail population receiving psychotropic medications increased by about 30 percentage points from 2009 to 2019. In Los Angeles County, this rate increased by 22 percentage points over this same period. However, in Butte County this rate fell by a total of 2 percentage points. The average county saw the percent of their jail population receiving psychotropic medications climb approximately 11 percentage points between 2009 and 2019.

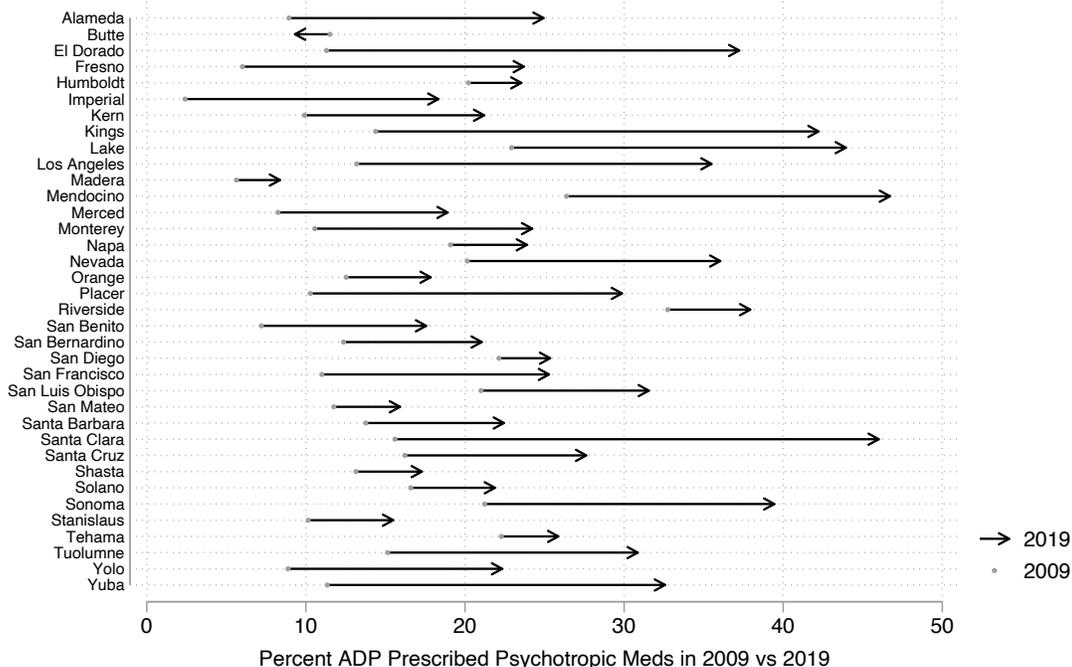
¹³ See Appendix C for a discussion about the *annualized year-over-year change* in both the percent of county jail populations with either an active mental health case or a psychotropic medication.

Figure 4a. Total Change in the Percent of the Jail Population with an Active Mental Health Case by County Between 2009 and 2019



Note: The 36 largest counties, by resident population, with non-negative JPS responses in 2009 and 2019 are shown.

Figure 4b. Total Change in the Percent of the Jail Population Receiving Psychotropic Medications by County Between 2009 and 2019



Note: The 36 largest counties, by resident population, with non-negative JPS responses in 2009 and 2019 are shown.

Discussion

According to the BJS's national studies on this population, about a third (roughly 35 percent) of jail inmates who met the threshold for serious psychological distress (SPD) had received mental health treatment since admission to their current facility.¹⁴ In comparison, 38 percent of jail inmates who had ever been told that they had a mental disorder said they were currently receiving treatment for a mental health problem.¹⁵ An estimated 30 percent of jail inmates said they were currently taking prescription medication.¹⁶ In our study we rely upon the number of psychotropic medication prescriptions and open psychiatry cases to estimate the prevalence of mental illness. However, our estimates are likely biased downwards (i.e., our estimates are likely conservative), since national studies have shown that a significant share of the jail-incarcerated people battling mental illness do not receive treatment.

There are a few different explanations for why the share of the statewide jail population with either a prescription for psychotropic medications or an active mental health cases has increased since 2009:

- This finding could reflect a trend toward the increased incarceration of seriously mentally ill individuals. Local factors, such as increased homelessness or defendants increasingly found Incompetent to Stand Trial (IST), could potentially contribute to this trend. Alternatively, the consequences of state policy changes under Public Safety Realignment that have redirected inmates with lower level offenses to jail who previously had been sentenced to prison could be driving this trend. One policy objective of Realignment was to make it easier to connect inmates serving short sentences with community resources, such as behavioral health services and treatment, that would improve recidivism.
- The increase we observe in the rate of the incarcerated jail population with either an open case or an active psychotropic medication prescription might not be due to increased numbers of incarcerations of mentally ill individuals, but rather to better identification, diagnosis, and treatment of seriously mentally ill individuals in jails. Further research should focus on identifying the ways in which jails have changed their practices during this period.

Measuring the number of jail inmates receiving psychotropic medications or with an open case file could serve as a possible proxy for the number of individuals with mental illness in jail. However, the reliability of these figures depends on the consistency of mental health assessment, diagnostic, and treatment practices in all jails. A standard screening and assessment process could allow for a more precise accounting of the mentally ill population in California and allow for more efficient allocation of funds/resources.¹⁷ However, in the short term, the BSCC data provides a useful baseline to help understand local incarceration trends related to individuals with mental illness and can help inform policies that attempt to address this issue.

¹⁴ [BJS Indicators of Mental Health Problems Reported by Prisoners and Jail Inmates, 2011-2012.](#)

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ The Council on Criminal Justice and Behavioral Health (CCJBH), formerly known as the Council of Mentally Ill Offenders (COMIO), and others have recommended the adoption of standardized screening and assessment tools at booking.

Recommendations for Improved Data Collection

Jails are facing a growing crisis as the proportion of incarcerated individuals with serious mental illness continues to rise. State and local policymakers are working to confront the problem, but the need for accurate data is critical. The available data from the BSCC about mental health in jails are incomplete. However, there are several things that can be done to improve our accounting of mental illness in jail:

1. Improve the uniformity of reporting.

The BSCC should take steps to improve the uniformity of reporting. The workbook that the BSCC distributes alongside the JPS could be made more detailed. For example, the BSCC does not provide a clear, concrete definition of what counts as a psychotropic medication. It is unclear what each jurisdiction uses as their definition for the purposes of reporting in this survey. Section 3500(c) of the California Penal Code defines a “psychotropic drug” as a drug that has the capability of changing or controlling mental functioning or behavior through direct pharmacological action.^{18,19} CalHPS was unable to verify the definitions used by the jails included in this analysis.

2. Increase the consistency of reporting.

Several counties inconsistently report information about the number of individuals receiving psychotropic medications and/or the number of open mental health cases. In terms of consistency, Marin, Sacramento, Riverside, and San Diego are counties that have relatively poor reporting history. Moreover, a number of counties not only inconsistently report answers to this part of the JPS survey, but they rarely report at all. San Joaquin, Lassen, Marin, and Tulare are counties that missed reporting for over 50 percent of all the JPS reporting periods between January 2002 and June 2019. Appendix B contains details about the missing data and demonstrates which counties report most and least consistently.

3. Enhance the accuracy of reporting.

The BSCC should work more closely with the reporting jurisdictions to obtain more accurate JPS responses. In our review of the JPS data we found several inaccuracies and errors in data reporting. For example, it should be always true that the highest one-day population is always greater than or equal to the number of open mental health cases on the last day of the month. However, this is not consistently the case in the data. There are some counties, during some reporting periods (i.e., months) that report a greater number of open mental health cases than the peak population for that month. For example, in October 2018 Humboldt reported that their highest single day population count was 412 inmates, but they reported having 481 open mental health cases on the last day of that same October. In fact, between 2009 and 2019 there were more than 30 other instances in the JPS data where the number of reported open mental health cases at month end was greater than the peak single-day population during that month.

¹⁸ California Penal Code Section 3500(c) [\[Link\]](#)

¹⁹ These drugs include, but are not limited to, antipsychotic, antianxiety, sedative, antidepressant, and stimulant drugs. Psychotropic drugs also include mind-altering and behavior altering drugs that, in specified dosages, are used to alleviate certain physical disorders, and drugs that may be ordinarily used to alleviate certain physical disorders.

About the Author

Konrad Franco is a Researcher with CalHPS. He is currently pursuing a PhD in Sociology with concentration in quantitative research methods at the University of California, Davis. He studies the physical and behavioral health of individuals cycling through jails, prisons, and immigration detention facilities. He can be reached at klfranco@ucdavis.edu.

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.

Appendix A: State Sample Composition

For our statewide analysis of the JPS data we constructed samples on an annual basis, individually for each data point of interest – psychotropic medications and open mental health cases. We only included counties that provided at least two non-missing answers per year pertaining to the JPS questions regarding the (1) the month-end number of psychotropic medication prescriptions, (2) the month-end number of active mental health cases, and (3) the month-end jail population (i.e., ADP). In other words, we included a county if they responded to these particular questions of interest in the JPS at least twice in any given year.

The following two tables demonstrate which counties are included in our study and during which years. **A black check mark (✓) indicates that a given county reported for that period and is included in the statewide sample. Conversely a red highlighted cross mark (X) indicates that a given county is excluded from the statewide sample because they did not sufficiently report during that period.**

Table 1. Sample Composition: Open Mental Health Cases

County	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Alameda	✓	✓	X	X	X	X	X	X	X	X	X
Amador	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Butte	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Calaveras	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colusa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contra Costa	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Del Norte	✓	✓	✓	✓	✓	X	X	X	X	✓	✓
El Dorado	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fresno	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓
Glenn	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Humboldt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Imperial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inyo	✓	✓	✓	X	X	X	X	✓	✓	✓	✓
Kern	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kings	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lake	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lassen	X	X	X	X	X	X	✓	✓	✓	✓	✓
Los Angeles	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Madera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Marin	X	X	X	X	X	✓	✓	✓	✓	✓	✓
Mariposa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mendocino	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Merced	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Modoc	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mono	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monterey	X	X	X	X	X	X	X	X	X	X	X
Napa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nevada	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orange	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Placer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plumas	✓	✓	✓	✓	X	X	X	X	X	✓	✓
Riverside	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sacramento	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
San Benito	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Bernardino	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Diego	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Francisco	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Joaquin	X	X	X	X	X	X	X	X	X	X	X
San Luis Obispo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Mateo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Santa Barbara	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X
Santa Clara	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Santa Cruz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shasta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Siskiyou	✓	X	X	X	X	✓	✓	✓	✓	✓	✓
Solano	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sonoma	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stanislaus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sutter	✓	✓	✓	✓	X	X	X	X	X	X	X
Tehama	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓
Trinity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tulare	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Tuolumne	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ventura	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
Yolo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Yuba	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

The black check mark (✓) indicates that a given county is included in the statewide sample.

The red highlighted cross mark (X) indicates that a given county is excluded from the statewide sample.

Included counties reported both the month-end number of active mental health cases *and* their month-end ADP at least twice in any given year.

Table 2. Sample Composition: Psychotropic Medications

County	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Alameda	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Amador	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Butte	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Calaveras	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colusa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contra Costa	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Del Norte	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
El Dorado	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fresno	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓
Glenn	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Humboldt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Imperial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inyo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kern	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kings	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lake	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lassen	X	X	X	X	X	X	✓	✓	✓	✓	✓
Los Angeles	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Madera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Marin	X	X	X	X	X	X	X	X	X	✓	✓
Mariposa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mendocino	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Merced	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Modoc	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mono	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monterey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Napa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nevada	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orange	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Placer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plumas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Riverside	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sacramento	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
San Benito	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Bernardino	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Diego	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Francisco	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Joaquin	X	X	X	X	X	X	X	X	X	X	X
San Luis Obispo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
San Mateo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Santa Barbara	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Santa Clara	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Santa Cruz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shasta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Siskiyou	✓	X	X	X	X	✓	✓	✓	✓	✓	✓
Solano	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sonoma	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stanislaus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sutter	✓	✓	✓	✓	X	X	X	X	X	X	X
Tehama	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓
Trinity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tulare	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Tuolumne	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ventura	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
Yolo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Yuba	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

The black check mark (✓) indicates that a given county is included in the statewide sample.

The red highlighted cross mark (X) indicates that a given county is excluded from the statewide sample.

Included counties reported both the month-end number of individuals receiving psychotropic medications *and* their month-end ADP at least twice in any given year.

Appendix B: Measures of Change for Individual Counties

Total percent change is a measure of “long-run” change. This metric can also be called the cumulative percent change.

$$\text{Total Percent Change} = \frac{2019 \text{ value} - 2009 \text{ value}}{2009 \text{ value}}$$

Annual percent change is a measure of “short-run” year-over-year change.

$$\text{Annual Percent Change} = \frac{\text{value}_k - \text{value}_{k-1}}{\text{value}_{k-1}}$$

value_k = value in any given year (year k)
 value_{k-1} = value in previous year (year k-1)

Average annual percent change is a measure of the average “year-over-year” change. This is a linear measure that is the arithmetic mean of all the observed annual percent changes over the time period.

$$\text{Average Annual Percent Change} = \frac{\text{Change}_{2009-2010} + \text{Change}_{2010-2011} + \dots + \text{Change}_{2018-2019}}{11}$$

$\text{Change}_{2009-2010}$ = percent change between 2009 and 2010
 $\text{Change}_{2010-2011}$ = percent change between 2010 and 2011

Annualized percent change (i.e., compound annual percent change) is a “smooth” measure of the average observed annual percent change. This metric is the geometric mean of all the observed annual percent changes. The annualized percent change is useful for comparing change between different counties. The annualized percent change offers a single measure of change for the entire period which, had it applied at all times throughout that period, would have led to the same total change as was observed. Over long periods of time, the compound annual percent change is a generally acceptable and preferred metric for average change. The most important limitation of this metric is that because it calculates a smoothed rate of change over a period, it ignores volatility and implies that the change during that time was steady.

$$\text{Annualized Percent Change} = \frac{2019 \text{ value}^{\frac{1}{11}}}{2009 \text{ value}} - 1$$

Appendix C: Annualized Year-Over-Year Change for Individual Counties

The majority of counties in California experienced increases in the prevalence of mental illness in their jails year-over-year. However, the annualized year-over-year change in the relative prevalence of mental illness among jail-incarcerated people was also significantly different across counties.

Open Mental Health Cases

Between 2009 and 2019, counties experienced markedly different degrees of annualized year-over-year change in the proportion of their jail population with active mental health cases. The median average year-over-year change in rate of mental health case prevalence in California jails was roughly 8 percent, but across the state, annualized rates of changes ranged from 36 percent increases to 29 percent decreases. In Yolo County, the share of the jail population with an active mental health case increased by roughly 15 percent per year, on average. Los Angeles County experienced an average change in this metric of about 8 percent year-over-year. Some counties, such as Orange experienced a small change of about 1 percent per year on average over this time period.

Psychotropic Medications

Between 2009 and 2019, counties also experienced markedly different degrees of annualized year-over-year change in the share of their jail population receiving psychotropic medications. The median annualized change in rate of psychotropic medication prevalence in California jails was roughly 6 percent, but across the state, annualized rates of changes ranged from 9 percent increases to 23 percent decreases. In Fresno and Kern County, the number of people receiving psychotropic medications increased by about 10 to 13 percent per year, on average. Los Angeles County experienced an average change of about 9 percent year-over-year. Some counties, such as Humboldt and Napa experienced small change of less than 1 percent per year on average over this time period.