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HEALTH POLICY RESEARCH

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U.S., CHIS is a research project of the UCLA Center for Health Policy
Research. For more information on CHIS and for access to CHIS data
and results, visit *www.chis.ucla.edu.*

CALIFORNIA DEPARTMENT OF
Mental Health

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Exhibits

Acknowledgments

All errors in fact, judgment, and/or interpretation contained in this report remain the exclusive responsibility of the authors.

Executive Summary

This report provides a comprehensive overview of the mental health needs, status, use of mental health services, and comorbidities of adults in California. It looks at key indicators associated with mental health needs, such as gender, socioeconomic and insurance status, and other health conditions.

Using data from the 2007 California Health Interview Survey (CHIS 2007), this report finds that approximately 8.3% of adults residing in California, or 2.2 million people, reported having mental health needs. Within this group, striking disparities emerged that may help health providers and others effectively target programs and services to those most in need.

Traditionally disadvantaged groups reported high mental health needs.

Traditionally disadvantaged groups such as American Indians and Alaska Natives, mixed-race Californians, and sexual minorities reported high levels of mental health needs. Single heads of households, with or without children, also reported high mental health needs.

Latinos born in the United States reported high rates of mental health needs, at 11.7%—almost twice the rate of Latino immigrants.

Lack of insurance and participation in public health insurance were both associated with higher mental health needs.

Adults ages 18-64 who were covered by public health insurance (Medi-Cal, Healthy Families, or Medicare) had higher rates of mental health needs than did other adults. Of these, a large proportion were Medicare recipients, reflecting a strong relationship between disability and poverty and mental health needs.

Adults who were uninsured sporadically throughout the year also had high rates of mental health needs.

Higher rates of chronic conditions were found among those with mental health needs.

Although chronic health conditions such as high blood pressure, heart disease, diabetes, and asthma are commonly found among the general adult population, adults in California with mental health needs had a higher burden of disease than the general population across all of these chronic health conditions.

Specifically, survey results indicate that adults with mental health needs were 1.5 times more likely to have high blood pressure, heart disease, or asthma—or to have two or more of these select chronic conditions—compared to other adults.

In general, adults with mental health needs were more than twice as likely as all other adults in California to report that their general health status was fair or poor, and five times more likely to report being in poor health.

Adults with mental health needs were more likely to engage in negative health behaviors.

Negative health behaviors such as smoking and binge drinking were also more pronounced among adults with mental health needs. For example, the rate of current smoking among adults with mental health needs was more than twice that among adults without mental health needs. Adults with mental health needs were also more likely than other adults to engage in binge drinking or to be obese. Finally, adults with mental health needs were more than twice as likely as other adults to have a physical condition that limited their ability to engage in basic physical activities.

Most adults with mental health needs received little or no treatment.

Survey results indicate that half of adults with mental health needs in California had received no treatment in the past year. Among the 2.2 million adults in California with mental health needs, more than three-quarters (76.6%, or 1,703,000) had unmet needs.

Of the population with unmet needs, approximately one-quarter (26.2%, or 582,200) reported receiving some treatment (but not minimally adequate treatment), and half (50.4%, or 1,120,800) reported receiving no treatment. Of these, there were clear disparities among certain population groups:

- Those most likely to have unmet needs were the youngest adults (18-24) and the oldest adults (65 and older), males, adults with lower educational attainment, Asian and African American adults, and Latino and Asian adults who were born abroad.

- Uninsured adults and those with private health insurance had higher rates of unmet needs than those who were insured or had public insurance.

- Treatment for mental health needs was associated with English proficiency, with those who did not speak English well reporting the highest rate of unmet mental health needs.

- High rates of unmet mental health needs remained similar regardless of income or geographic location.

California's Mental Health Parity Law[a] mandates that health insurance providers include mental health treatment in their coverage options. However, even among those adult Californians with private coverage, only 22.6% of those reporting mental health needs received adequate treatment. Adults with public insurance tended to do better: 34.8% of adults with mental health needs who were enrolled in some form of public health insurance reported receiving adequate treatment.

Overall, only about one-quarter (23.4%) of adults with mental health needs had their needs adequately met (i.e., received minimally adequate treatment).

Closing the unmet need gap

Mental health is an essential component of public health, and maintenance of a healthy population cannot be achieved without attention to mental health needs. As noted in a 2010 report from the World Health Organization:

> Mental health is not just the absence of mental disorder. It is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.[b]

This report shows that California faces obstacles in attaining this vision of mental health. In particular, the associations found between poor mental health and comorbid chronic health conditions, risky health behaviors, increased physical disability, and decreased quality of life reflect the challenge of integrating adequate mental health care within the framework of public health.

Findings from this report can help to address California's mental health needs. In particular, the data can inform discussions of resource allocation for identification and treatment of those most at risk of developing serious mental illness as well as of those with unmet needs. The report may also help providers and policymakers make decisions on how best to provide needed services to specific populations suffering from serious mental illness. Further, it can inform health care officials of potential barriers to the provision of mental health services within medically underserved communities.

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a   The Wellstone-Domenici Mental Health Parity and Addiction Equity Act (MHPAEA), enacted into law October 3, 2008, did not come into effect until after CHIS 2007 data were collected.

b   World Health Organization. Mental Health and Development: Targeting People with Mental Health Conditions As a Vulnerable Group. 2010.

Chapter 1: Introduction

Mental health is an essential component of public health, and maintenance of a healthy population cannot be achieved without attention to mental health needs. As noted in a 2010 report from the World Health Organization (WHO):

> Mental health is not just the absence of mental disorder. It is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.[1]

Meeting the demands for mental health care continues to be a challenge on both local and global levels. The World Health Organization reports that mental, neurological, and substance abuse disorders account for an estimated 14% of the global burden of disease worldwide.[2] The link between poor mental health and the development of comorbid chronic health conditions, risky health behaviors, increased physical disability, and decreased quality of life reflect the challenge to integrate mental health care within the framework of public health. The economic burden of mental illness on society, as evidenced by decreased work productivity and the added strain on limited public health resources, also serves as an obstacle to sustaining services and treatment for this vulnerable population. These challenges are especially relevant for California's diverse population, where data show that nearly one in five (or about 4.9 million) adults in California reported needing help for a mental or emotional health problem.[3] Mental health needs are likely to grow with the ongoing economic crises and the accompanying hardships that particularly affect working populations and their families.[4]

The passage of the California Mental Health Services Act in 2004 (Proposition 63)[5] provided additional resources and support for county-based mental health programs in their efforts to meet the mental health needs of California residents. The goals of the Mental Health Services Act (MHSA) are accomplished through the implementation of treatment, prevention, and early intervention programs for those with serious mental illness. However, there is growing concern that limited public resources, coupled with the difficulty of identifying these vulnerable subgroups, serve as obstacles to effectively providing services for those most in need. Recent health care reform and the move toward integration of physical and mental health services require policymakers and service providers to have a thorough understanding of the disparities in mental health needs and treatment in the state.

Based on analyses of the California Health Interview Survey (CHIS), this report builds upon previous efforts to estimate mental health needs in California[3,6] and to identify disparities in mental health needs by demographic and geographic factors; to understand mental health needs and their association with chronic health conditions and behaviors; and to examine mental health treatment, unmet needs, and disparities in unmet needs.

Comparing CHIS Mental Health Needs with Previous Estimates

This report is not the first to provide estimates of mental health needs in California. To aid in the initial planning for implementation of the Mental Health Services Act (MHSA), estimates of serious mental illness (SMI) were generated for California. Led by Dr. Charles Holzer, these estimates were calculated using two national studies—the National Comorbidity Survey/National Comorbidity Survey-Replication, and the Epidemiological Catchment Areas Study— and a "synthetic (indirect) estimation approach."[7] These synthetic estimates were derived from a predictive model of SMI. This predictive model of SMI was based on detailed demographic characteristics from the national data sources that were then applied to California and its counties using state and county demographic characteristics.

The Holzer estimates of SMI among community- dwelling adults in California have been a valuable resource and were widely used in the planning process for MHSA implementation. At the time, other data to directly estimate the number of adults in California with mental health needs simply did not exist, at either the county or state levels. Now that the California Department of Mental Health (DMH) has partnered with CHIS to measure mental health status, mental health-related disability, and use of mental health services, direct rather than synthetic estimates of mental health needs can be generated.

As a data source, CHIS estimates offer a number of important advantages over synthetic mental health estimates.

- CHIS data and the mental health need estimates derived from them are based on a scientifically drawn sample of California households. Therefore, the estimates for California do not rely upon a model based on national data that is then applied to California.

- CHIS data allow the analysis of mental health information alongside the rich CHIS survey content, including sociodemographics, health conditions, health behaviors, insurance coverage, health care access, and several other important health topics (see *http://www.chis.ucla.edu/default.asp*).

- CHIS samples California respondents at the stratum or county level, which allows analysis of mental health and related covariates at the local level.

- CHIS oversamples specific racial and ethnic subgroups and conducts interviews in six languages (English, Spanish, Mandarin, Cantonese, Korean, and Vietnamese), which provides a more accurate representation of California's diverse population.

- CHIS is an ongoing survey, which allows tracking of mental health status and treatment use over time in the California population.

While CHIS 2007 data show that 8.3% of California adults in households have mental health needs, an estimate of SMI, Holzer estimates (based on 2000 Census data) show that 5.9% of California adults in households have SMI[6] (although Holzer's definition and measurement of SMI are not identical to those of CHIS).[8]

In considering differences between the Holzer and CHIS data, it is also important to note that both sources of mental health information are based on survey estimates and that these estimates are associated with error and imprecision due to, for example, measurement error or sampling error. The CHIS estimates presented in this report are accompanied by confidence intervals to show the precision of the estimates (the smaller the confidence interval, the more precise the estimate), and population counts are rounded to reflect the nature of imprecision of the estimates presented. The Holzer estimates do not reflect or include any information on the precision of the estimates. Also, Holzer data present exact population counts, which provide an overly precise impression of the estimates.

It is our hope that this report can serve as a reference document and source of information that can spur action on meeting mental health needs. By identifying subpopulations with mental health needs, the high rate of comorbid conditions and behaviors associated with mental health needs, and factors associated with unmet mental health needs in California, this report can be of use in identifying and helping the most vulnerable populations. As implementation of the MHSA continues, the data and estimates provided in this report can serve as a benchmark for measuring change over time and progress toward reducing mental health disparities in California.

The concept of *need* is fundamental to understanding, planning, and tracking mental health services in California. Conceptualizing and defining the population in need of mental health services is a difficult task under the best of circumstances.[9] Using validated indicators of serious psychological distress[10] and impairment due to an emotional problem,[11] along with current scientific understanding, we use a combination of psychological symptoms and impairment to define and measure the population in need.

This approach to the conceptualization and measurement of mental health needs is consistent with the measurement of serious mental illness by the Substance Abuse and Mental Health Service Administration (SAMHSA),[12] the mental health service eligibility criteria set forth by the Center for Mental Health Services (CMHS),[13] and the definition of adult serious mental illness as described in the Mental Health Services Act,[14] as well as previous research.[15] (For further information about these definitions and criteria, see "Conceptualizing Mental Health Needs" in Appendix A.)

Serious Psychological Distress (SPD) is measured using the Kessler 6 (K6) and was designed to estimate the proportion of serious mental illness within a population. It was originally developed for use in the U.S. National Health Interview Survey (NHIS). The K6 was validated in a convenience sample in Boston[15] and has since been validated in several other surveys in the U.S. and internationally.[10] The K6 is now included in the annual NHIS and the annual SAMHSA National Survey on Drug Use and Health (NSDUH), as well as in the California Health Interview Survey (CHIS).

Impairment due to emotional or mental health is measured using the Sheehan Disability Scale (SDS), a four-item scale.[11] The SDS captures the extent to which an adult's emotions interfere in four life domains: work (for those less than 70 years of age), chores, social life, and personal relationships.

Measuring Mental Health Needs Among Adults in California

To estimate the proportion and number of adults in California with mental health needs using CHIS 2007 data, an indicator of need was constructed using a combination of the Kessler 6 (K6) and Sheehan (SDS) measures (see Appendix A for detailed information on these measures). Adults with "mental health needs" are defined as those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains. Those without mental health needs are all adults who do not meet the above threshold of combined symptoms and impairment.

Among the 26.8 million adults in California, 2.2 million (8.3%) were identified as having mental health needs. Adults without mental health needs were comprised of a small group (N = 62,200) with serious psychological distress (SPD) who did not report impairment due to their mental or emotional health, along with the 24.5 million adults without SPD (see Exhibit A-3: Conceptual Model for Assessing Adult Mental Health Needs in California, CHIS 2007, in Appendix A). These estimates differ in important ways from the Holzer estimates, both in number and in methodology[8] (see "Comparing CHIS Mental Health Needs with Previous Estimates" in chapter 1 for more information).

Disparities in Mental Health Needs

The exhibits in this chapter explore disparities in mental health needs among adults in California by various sociodemographic indicators. The term "disparities" is often used and defined in multiple ways. Borrowing from the National Institutes of Health (NIH), we define "disparities" as "differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States."[16] Therefore, the term "disparities in mental health needs" is defined as the differences in the prevalence of mental health needs among specific populations within California.

The exhibits in this section show both unadjusted and adjusted rates; the "adjusted" rates account for differences in the population by age, gender, income, and education. This adjustment is necessary so that the differences reported in mental health needs by race/ethnicity, for example, are not due to differences in the relationship between mental health needs and age, gender, income, or education. An asterisk (*) in the exhibit indicates that the difference between a particular group and the unadjusted statewide rate (8.3%) is statistically significant at p < 0.05.

For example, in Exhibit 2-1, American Indians and Alaska Natives had statistically significant higher rates of mental health needs than the statewide average.

Following adjustments for demographic factors (i.e., age, gender, income, and education), that difference is no longer statistically significant, indicating that the higher unadjusted levels of mental health needs among American Indians and Alaska Natives are due in large part to differences in the demographic factors associated with mental health needs.

While the exhibits in this section provide the rates of mental health needs for comparison *across* sociodemographic subgroups, Exhibit B-1 and Exhibit B-2 in Appendix B provide the distribution of mental health needs for assessing disparities *within* sociodemographic groups.

Race/Ethnicity

Mental health needs differ among California's diverse racial and ethnic populations. American Indians and Alaska Natives had twice the statewide rate of mental health needs (16.7% vs. 8.3%, respectively). Native Hawaiians, Pacific Islanders, and multiracial groups[c] had the next highest rates of mental health needs (13.0%), while Asians had the lowest rate, at 6.0% (Exhibit 2-1). African Americans, Latinos, and non-Latino Whites[d] had rates statistically similar to the statewide average.

c   Due to small sample size, Native Hawaiians and Pacific Islanders were grouped with adults who reported they were multiracial.

d   CHIS 2007 uses the California Department of Finance categories (Version 1). Latino is considered a race category. Whites and all other racial groups are non-Latino.

Exhibit 2-1:
Mental Health Needs by Race/Ethnicity, Adults 18 and Over, CHIS 2007
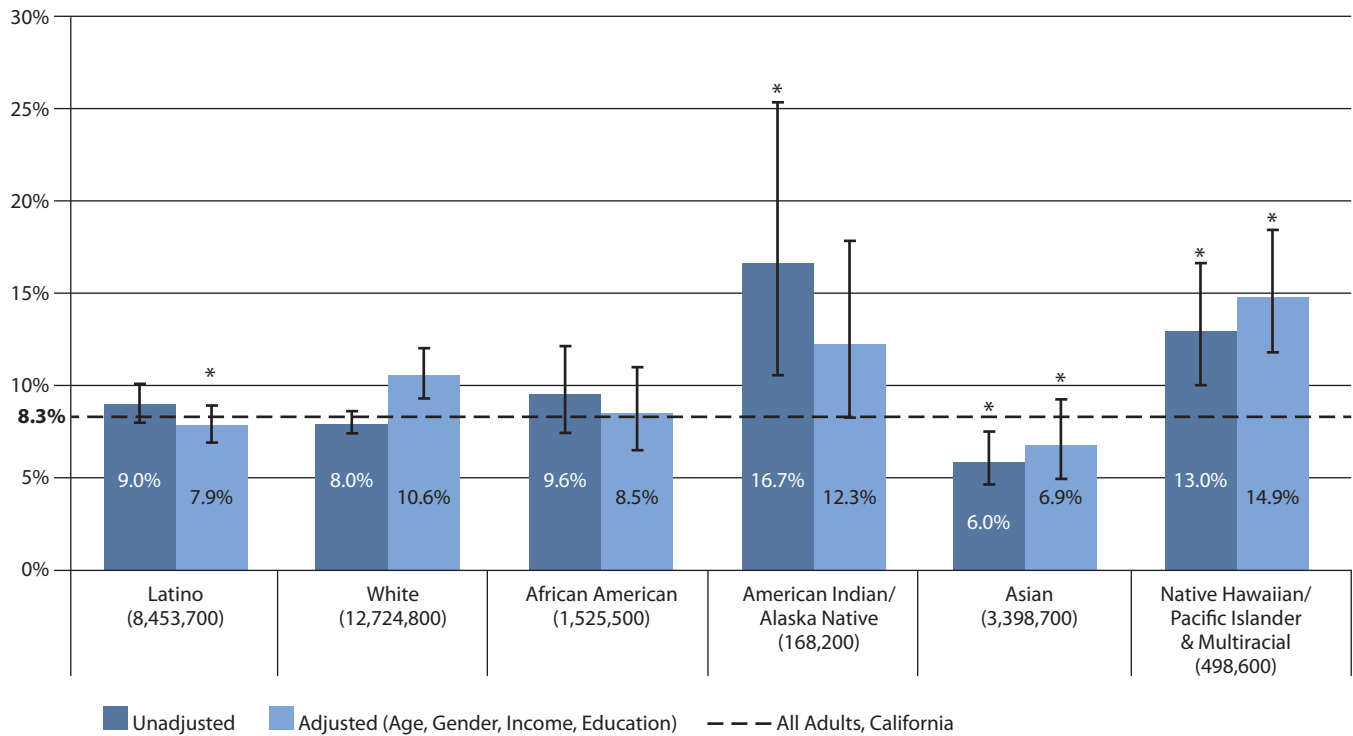
Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

   I represents 95% Confidence Interval.[32]

   Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

After adjusting for age, gender, income, and education, we found that the proportion of adults with mental health needs decreased to a less than statistically significant level for American Indians and Alaska Natives. After the same adjustments, the percentage of adults with mental health needs decreased to a statistically significant level for Latinos. This decrease indicates that the higher unadjusted levels of mental health needs for this population are due in large part

to differences in the demographic factors associated with mental health needs (i.e., age, gender, income, and education). Rates for Native Hawaiians, Pacific Islanders, and multiracial groups (14.9%) remained higher than the statewide average, while rates for Asians remained lower (6.9%), indicating that other factors besides age, gender, income, and education may need to be considered in order to account for these differences.

Exhibit 2-2:

Mental Health Needs by Nativity Status for Latino and Asian, Adults 18 and Over, CHIS 2007

Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

    I represents 95% Confidence Interval.[32]

    Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Nativity

In addition to differences by race/ethnicity, mental health needs varied by country of birth for Latino and Asian populations, with U.S.-born Latinos having the highest rate (11.7%). Latinos and Asians born abroad (6.9% and 5.8%, respectively) had lower rates than the statewide population, while U.S.-born Asian adults (6.4%) had rates similar to those for all adults in California (Exhibit 2-2).

After adjusting for age, gender, income, and education, the lower rates of mental health needs for Latinos and Asians born abroad remained significant, indicating that other factors may account for the differences. The proportion of adults with mental health needs decreased to a less than statistically significant level for U.S.-born Latinos after these adjustments. This decrease indicates that the higher unadjusted levels of mental health needs for this population are due in large part to differences in the demographic factors associated with mental health needs (i.e., age, gender, income, and education).

Exhibit 2-3:
Mental Health Needs by English Proficiency, Adults 18 and Over, CHIS 2007
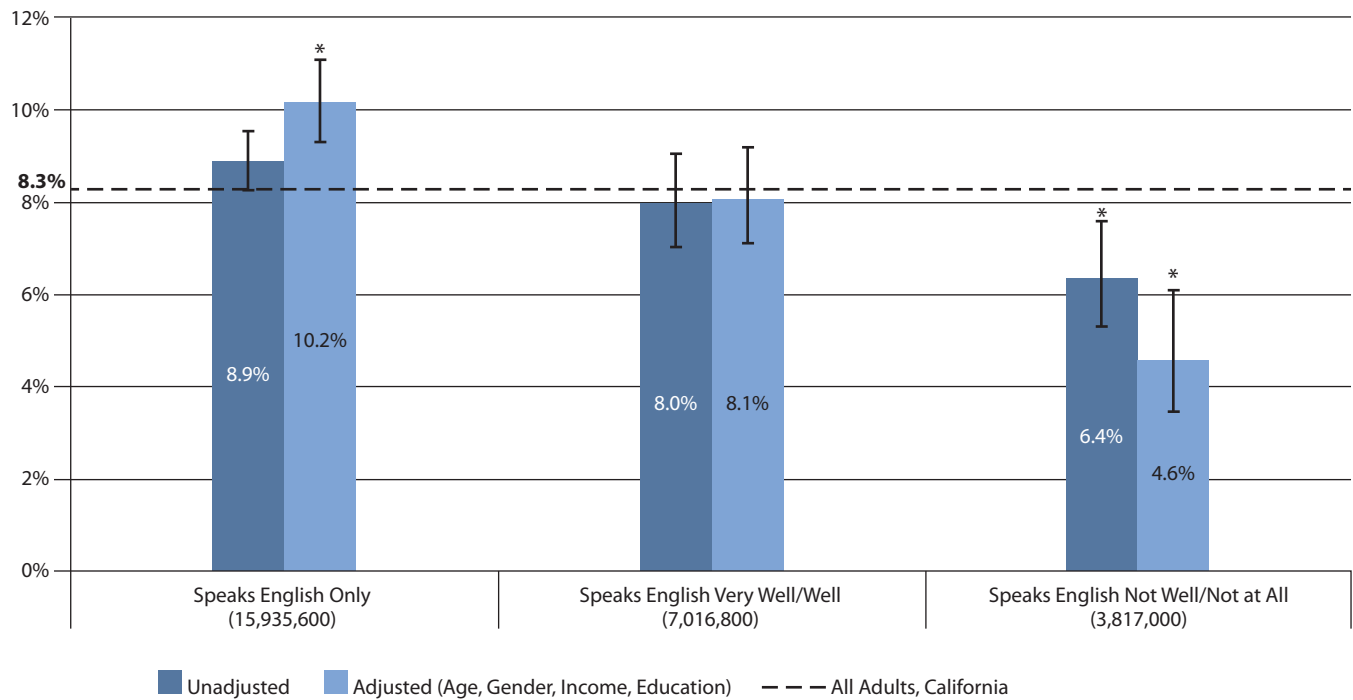
Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

English Proficiency

As a destination for many immigrants, California has a large population of individuals who speak a language other than English. To understand how mental health needs differ by ability to speak English, we used CHIS 2007 data to compare mental health needs among three groups: those who speak English only, those who speak another language but who also speak English very well or well, and those who speak English not well or not at all. Among those who speak another language, those who speak English not well or not at all had significantly lower rates of mental health needs than the state average (6.4% vs. 8.3%, respectively) (Exhibit 2-3). Those who speak English only and

those who speak English very well or well had rates of mental health needs that were statistically similar to all adults in California.

After adjusting for age, gender, income, and education, the rate of mental health needs among those who speak English only increased to a statistically significant rate of 10.2%. Among those who speak another language and who speak English not well or not at all, the proportion of adults with mental health needs dropped to almost half the statewide rate (4.6%) and remained statistically significant.

Exhibit 2-4:
Mental Health Needs by Marital Status, Adults 18 and Over, CHIS 2007
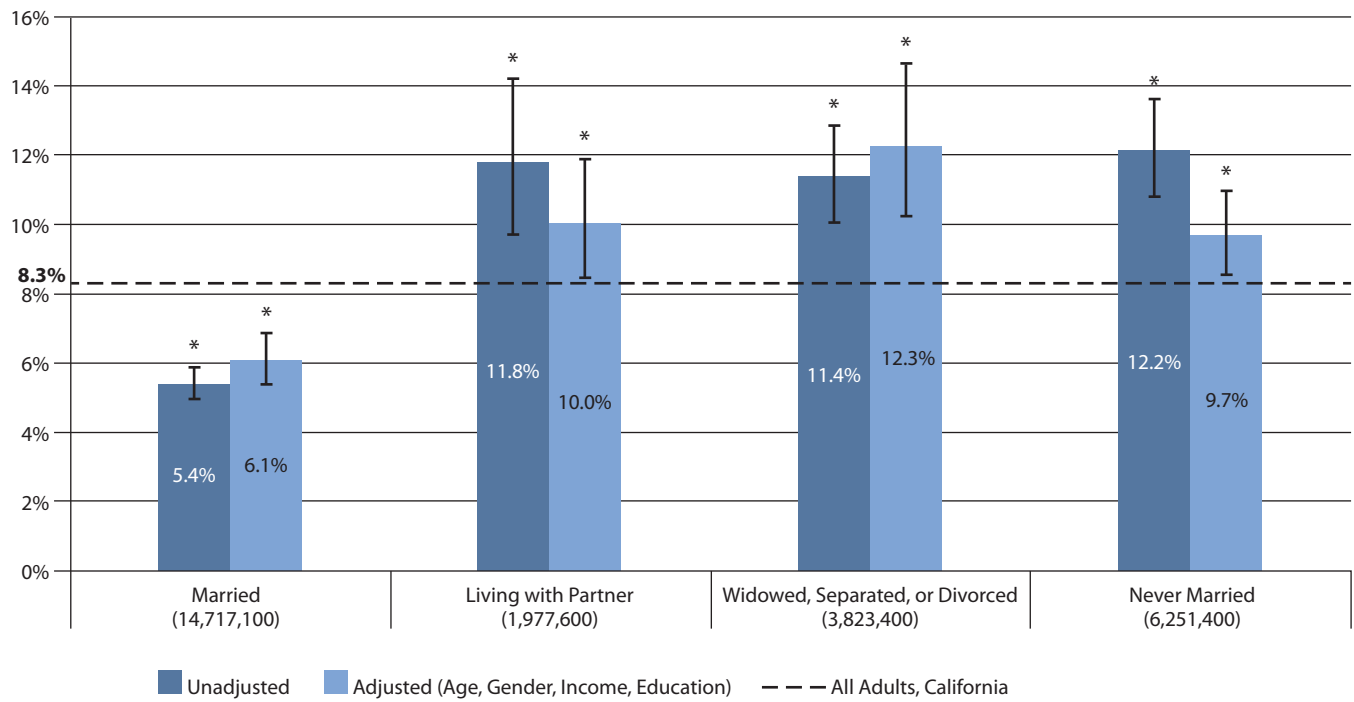
Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Marital Status

The percentage of adults with mental health needs varied by marital status in California. Adults who reported that they had never been married; were not living with a partner; or were widowed, separated, or divorced had similar rates of mental health needs (12.2%, 11.8% and 11.4%, respectively), all of which were higher than the statewide rate. Married adults had the lowest rate of mental health needs (5.4%) compared to all other groups (Exhibit 2-4).

When mental health needs were estimated while controlling for age, gender, income, and education, rates for mental health needs remained significantly different from the state average for all groups. Rates went up slightly for widowed, separated, or divorced adults as well as for married adults (12.3% and 6.1%, respectively), while rates went down for those who reported living with a partner and those who had never been married (10.0% and 9.7%, respectively).

Exhibit 2-5:

Mental Health Needs by Family Type, Adults 18 and Over, CHIS 2007
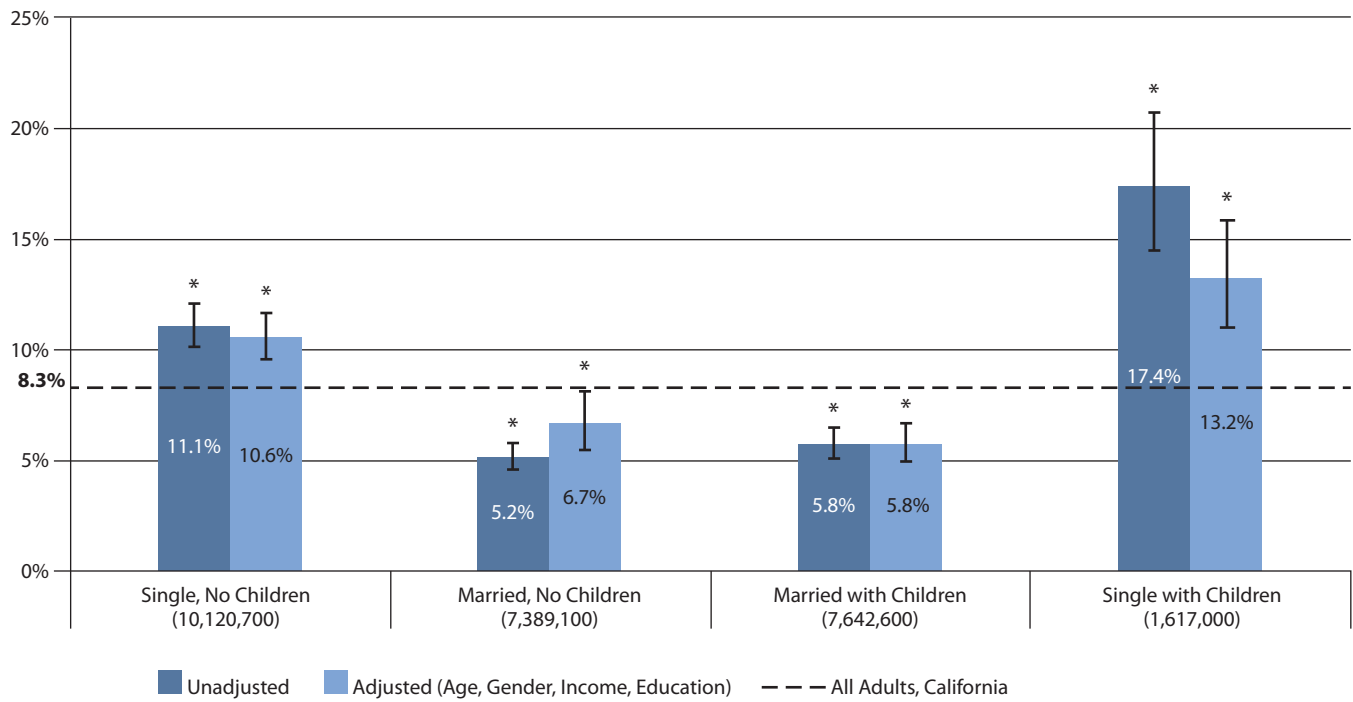
Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Family Type

The percentage of adults with mental health needs also varied significantly among Californians in 2007 by family type. Single adults with children had more than double the rate of mental health needs compared to all adults (17.4% vs. 8.3%, respectively). Single adults without children had the next highest rate (11.1%). Married adults with or without children had the lowest rates of mental health needs (5.8% and 5.2%, respectively).

After adjusting for age, gender, income, and education, rates of mental health needs remained statistically significant for all groups but dropped substantially for single adults with children (13.2%), dropped slightly for single adults without children (10.6%), and increased for married adults without children (6.7%), while rates remained consistent for married adults with children (5.8%) (Exhibit 2-5).

Exhibit 2-6:

Mental Health Needs by California Regions, Adults 18 and Over, CHIS 2007
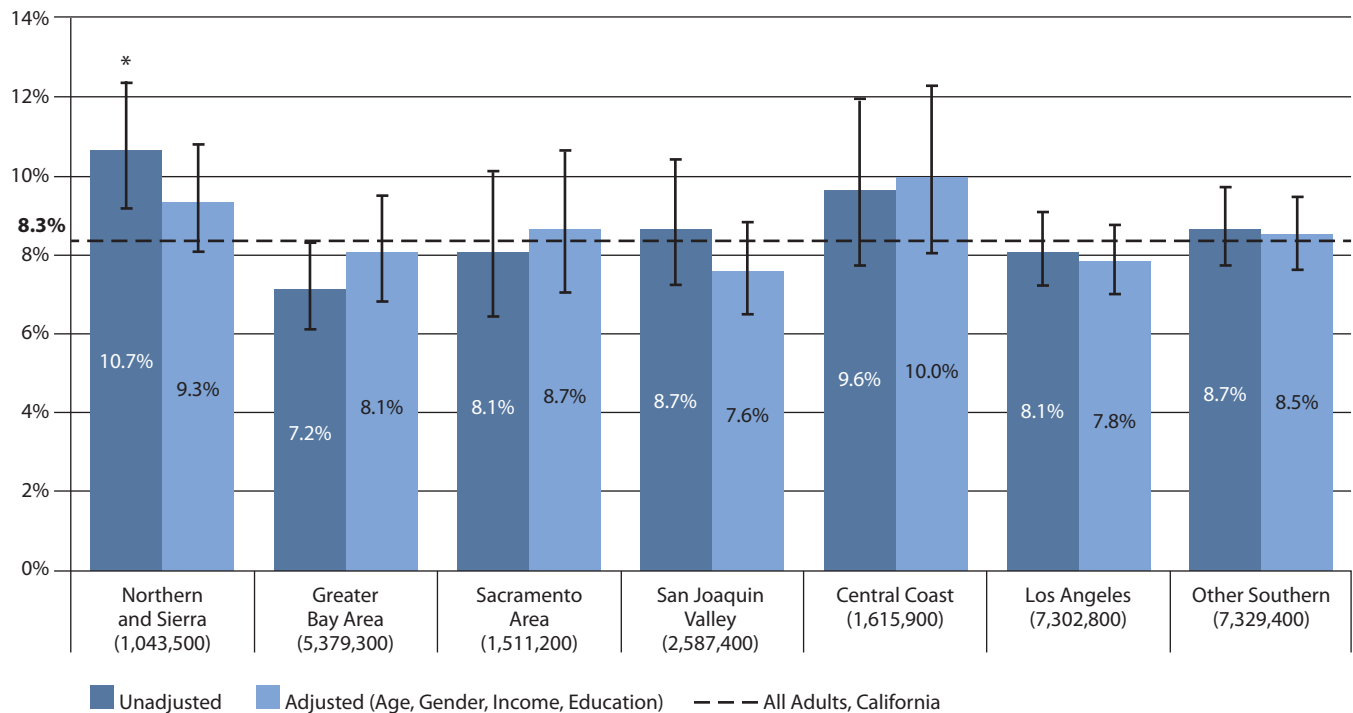
	Northern and Sierra (1,043,500)	Greater Bay Area (5,379,300)	Sacramento Area (1,511,200)	San Joaquin Valley (2,587,400)	Central Coast (1,615,900)	Los Angeles (7,302,800)	Other Southern (7,329,400)
Unadjusted	10.7%	7.2%	8.1%	8.7%	9.6%	8.1%	8.7%
Adjusted	9.3%	8.1%	8.7%	7.6%	10.0%	7.8%	8.5%

■ Unadjusted   ■ Adjusted (Age, Gender, Income, Education)   – – – All Adults, California

Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

  I represents 95% Confidence Interval.[32]

  Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Regions in California

The percentage of adults with mental health needs did not vary across geographic regions of California. Only counties constituting the Northern/Sierra regions (10.7%) had a statistically higher rate of mental health needs than the statewide rate. All other regions had rates statistically similar to the statewide rate (Exhibit 2-6).

After adjusting for demographic factors (i.e., age, gender, income, and education), the higher rate in the Northern/Sierra regions was no longer statistically different from the state rate, which means that much of the higher levels of mental health needs was due to the demographic differences associated with mental health needs. With adjustments, all regions had rates of mental health needs similar to the statewide rate.

Exhibit 2-7:
Mental Health Needs by Sexual Orientation, Adults 18-70, CHIS 2007
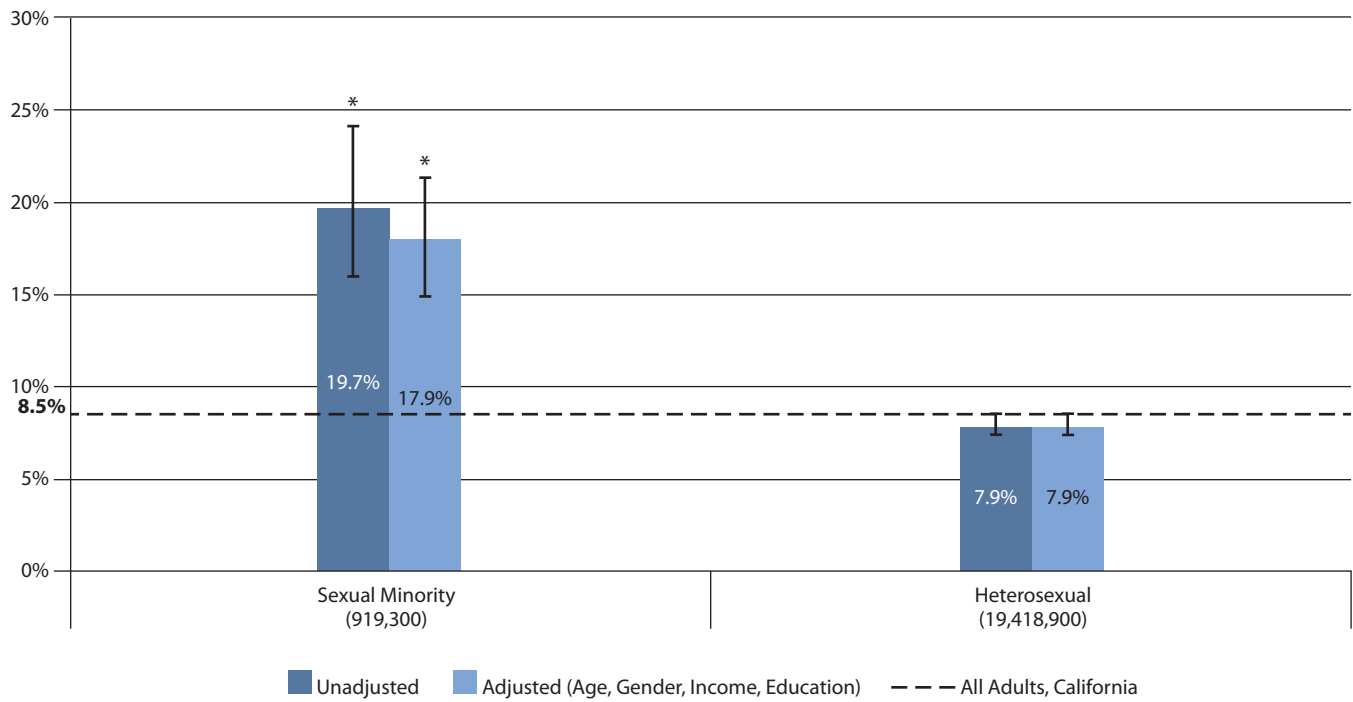
Notes: * Difference from unadjusted California statewide average (8.5%) is statistically significant at p < 0.05.
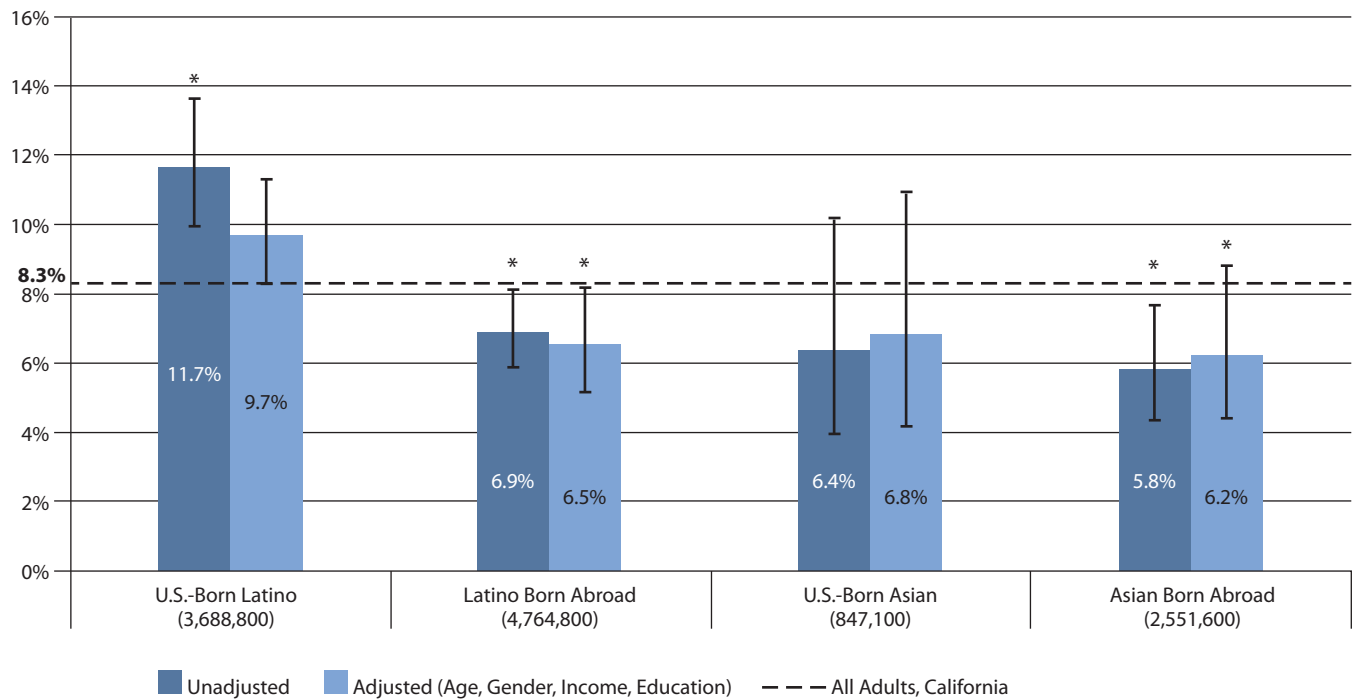
I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Responses for celibate and nonsexual are included in the heterosexual category.

Sexual Orientation

CHIS is one of the few large population-based surveys that include questions about sexual orientation. An analysis of mental health needs by sexual orientation indicates that the rate of mental health needs varied significantly by sexual orientation. Sexual minorities include adults ages 18 to 70 who self-identified as gay, lesbian, or bisexual or who reported having sex with someone of the same sex (including those with both same- and opposite-sex sexual partners) in the past 12 months. Heterosexuals include those who self-identified as heterosexual, who reported only opposite-sex sexual partner(s) in the past 12 months, and who responded as celibate or nonsexual.

Among all adults ages 18 to 70 (20.3 million) who were asked about their sexual orientation, 8.5% (1.7 million) had mental health needs. The rate of mental health needs for sexual minorities was more than double the statewide rate (19.7% vs. 8.5%, respectively) (Exhibit 2-7).

After adjusting for age, gender, income, and education, we found that the percentage of adults with mental health needs among sexual minorities decreased slightly, but remained statistically significant and was more than double the statewide rate (17.9%). Mental health needs among heterosexuals remained consistent after adjustment (7.9%).

Exhibit 2-8:

Mental Health Needs by Insurance Type, Adults 18-64, CHIS 2007
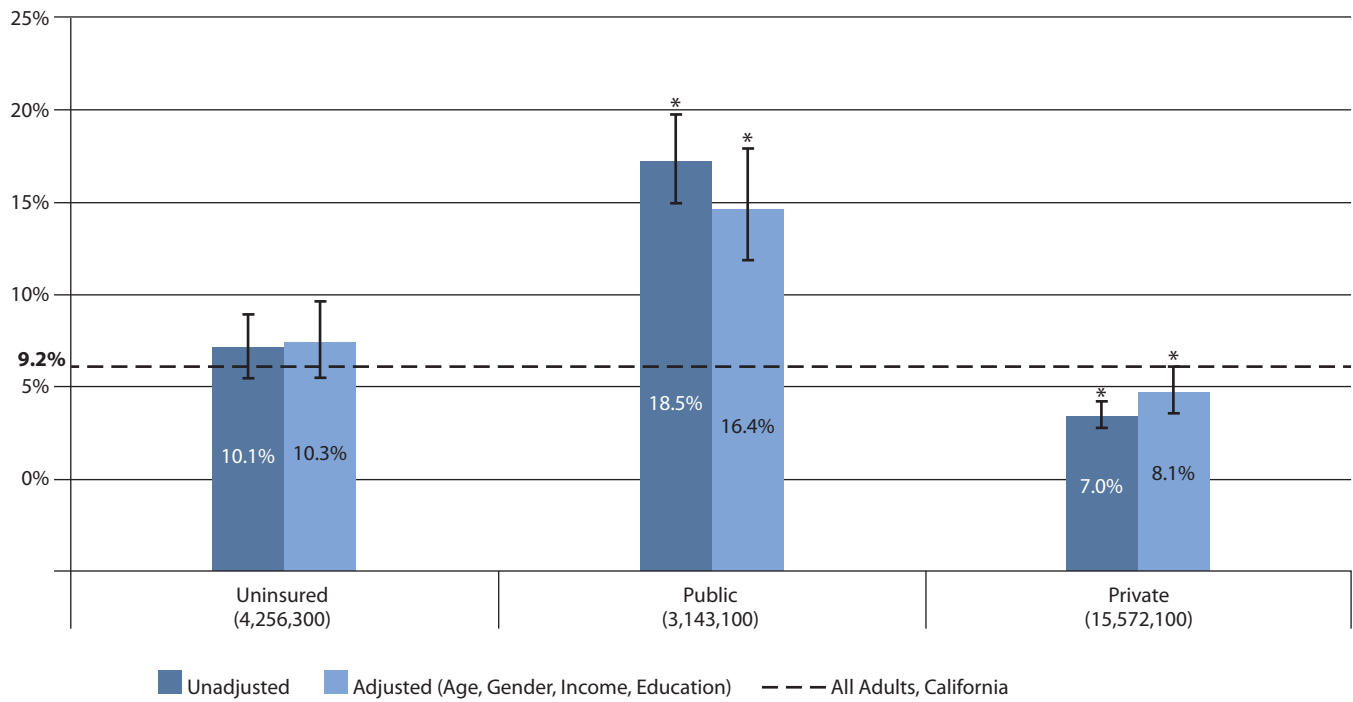
Notes: * Difference from unadjusted California statewide average (8.3%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Health Insurance Status

Health insurance coverage is a strong predictor of access and utilization of health-care services. Since nearly all adults age 65 and older are covered by Medicare, the analysis in this section is limited to adults ages 18 to 64 in California.

Among the 23 million adults in this age group, 2.1 million (9.2%) had mental health needs; this rate is used as the statewide benchmark in Exhibits 2-8 and 2-9. For adults ages 18-64, 18.5% of those with public health insurance (e.g., Medi-Cal, Healthy Families, or Medicare) had mental health needs, which was significantly higher than the state average. Those with private coverage had significantly lower rates (7.0%) of mental health needs than the state

average, while those who were uninsured had similar rates (Exhibit 2-8). A large proportion of adults with public health insurance were covered by Medicare, which suggests that these were disabled adults under age 65.

After adjusting for age, gender, income, and education, the higher rates of mental health needs for adults ages 18-64 with public coverage (16.4%) and the lower rates for those covered by private health insurance (8.1%) remained statistically significant, while the rate for those who were uninsured remained similar to the statewide rate.

Exhibit 2-9:

Mental Health Needs by Uninsured—Past 12 Months, Adults 18-64, CHIS 2007
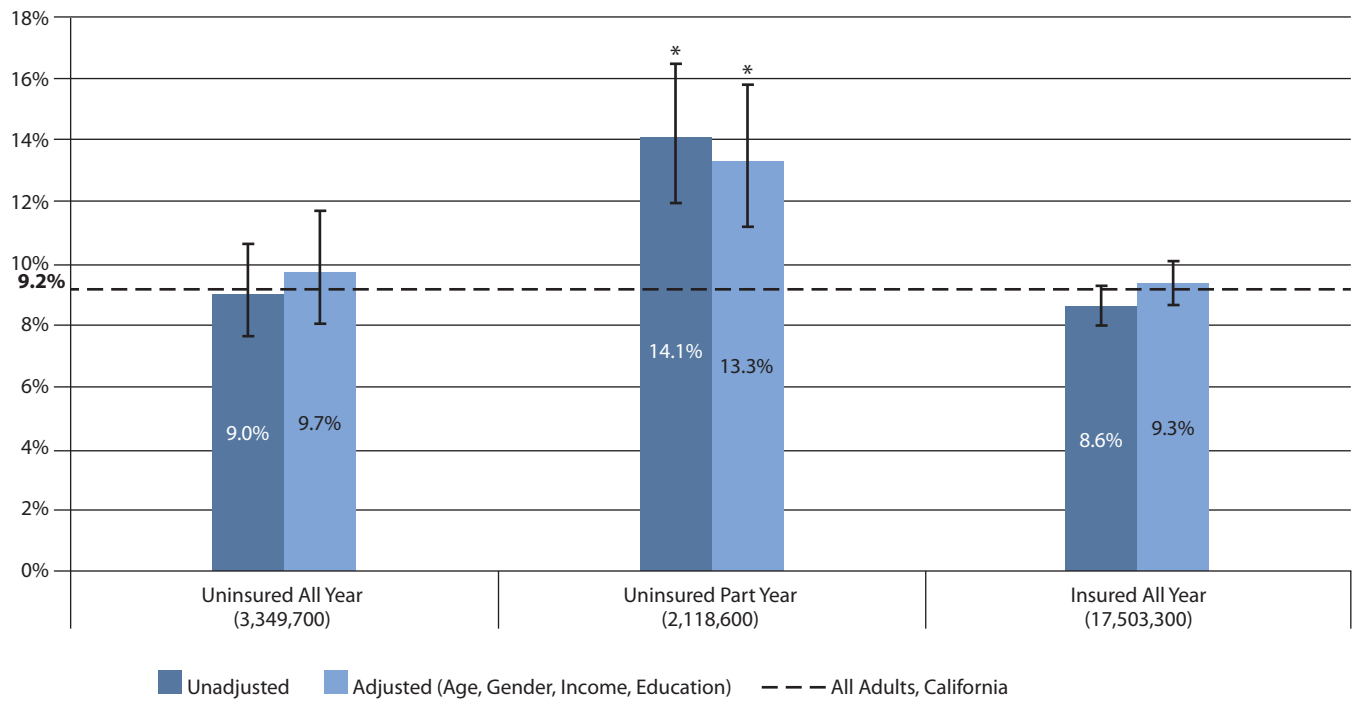
Notes: * Difference from unadjusted California statewide average (9.2%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Uninsured – Past 12 Months

Consistency in health insurance coverage in the past year was also assessed using CHIS 2007 data. Exhibit 2-9 compares the rate of mental health needs for adults who were uninsured all or part of the year with the rate for adults who were insured all year. Compared to the statewide rate (9.2%), higher rates of mental health needs were found among adults 18-64 who were uninsured part of the year (14.1%). The other groups had rates of mental health needs similar to the statewide rate.

After adjusting for age, gender, income, and education, the rate of mental health needs for all groups remained relatively consistent, with the rate of mental health needs remaining significantly higher than the statewide rate for those who were uninsured for part of the year (13.3%).

Summary

Based on CHIS 2007, 8.3% (2.2 million) of adults in California had mental health needs. Rates of mental health needs varied by sociodemographic factors compared to the statewide rate. Adults with the highest rates of mental health needs differed by:

- *Racial and ethnic groups*: American Indians and Alaska Natives had the highest rate of mental health needs, followed by Native Hawaiians, Pacific Islanders, and multiracial groups[e] (Exhibit 2-1).

- *Nativity status*: Latinos born in the United States had almost twice the rate of mental health needs as Latinos born abroad (Exhibit 2-2).

- *Marital status and family type*: Adults who had never married; were not living with a partner; were widowed, separated, or divorced (Exhibit 2-4); or were the single heads of households with or without children all had higher rates of need than married adults (Exhibit 2-5).

- *Sexual orientation*: Sexual minorities had almost three times the rate of mental health needs as heterosexuals (Exhibit 2-7).

After adjusting for age, gender, income, and education, the following changes were observed in the proportion of adults with mental health needs:

- *Racial and ethnic groups*: Native Hawaiians, Pacific Islanders, and multiracial groups were more likely to have mental health needs, while the rate of mental health needs decreased for American Indians and Alaska Natives.

- *Nativity status*: The rate of mental health needs decreased slightly for U.S.-born Latinos but remained significantly higher than the statewide rate.

- *English proficiency*: After adjustment, rates increased and were statistically significant for adults who spoke English only (Exhibit 2-3).

- *Marital status and family type*: Widowed, separated, or divorced adults were more likely to have mental health needs, while the rate decreased for adults who were living with a partner, had never married, or were single heads of households with or without children; all rates remained higher than the rate among the general adult population in the state.

- *Sexual orientation*: The rate of mental health needs among sexual minorities decreased slightly but remained more than double the statewide rate.

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e   Due to small sample size, Native Hawaiians and Pacific Islanders were grouped with respondents identifying as multiracial.

In a more robust analysis of these factors, a logistic regression model revealed that while age, gender, education, and poverty level were all statistically significant in the expected direction, English proficiency, sexual orientation, and being single either with or without children were also strongly associated with mental health needs (see Model 1 in Appendix D).

Logistic regression models are used to understand the relationship between an outcome variable, such as mental health needs, and multiple independent variables, such as age, gender, education, etc. Logistic regression analyzes the relationship of mental health needs by each of the independent variables included in the model, with all other independent variables remaining constant. This technique allows researchers to test the independent contributions of multiple variables to a single outcome in order to see which variables are most strongly related to the outcome of interest. For example, Model 1 adds the other sociodemographic factors in this section to the variables already included in the adjustments (i.e., age, gender, income, and education). Because English proficiency, sexual orientation, and being single with or without children were statistically significant factors when all other factors were held constant, these three factors are considered additional risk-factors associated with mental health needs.

Additionally, rates of mental health needs varied by California region and by health insurance status.

- *Region*: Adults living in counties constituting the Northern/Sierra region had significantly higher unadjusted rates of mental health needs. After adjustment, all regions had rates of mental health needs similar to the statewide rate (Exhibit 2-6).

- *Health insurance status*: For adults ages 18-64, those covered by public health insurance (e.g., Medi-Cal, Healthy Families, or Medicare) had higher rates of mental health needs (Exhibit 2-8). A large proportion of this population was covered by Medicare, suggesting that these were disabled adults under 65. Adults who had inconsistent health care coverage in the past year (i.e., they were uninsured for part of the year) also had higher rates of mental health needs (Exhibit 2-9).

Chapter 3:
Mental Health Needs and Comorbidities

Mental health and physical health share a strong connection. It is, however, often difficult to disentangle their relationship. This is especially true in cross-sectional surveys, such as CHIS, as it is not possible to discern whether a mental health problem leads to the onset of physical health conditions, whether a chronic illness exacerbates the need for mental health services, or whether the conditions are not related. Likewise, mental health and substance abuse are often intricately related, and it is therefore difficult to identify whether one precedes or exacerbates the other. Thus, the direction of causality between mental health needs and comorbid conditions cannot be ascertained.

For purposes of this report, understanding the disparities in select comorbid conditions among those with mental health needs is of interest. The comprehensive health content in CHIS provides a unique opportunity to identify the physical health problems that exist for adults with mental health needs. Revealing the disparities in these comorbid conditions by mental health needs can assist with the allocation of limited resources and inform better integrated health care services. We therefore present the data in this section with the knowledge that mental health needs are associated with chronic conditions, while also acknowledging the limitations of making any causal assumptions. The exhibits in this section provide rates for a variety of health conditions and behaviors among the general adult population in California.

As in the previous chapter, the exhibits in this section of the report are statistically adjusted to account for differences in the population by age, gender, income, and education. The adjustment is necessary in order to determine whether differences reported in mental health need rates by any of these chronic conditions are due to differences in the relationship between mental health needs and one or more of these demographic factors: age, gender, income, or education. For example, if adjusted rates are no longer statistically significant (i.e., statistically different from statewide rates), then much of the difference in mental health need rates for a particular group compared to the statewide rate is due to the demographic factors (e.g., age, gender, income, and education) associated with mental health needs. If the adjusted rates remain statistically significant, then other sociodemographic factors besides those selected for the adjustments may account for the difference in the rates of mental health needs.

Chronic Health Conditions

Chronic health conditions such as high blood pressure, heart disease, diabetes, and asthma are commonly found among the general adult population. However, based on CHIS 2007 and compared with the general adult population, adults in California with mental health needs had higher rates of disease burden across all of these chronic health conditions.

The rates for each chronic condition are provided for all adults (i.e., ages 18 and older) and are then used as benchmarks for comparisons with the unadjusted and adjusted rates for adults by mental health needs. This benchmark is important in order to compare rates for adults with and without mental health needs and to identify disparities in medical comorbidities related to mental health. Significance testing in this section compares the percentage of each chronic condition by mental health needs to the statewide percentage for all adults. Differences that are statistically significant at p < 0.05 are indicated with an asterisk (*) in each exhibit.

Exhibit 3-1:
High Blood Pressure by Mental Health Needs, Adults 18 and Over, CHIS 2007
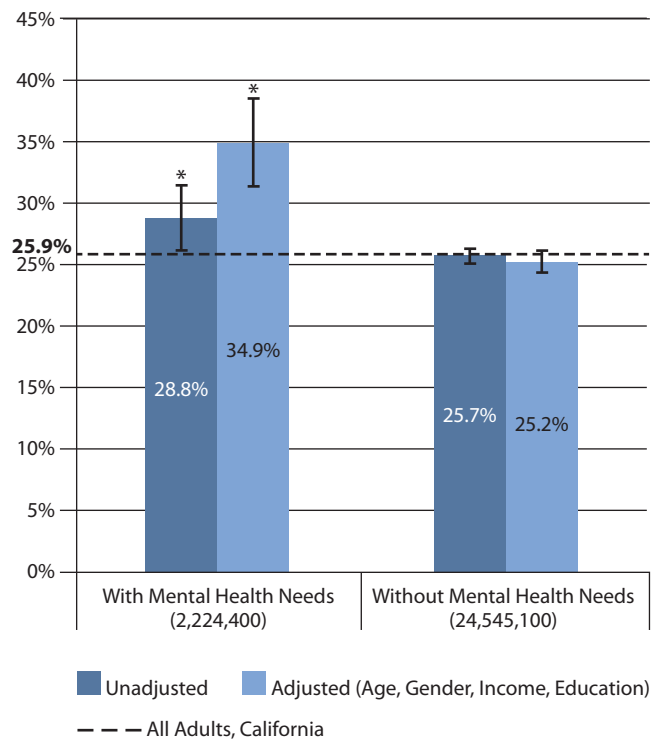
Notes: * Difference from unadjusted California statewide average (25.9%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

High Blood Pressure

Among all adults ages 18 and over in California, 25.9% had been told by a doctor that they had high blood pressure. However, adults with mental health needs had higher rates of high blood pressure (28.8%) compared to adults without mental health needs (25.7%) (Exhibit 3-1).

After adjusting for age, gender, income, and education, the rate for those with mental health needs remained statistically significant and increased to 34.9%—almost 1.5 times the rate seen for all adults in California.

Exhibit 3-2:
Asthma by Mental Health Needs, Adults 18 and Over, CHIS 2007
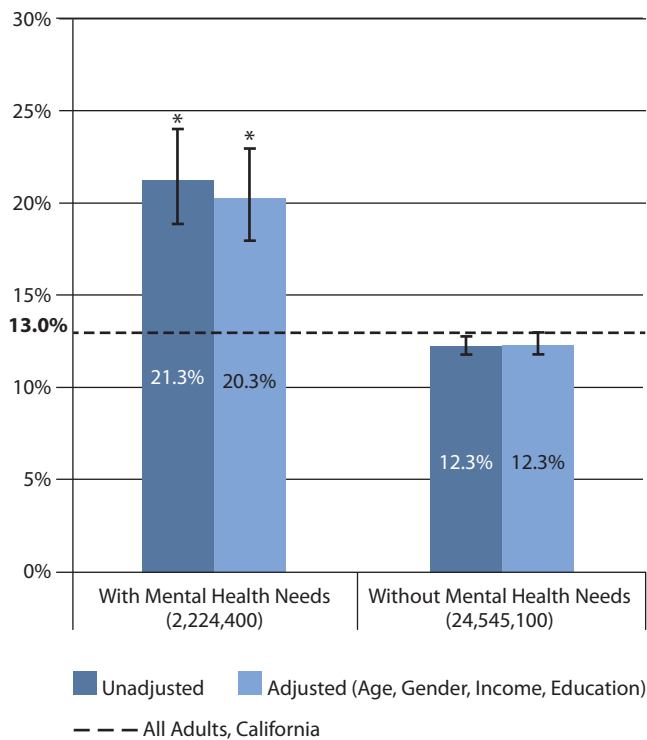
Notes: * Difference from unadjusted California statewide average (13.0%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Asthma

Thirteen percent of adults in California had been told by a doctor that they had asthma. Based on CHIS 2007, the asthma rate for adults with mental health needs was 21.3%, more than 1.5 times the rate of asthma for adults without mental health needs (12.3%) (Exhibit 3-2).

After adjusting for age, gender, income, and education, the rate of asthma for adults with mental health needs dropped slightly (to 20.3%), but it remained significant and was almost double the asthma rate for all adults.

Exhibit 3-3:
Heart Disease by Mental Health Needs, Adults 18 and Over, CHIS 2007
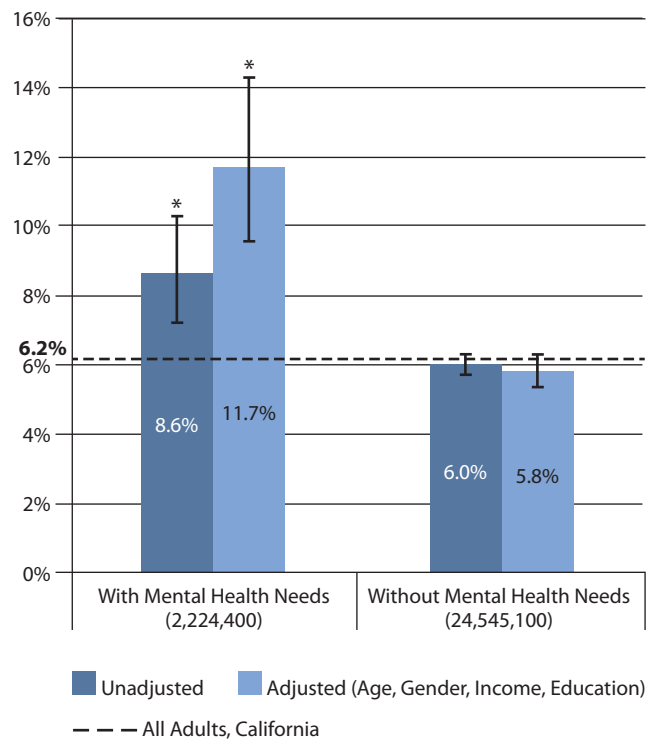
Notes: * Difference from unadjusted California statewide average (6.2%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Heart Disease

Among all adults in California, 6.2% had been told by a doctor that they had heart disease. Adults with mental health needs had higher rates of heart disease (8.6%) compared to adults without mental health needs (6.0%) (Exhibit 3-3).

After adjusting for age, gender, income, and education, the rate of heart disease for adults with mental health needs increased substantially, to 11.7%, almost twice the rate for all adults in California. The higher adjusted rate indicates that the difference in heart disease for adults with mental health needs is due to factors other than age, gender, income, or education.

Exhibit 3-4:
Diabetes by Mental Health Needs, Adults 18 and Over, CHIS 2007
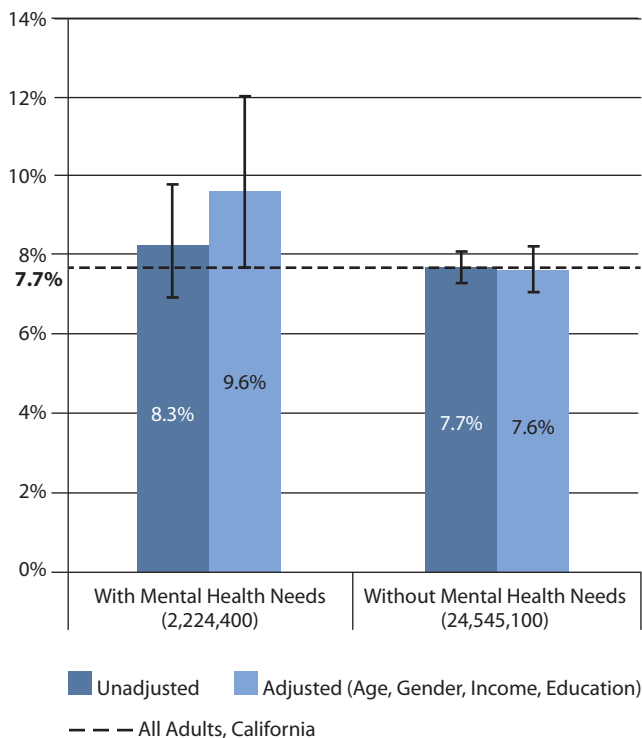
Notes: * Difference from unadjusted California statewide average (7.7%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Diabetes

In California, 7.7% of adults had been told by a doctor that they had diabetes. Adults with mental health needs and those without mental health needs had similar rates of diabetes compared to all adults in California (8.3% and 7.7%, respectively) (Exhibit 3-4). Although the differences are not statistically significant, the diabetes rate among adults with mental health needs should not be overlooked as an important comorbid condition leading to worse overall health.

After adjusting for age, gender, income, and education, the diabetes rate among adults without mental health needs remained unchanged (7.6%); the rate of diabetes for adults with mental health needs increased to 9.6% but was not statistically significant.

Exhibit 3-5:
Multiple Chronic Conditions by Mental Health Needs, Adults 18 and Over, CHIS 2007
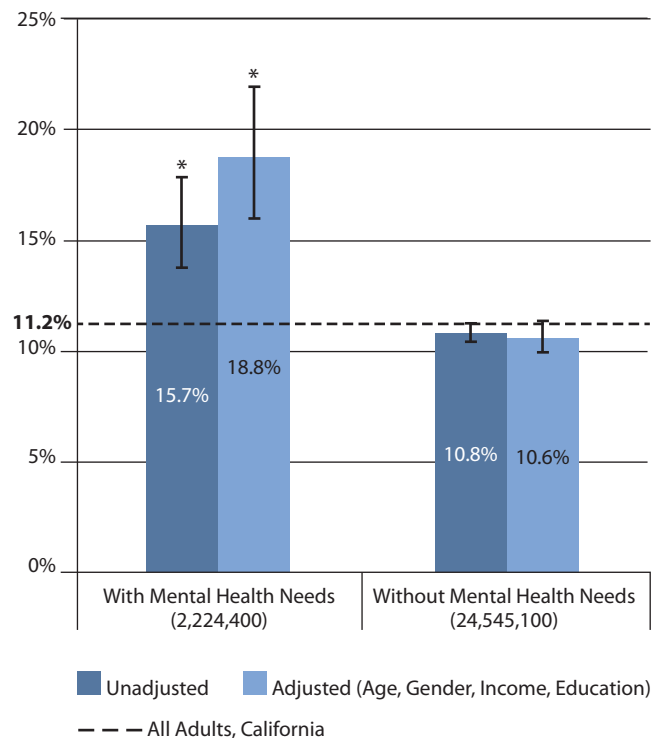
Notes: * Difference from unadjusted California statewide average (11.2%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Multiple Chronic Conditions

In California, 11.2% of adults had two or more of the previously discussed chronic health conditions (high blood pressure, asthma, heart disease, and diabetes), while adults with mental health needs had significantly higher rates (15.7%) of multiple chronic conditions —almost 1.5 times the rate for adults without mental health needs (10.8%) (Exhibit 3-5).

After adjusting for age, gender, income, and education, the rate of having two or more chronic conditions among adults with mental health needs increased to 18.8%, which was more than 1.5 times the rate for adults without mental health needs. The higher adjusted rate indicates that the difference in having two or more chronic conditions between adults with and without mental health needs is due to factors other than age, gender, income, or education.

Health Status and Behaviors

In this section, data for current smoking status, binge drinking, obesity, self-reported health, and disability status are presented. There are other important health behaviors, such as substance or drug use, that are strongly associated with mental health and should not be overlooked when considering comorbid health behaviors. However, they are not included in this section due to limited data in CHIS.

Current smoking status is defined as smoking every day or some days. Binge drinking is defined as having had four or more drinks for women or five or more drinks for men on more than one occasion in the past year. Obesity is defined as having a body mass index of 30 or higher. Body mass index is calculated by using the adult's reported height and weight. Self-reported health was assessed by asking adults whether they would say that their health in general was excellent, very good, good, fair, or poor. Disability status was obtained by asking adults whether they had a condition that limited their basic physical activity.

The rates for each behavioral risk factor and health status indicator are provided for all adults, ages 18 and older, then used as benchmarks for comparisons with the unadjusted and adjusted rates for adults with or without mental health needs. As in previous sections, estimates are statistically adjusted to account for differences by age, gender, income, and education. Significance testing in this section compares the statewide rates of each health status and behavior indicator for all adults to the rate among adults with and without mental health needs. Differences that are statistically significant at p < 0.05 are indicated with an asterisk (*) in each exhibit.

Exhibit 3-6:

Current Smokers by Mental Health Needs, Adults 18 and Over, CHIS 2007
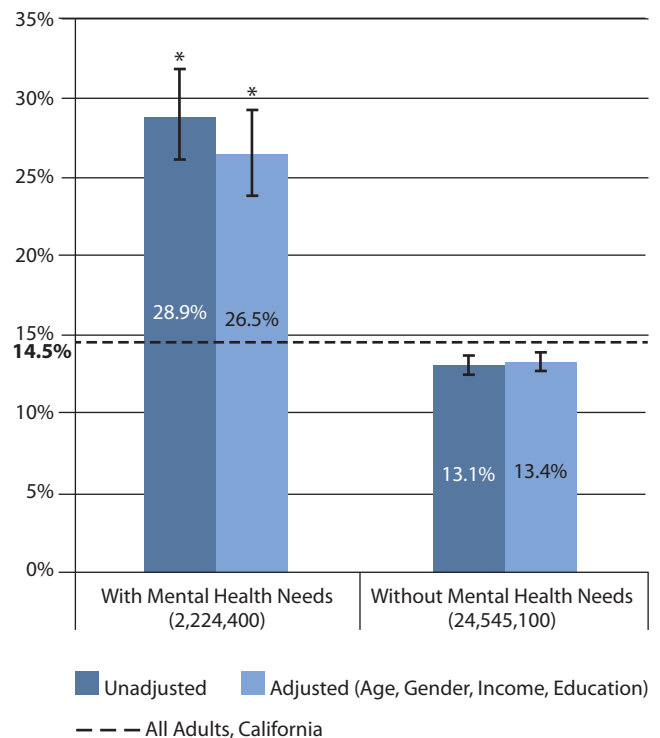
Notes: * Difference from unadjusted California statewide average (14.5%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Smoking Status

Exhibit 3-6 shows that the smoking rate for adults with mental health needs was 28.9%, more than twice the rate of those who did not have mental health needs (13.1%) and of all adults in California (14.5%).

After adjusting for age, gender, income, and education, the smoking rate for adults with mental health needs dropped slightly, to 26.5%, but it remained twice as high as the rate for adults without mental health needs. The adjusted smoking rate for adults without mental health needs remained the same, at 13.4%.

Exhibit 3-7:
Binge Drinkers by Mental Health Needs, Adults 18 and Over, CHIS 2007

Legend:
- Unadjusted
- Adjusted (Age, Gender, Income, Education)
- — — — All Adults, California
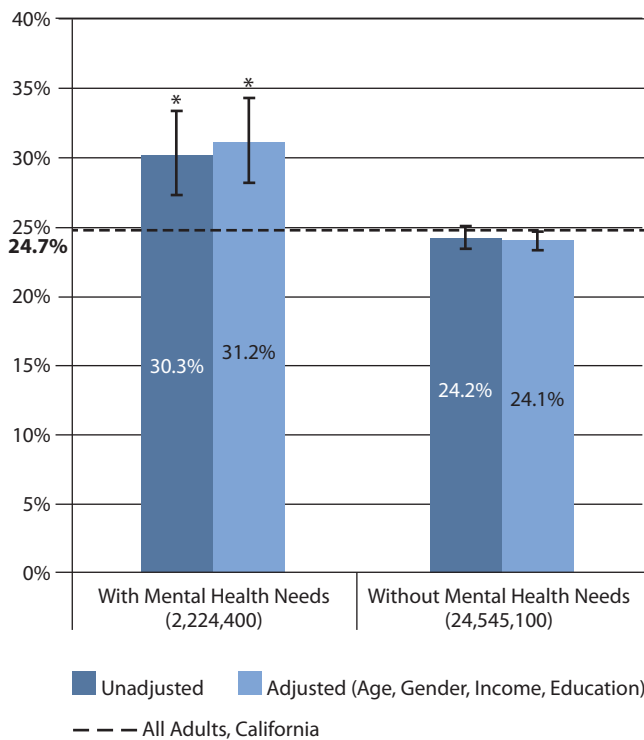
Notes: * Difference from unadjusted California statewide average (24.7%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Binge Drinking

Binge drinking was more prevalent among adults with mental health needs compared to adults without mental health needs (30.3% vs. 24.2%, respectively), while the rate for all adults was 24.7% (Exhibit 3-7).

After adjusting for age, gender, income, and education, we found that the percentage of binge drinkers remained consistent for adults with and without mental health needs.

Exhibit 3-8:
Obesity by Mental Health Needs, Adults 18 and Over, CHIS 2007

Legend:
- Unadjusted
- Adjusted (Age, Gender, Income, Education)
- — — — All Adults, California
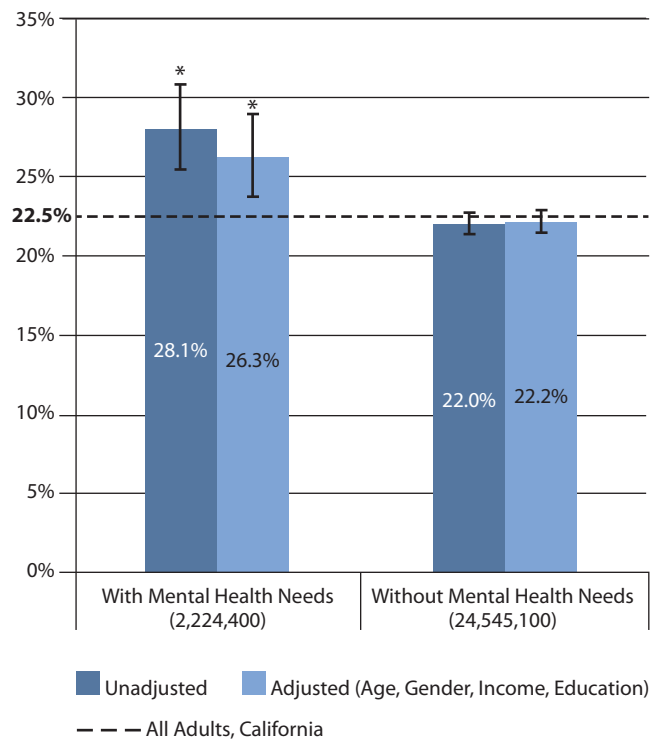
Notes: * Difference from unadjusted California statewide average (22.5%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress **and** at least a moderate level of impairment in one or more life domains.

Obesity

In 2007, the obesity rate among adults in California was 22.5%. The rate for adults without mental health needs was similar to the statewide rate (22.0%), while more than one-quarter of adults with mental health needs were considered obese (28.1%) (Exhibit 3-8).

After adjusting for age, gender, income, and education, the obesity rate for adults without mental health needs remained relatively consistent with the unadjusted estimate (22.2% and 22.0%, respectively), while the rate for adults with mental health needs decreased slightly, to 26.3%, but remained higher than the statewide rate.

Exhibit 3-9:
Fair/Poor Health Status by Mental Health Needs, Adults 18 and Over, CHIS 2007

Unadjusted Adjusted (Age, Gender, Income, Education)
— — — All Adults, California
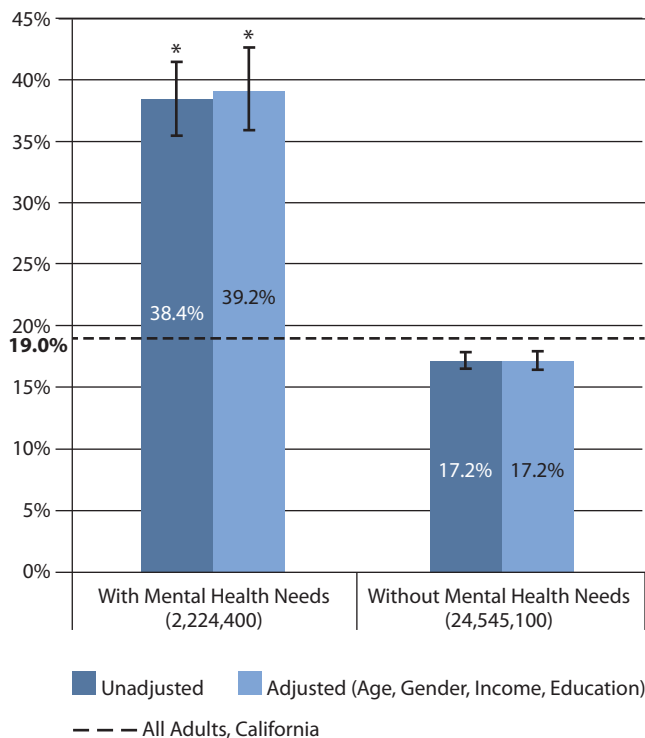
Notes: * Difference from unadjusted California statewide average (19.0%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Exhibit 3-10:
Physical Limitations by Mental Health Needs, Adults 18 and Over, CHIS 2007

Unadjusted Adjusted (Age, Gender, Income, Education)
— — — All Adults, California
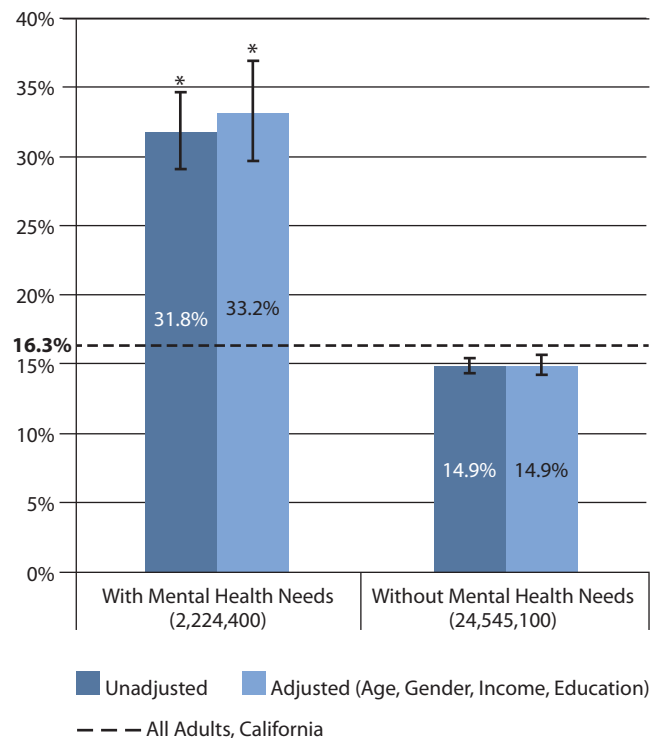
Notes: * Difference from unadjusted California statewide average (16.3%) is statistically significant at p < 0.05.

I represents 95% Confidence Interval.[32]

Those with "mental health needs" are those with serious psychological distress *and* at least a moderate level of impairment in one or more life domains.

Self-Reported Health

In California, 19% of all adults ages 18 and over reported that their overall health status was fair or poor. While adults without mental health needs had a similar proportion of self-reported fair or poor health compared to all adults in the state (17.2%), adults with mental health needs were more than twice as likely as all adults to report fair or poor health (38.4%) (Exhibit 3-9). Compared to adults without mental health needs, adults with mental health needs were almost five times more likely to report poor health (14.5% vs. 3.1%, respectively; not shown).

After adjusting for age, gender, income, and education, the rate of self-reported fair or poor health status increased slightly for adults with mental health needs (39.2%), while the rate remained consistent for adults without mental health needs (17.2%).

Disability Status

Limited physical ability is commonly used to measure disability status. In 2007, approximately 16% of adults in California reported having a condition that limited their basic physical activities (e.g., walking, lifting, or carrying objects). The proportion of adults with a disability was twice as high among those with mental health needs relative to those without mental health needs (31.8% vs. 14.9%, respectively) (Exhibit 3-10).

After adjusting for age, gender, income, and education, the rate of disability increased slightly (to 33.2%) for adults with mental health needs and remained consistent for adults without mental health needs.

Summary

Chronic health conditions such as high blood pressure, heart disease, diabetes, and asthma are commonly found among the general adult population. However, based on CHIS 2007, adults in California with mental health needs had a greater rate of disease burden across all of these chronic health conditions.

- *High blood pressure*: Adults with mental health needs had higher rates of diagnosed high blood pressure compared to the general adult population and to adults without mental health needs (Exhibit 3-1).

- *Asthma*: The asthma rate for adults with mental health needs was more than 1.5 times the rate for adults without mental health needs (Exhibit 3-2).

- *Heart disease*: Having heart disease was more likely among adults with mental health needs. Adjusting for age, gender, income, and education, the rate of heart disease among adults with mental health needs was more than double the rate for those without mental health needs (Exhibit 3-3).

- *Diabetes*: Adults with mental health needs had slightly higher rates of diabetes than the general adult population (Exhibit 3-4), but rates were not statistically significant

- *Multiple chronic conditions*: Adults with mental health needs were 1.5 times more likely than adults without mental health needs to have more than one of these chronic conditions (Exhibit 3-5).

Negative health behaviors such as smoking, binge drinking, and being obese were also more pronounced among adults with mental health needs.

- *Smoking*: The current smoker rate among adults with mental health needs was more than twice the rate among those without mental health needs (Exhibit 3-6).

- *Binge Drinking*: Binge drinking was more likely for adults with mental health needs compared to those without mental health needs (Exhibit 3-7).

- *Obesity*: The obesity rate was slightly higher among adults with mental health needs than among other adults (Exhibit 3-8).

Additionally, adults with mental health needs were more likely to report worse health status.

- *Self-reported health*: Compared to adults without mental health needs, adults with mental health needs were more than twice as likely to report that their health was fair or poor (Exhibit 3-9). Adults with mental health needs were almost five times more likely to report poor health than those without mental health needs (data not shown).

- *Disability status*: The rate of having a condition that limited basic physical activities was more than double among adults with mental health needs compared to those without mental health needs (Exhibit 3-10).

In a more robust analysis of these factors, a logistic regression model revealed that that while age, gender, education, and poverty level were all statistically significant in the predicted direction, being in fair or poor health and being a current smoker were strongly associated with having mental health needs. Other factors, such as English proficiency, sexual orientation, and being single with or without children, also remained significant in this model (see Model 2 in Appendix D).

Logistic regression models are used to understand the relationship between an outcome variable (such as mental health needs) and multiple independent variables (such as age, gender, education, etc.). Logistic regression analyzes the relationship of mental health needs by each of the independent variables included in the model while all the other independent variables remain constant. This technique allows researchers to test the independent contributions of multiple variables to a single outcome in order to see which variables are most strongly related to the outcome of interest. For example, Model 2 adds the health status and behaviors in this section to the variables already included in Model 1. Having a self-reported fair or poor health status and being current smoker were both statistically significant factors when all other variables were held constant, and they are thus considered additional risk factors associated with mental health needs.

CHIS 2007asked adults about seeking professional mental health treatment and about the use of prescription medication for their mental health needs. This chapter discusses the concept of *unmet needs in relation to mental health treatment* for those with mental health needs. For the purposes of this report, we use evidence-based guidelines[17] to develop a measure of minimally adequate treatment (MAT) to better understand unmet needs and the factors associated with them. This measure of minimally adequate treatment is based on several questions included in the CHIS mental health module, including access to and utilization of mental health services and use of prescription medication.

Minimally Adequate Treatment (MAT) is defined as having four or more visits with a health professional in the past 12 months and use of prescription medication for mental health problems in the past 12 months. This definition is based on evidence-based guidelines for the treatment of a serious mental illness (SMI). Evidence-based MAT includes either (1) four or more visits with a health professional and at least two months of prescribed medication, or (2) eight visits of psychotherapy lasting at least 30 minutes.[17] CHIS captures whether or not adults have visited a health professional for their mental or emotional health, the number of visits, and whether or not they have taken prescription medication for their mental or emotional health; it does not, however, capture the two-month duration of prescription medication use or the duration of psychotherapy sessions. Therefore, while using evidence-based guidelines, the measure of minimally adequate treatment based on CHIS is an approximation of MAT.

Having unmet needs is defined as not receiving MAT. Those with unmet needs include adults who did not receive any treatment, as well as those who received some treatment but did not meet the MAT threshold. Having met needs, therefore, is defined as receiving MAT.

The concept of unmet need is of critical importance in assessing access to and utilization of mental health services as well as appropriate levels of care. We conceptualize unmet need as the proportion of adults with mental health needs (8.3% in California) who did not receive minimally adequate treatment (MAT). While the focus of unmet need in this report is restricted to the use of mental health services and prescription medication, we recognize that our scope is limited and does not capture the wide range of support services and resources that may be needed by those who have or who are recovering from a serious mental illness. A more complete assessment of support services and resources would include those that meet the guiding principles of *wellness, recovery, and resiliency* set forth by the Mental Health Services Act (MHSA). These guiding principles include consumer-driven services for adults, cultural and linguistic competency embedded in program and service delivery design, community involvement that is promoted and developed, and delivery of services and supports through Integrated Service Teams.[18]

Appendix C provides more detailed information and data estimates for access and utilization of mental health services and use of prescription medication, including information on the limitations of the definitions of minimally adequate treatment and unmet needs.

Disparities in Unmet Needs in California

Most adults with mental health needs in California received either no mental health treatment or inadequate treatment in the past 12 months. Among the 2.2 million adults in California with mental health needs, more than three-quarters (76.6%, or 1,703,000) had unmet needs. The population with unmet needs included about one-quarter (26.2%, or 582,200) who reported having received some mental health treatment (but not MAT), and more than half (50.4%, or 1,120,800) who reported that they had received no mental health treatment. Overall, only one-quarter (23.4%) of adults with mental health needs had had their needs adequately met (i.e., had received minimally adequate treatment, or MAT).

The rate of not receiving mental health treatment in the past 12 months among adults in California with mental health needs (50.4%) was somewhat lower than the rate reported in a nationally representative study conducted earlier in the decade (58.9%).[17] Compared to the California Department of Mental Health's administrative data, which contain counts of adult mental health service use for adults on Medi-Cal, CHIS data report slightly higher rates. (See Validity of CHIS Mental Health Treatment Estimates in Appendix C.)

In the following exhibits, statewide rates are used as a benchmark for assessing disparities in unmet needs for mental health treatment by specific indicators, including age, gender, education, poverty level, insurance status, race/ethnicity, California region, self-reported health status, disability, and chronic conditions.

Factors associated with reported use of mental health services among adults with mental health needs are examined in this section. As mentioned in chapter 2, estimates for those with mental health needs are based on the likely presence of a diagnosable mental disorder, along with reports of at least a moderate functional limitation in one or more domains due to interference from the person's emotions. Among adults living in households in California, approximately 8.3% had mental health needs, representing the community-dwelling population with the most serious psychological distress and in need of professional care (see "Mental Health Needs" in chapter 2). For the purposes of this report, those without mental health needs were the remaining 92.7% of adults in California.

Exhibit 4-1:

Unmet Needs by Age, Adults 18 and Over with Mental Health Needs, CHIS 2007
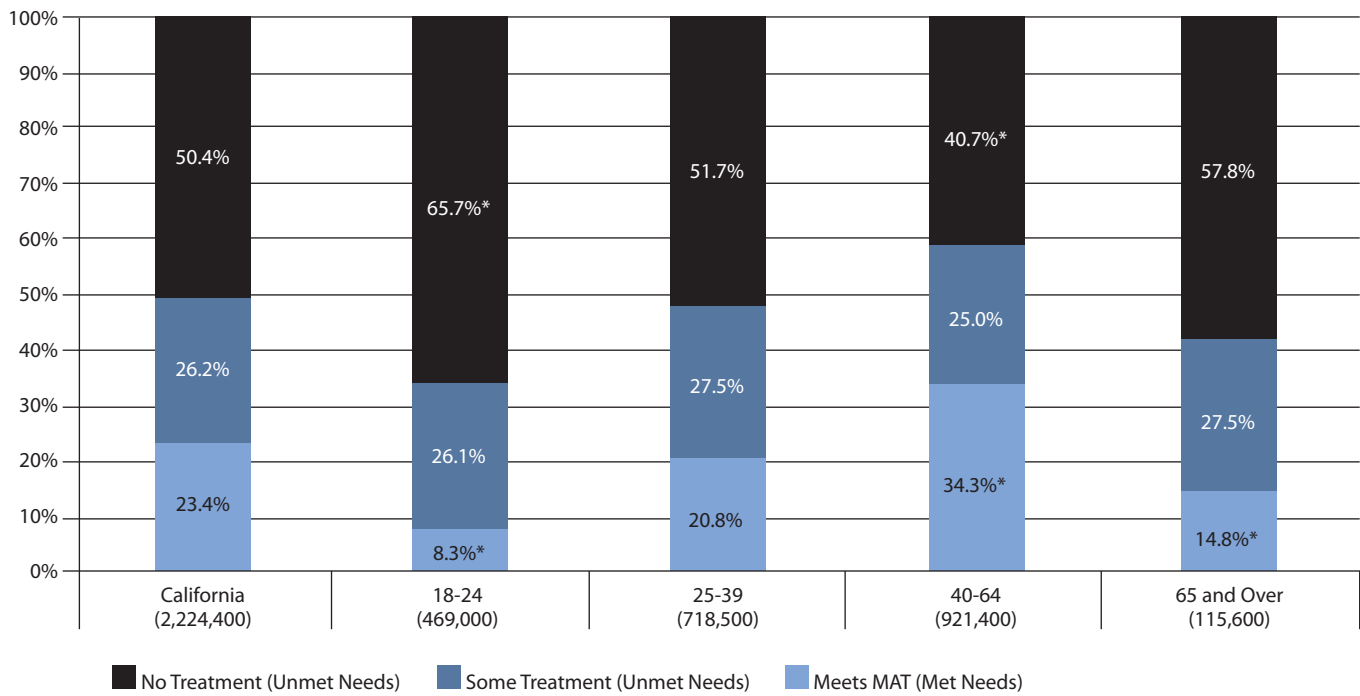
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Age

Level of mental health treatment differs by age. The youngest (18-24) and oldest (65 and older) age groups had the highest rates of unmet need (91.8% and 85.3%, respectively)—i.e., they had received inadequate treatment (26.1% and 27.5%, respectively) or no treatment (65.7% and 57.8%, respectively) for their mental health needs (Exhibit 4-1). All age groups had similar patterns of having received mental health treatment that did not meet the MAT threshold (25% to 27.5%), but they differed in the rate of receiving no treatment at all (40.7% to 65.7%). The highest percentage of met needs was found among adults ages 40–64 (34.3%).

Exhibit 4-2:

Unmet Needs by Gender, Adults 18 and Over with Mental Health Needs, CHIS 2007
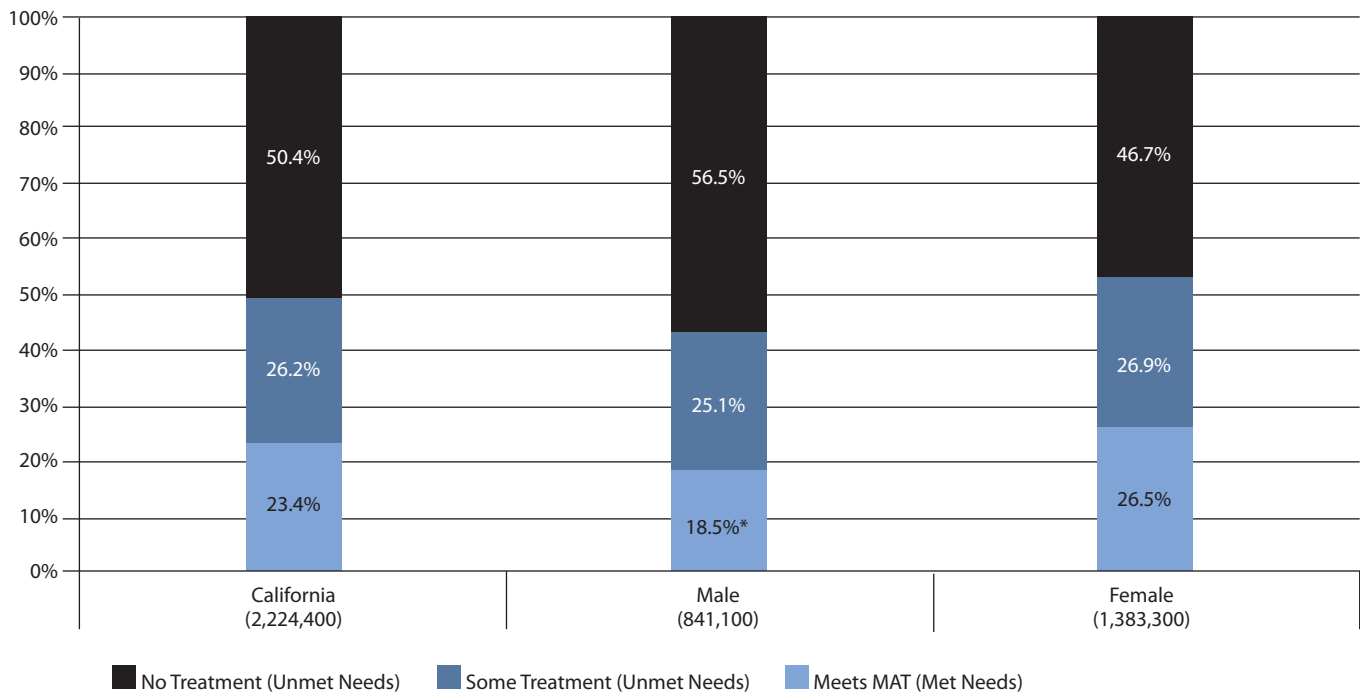
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Gender

Unmet needs also differed by gender. Approximately 82% of adult males in California had not had their mental health needs met in the past 12 months (Exhibit 4-2). Around 57% of adult males in California had not received any treatment in the past 12 months, compared to 46.7% of adult women. Men and women had similar rates of receiving treatment that did not meet the MAT threshold (25.1% vs. 26.9%, respectively).

Exhibit 4-3:

Unmet Needs by Education, Adults 18 and Over with Mental Health Needs, CHIS 2007
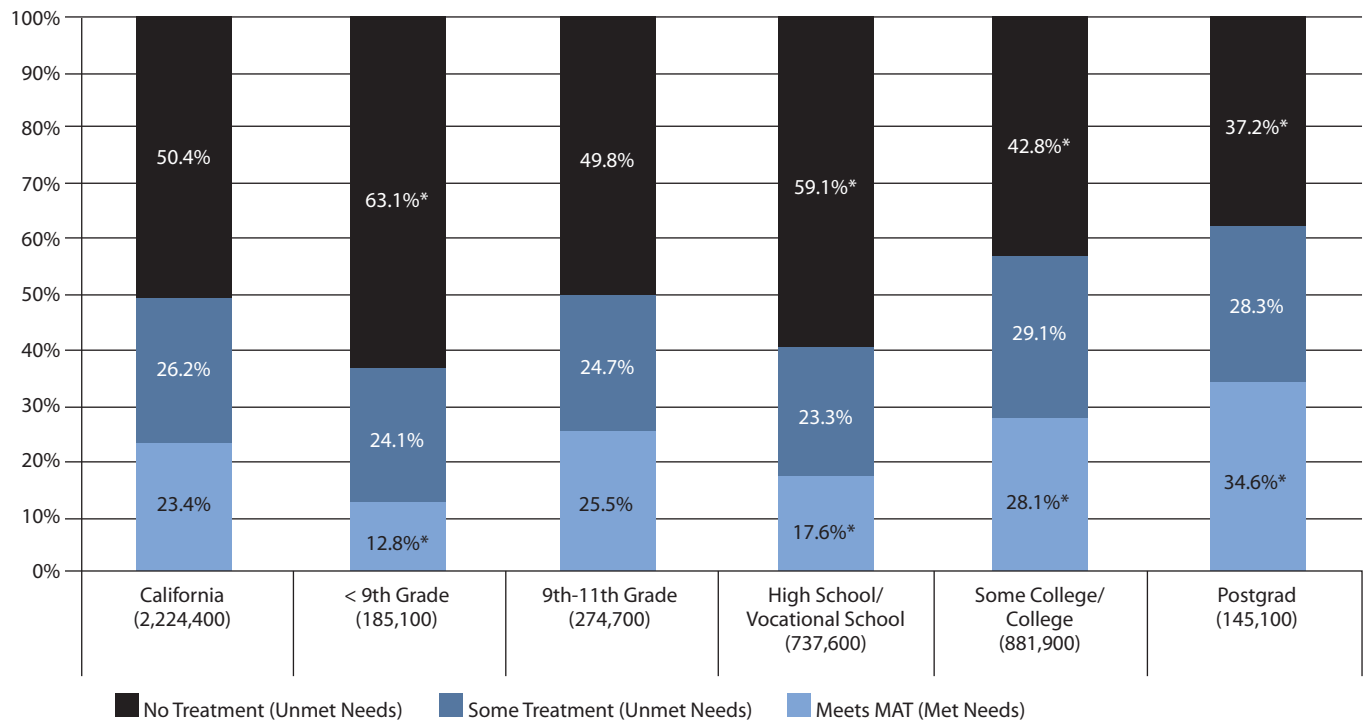
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Education

Lower educational attainment appears to be a barrier to receiving minimally adequate treatment among those with mental health needs. Those with the lowest educational attainment (< 9th grade) had the greatest unmet needs (87%), with 63.1% of this group not receiving any treatment and 24.1% receiving some treatment (Exhibit 4-3). All levels of educational attainment had similar patterns of receiving treatment that did not meet the MAT threshold (23.3% to 28.3%), but they varied in terms of not having received any treatment (37.2% to 63.1%) compared to the statewide rate (50.4%). Adults with a postgraduate education had the highest percentage of met needs (34.6%).

Exhibit 4-4:

Unmet Needs by Poverty Level, Adults 18 and Over with Mental Health Needs, CHIS 2007
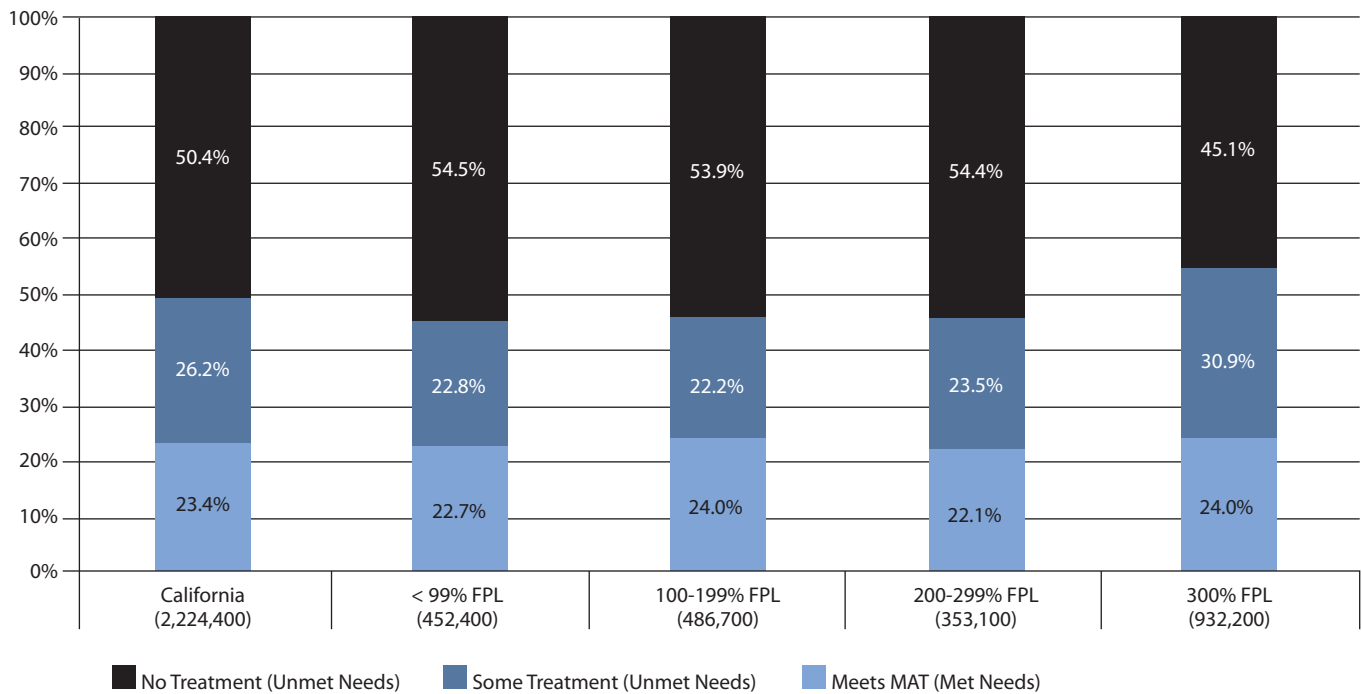
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Poverty Level

CHIS 2007 data show that rates of mental health treatment did not differ much by federal poverty level (FPL). However, approximately 75% of adults in each FPL group had unmet needs (Exhibit 4-4). Nearly one-quarter of all FPL groups received some treatment that did not meet the MAT threshold, and about half across all groups did not receive any treatment.

Exhibit 4-5:

Unmet Needs by Insurance Status, Adults 18 to 64 with Mental Health Needs, CHIS 200
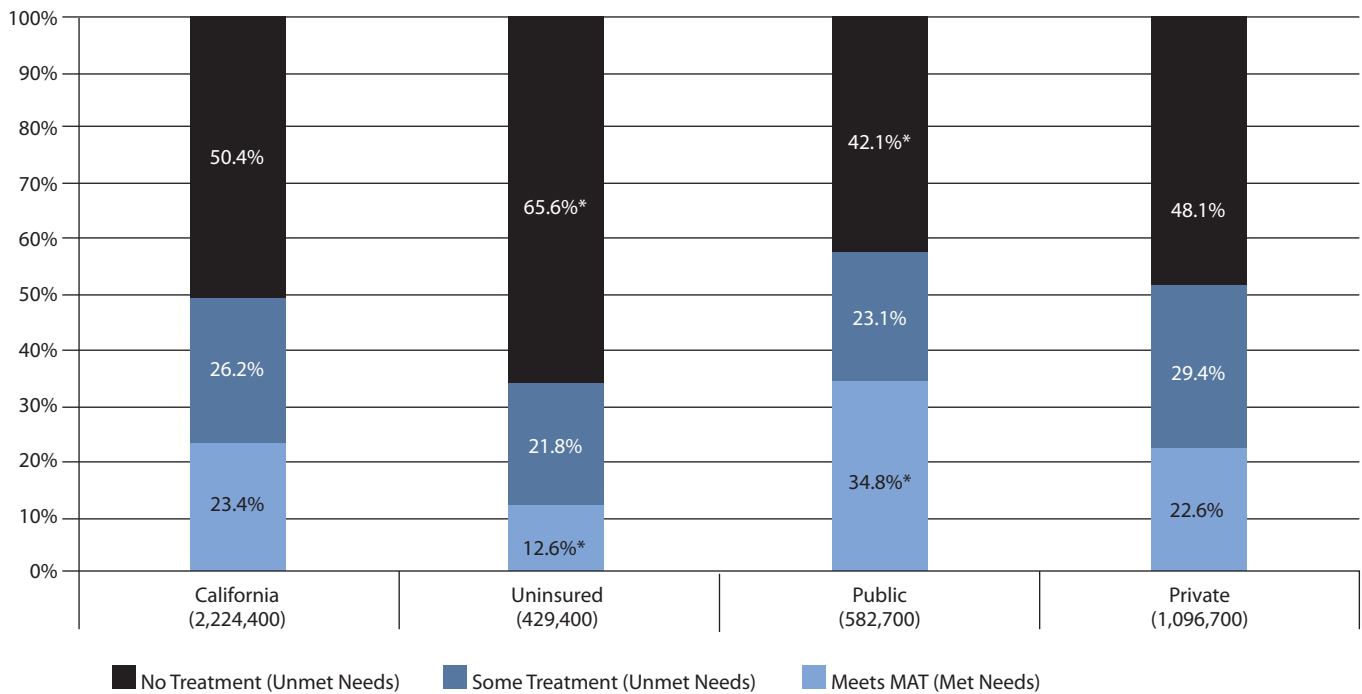
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Insurance Status

Unmet needs varied by current insurance status. Uninsured adults had the highest rate of unmet needs (87.4%), with 65.6% not receiving any treatment for their mental health needs and 21.8% receiving some treatment (Exhibit 4-5). Privately insured adults had higher rates of unmet needs (77.5%) than adults with public insurance (65.2%). Adults with public insurance were the most likely to have received minimally adequate treatment (34.8%).

Exhibit 4-6:

Unmet Needs by Race/Ethnicity, Adults 18 and Over with Mental Health Needs, CHIS 2007
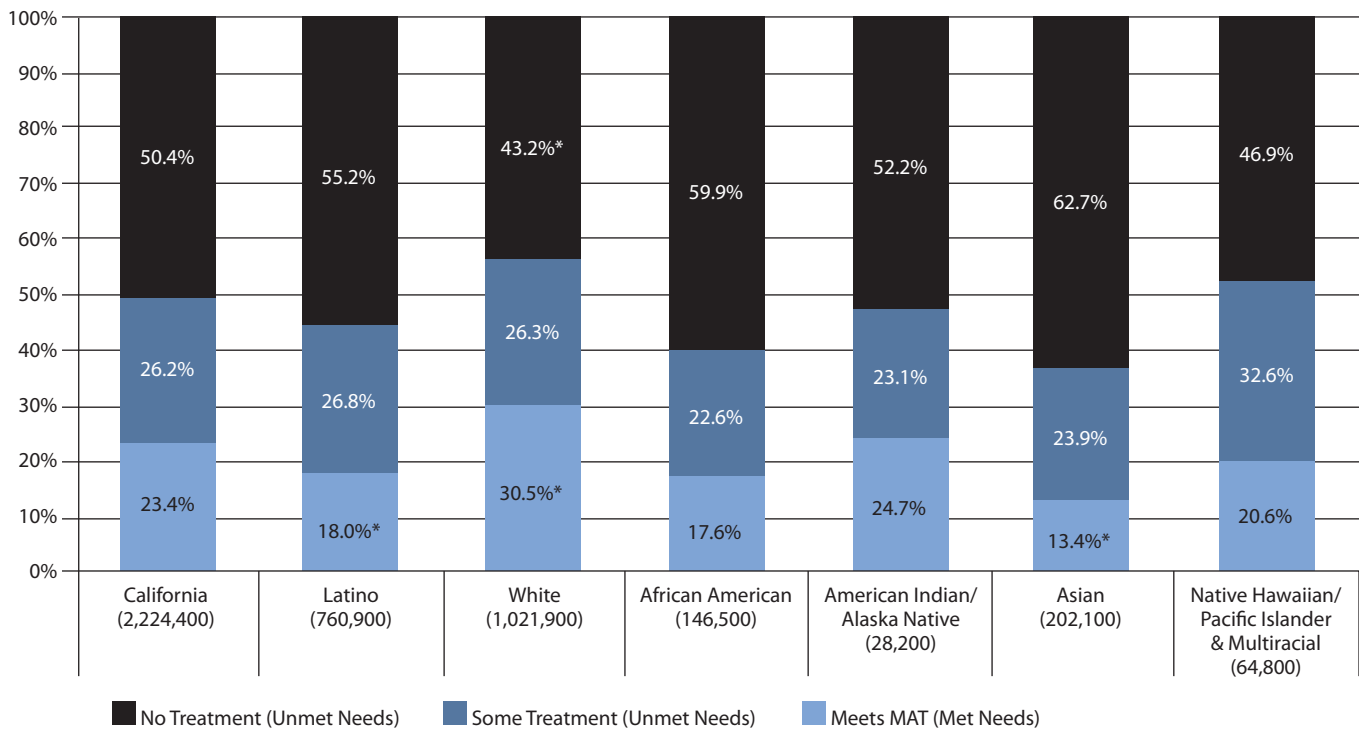
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Race/Ethnicity

Mental health treatment varied among racial and ethnic groups. Among adults with mental health needs, unmet needs for mental health treatment were higher among Asians (62.7% received no treatment, and 23.9% received some treatment) and African Americans (59.9% received no treatment, and 22.6% received some treatment) compared to other groups (Exhibit 4-6). Non-Latino Whites[f] (30.5%) and American Indians and Alaska Natives (24.7%) had the highest rate of receiving minimally adequate treatment and showed similar patterns of service utilization to the state.

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f   CHIS 2007 uses the California Department of Finance categories (Version 1). Latino is considered a race category. Whites and all other racial groups are non-Latino.

Exhibit 4-7:

Unmet Needs by Nativity Status, Adults 18 and Over with Mental Health Needs, CHIS 2007
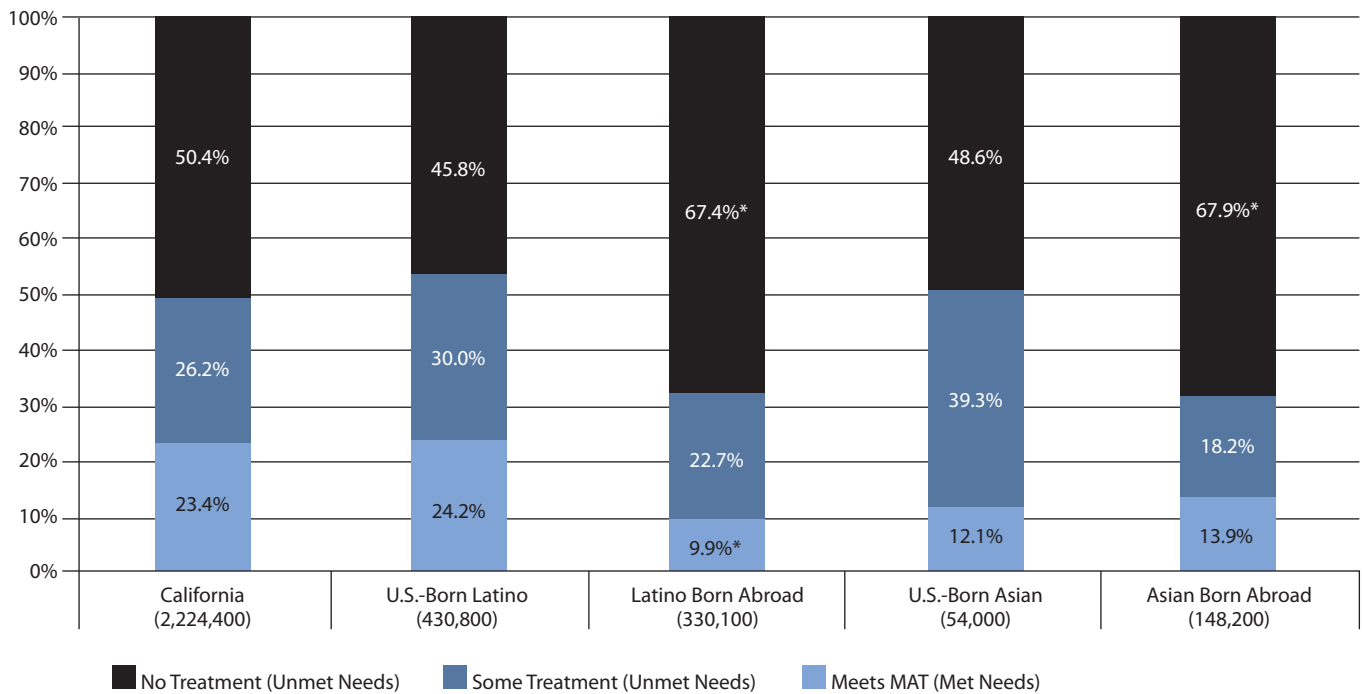
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Nativity

CHIS 2007 data show that unmet mental health needs differed by nativity status for Latinos and Asians. Nine out of every ten Latinos born abroad (90.1%) and of U.S.- and foreign-born Asians (87.9% and 86.1%, respectively) with mental health needs did not have their needs for mental health treatment met. Asians and Latinos born abroad had significantly higher rates of not receiving any treatment (67.9% and 67.4%, respectively) compared to statewide rates (Exhibit 4-7). Latinos born abroad were the least likely to have received adequate treatment for their mental health needs (9.9%) compared to all other groups.

Exhibit 4-8:

Unmet Needs by English Proficiency, Adults 18 and Over with Mental Health Needs, CHIS 2007
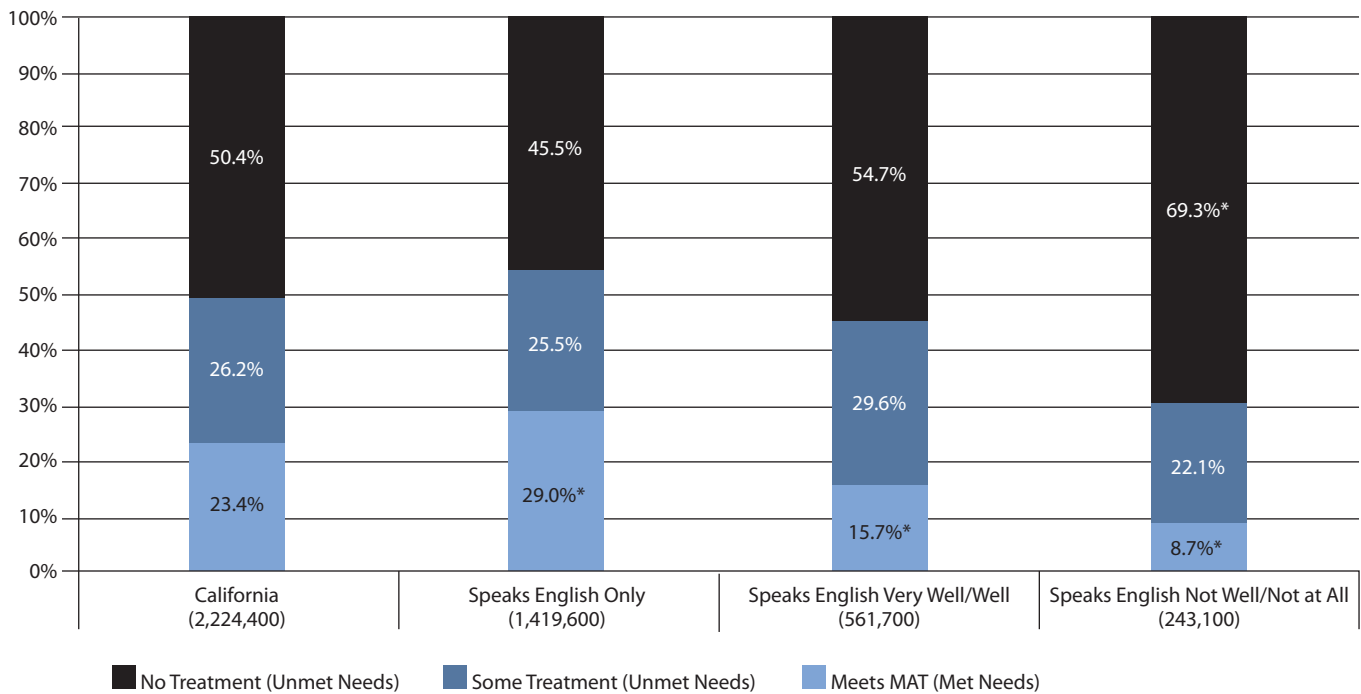
	No Treatment (Unmet Needs)	Some Treatment (Unmet Needs)	Meets MAT (Met Needs)
California (2,224,400)	50.4%	26.2%	23.4%
Speaks English Only (1,419,600)	45.5%	25.5%	29.0%*
Speaks English Very Well/Well (561,700)	54.7%	29.6%	15.7%*
Speaks English Not Well/Not at All (243,100)	69.3%*	22.1%	8.7%*

Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at $p < 0.05$.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

English Proficiency

Receiving adequate mental health treatment is also dependent upon how well adults speak English. Nearly 92% of adults in California who speak another language and do not speak English well or at all had the highest rates of unmet needs for mental health treatment—about 70% received no treatment, and 22.1% received some treatment (Exhibit 4-8). English-only speakers fared the best, with about 29% of this group receiving minimally adequate treatment.

Exhibit 4-9:

Unmet Needs by Region, Adults 18 and Over with Mental Health Needs, CHIS 2007
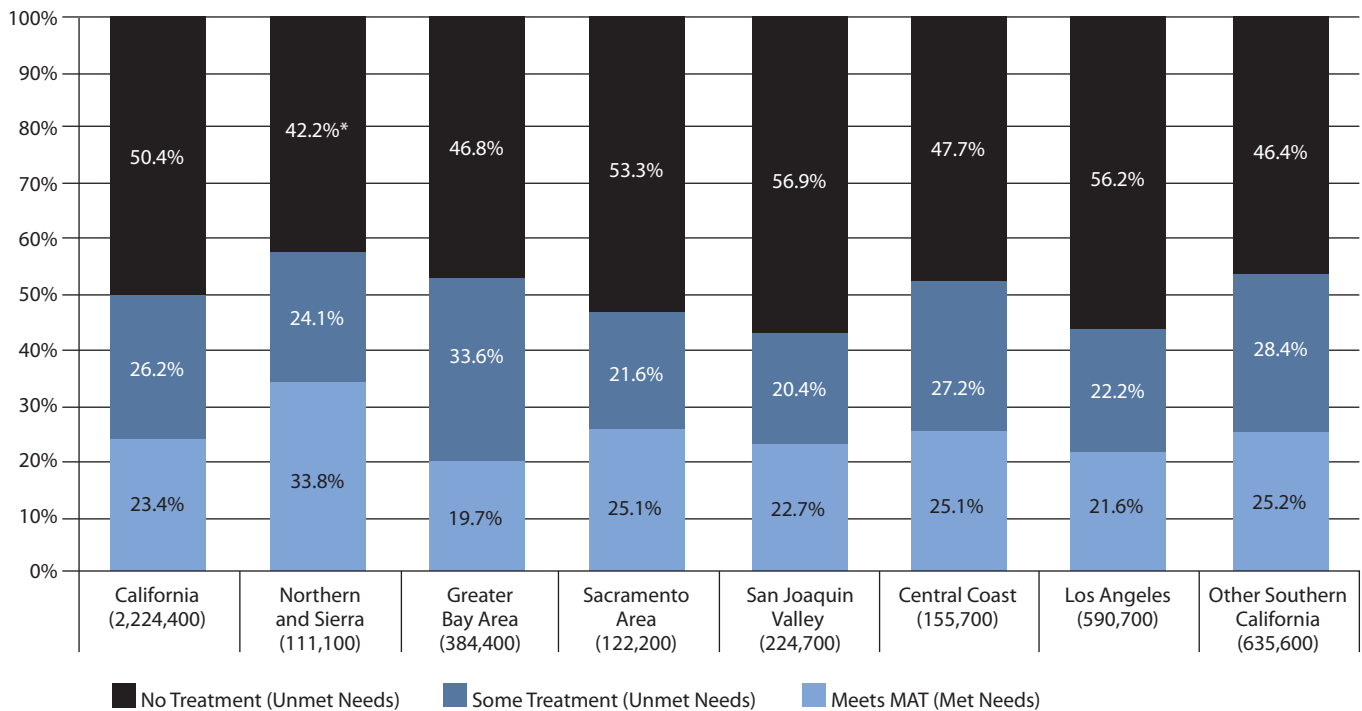
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Region

CHIS 2007 data show limited differences in mental health treatment by California region. Among adults with mental health needs, around 75% had unmet needs for mental health treatment in all regions except the Northern and Sierra regions. Over half of adults in the San Joaquin Valley (56.9%), Los Angeles County (56.2%), and the Sacramento Area (53.3%) regions received no treatment for their mental health needs, compared to 50.4% statewide (Exhibit 4-9). Among adults with mental health needs in the Northern and Sierra regions, about one-third (33.8%) received MAT, the highest among all the regions.

Exhibit 4-10:

Unmet Needs by General Health Status, Adults 18 and Over with Mental Health Needs, CHIS 2007
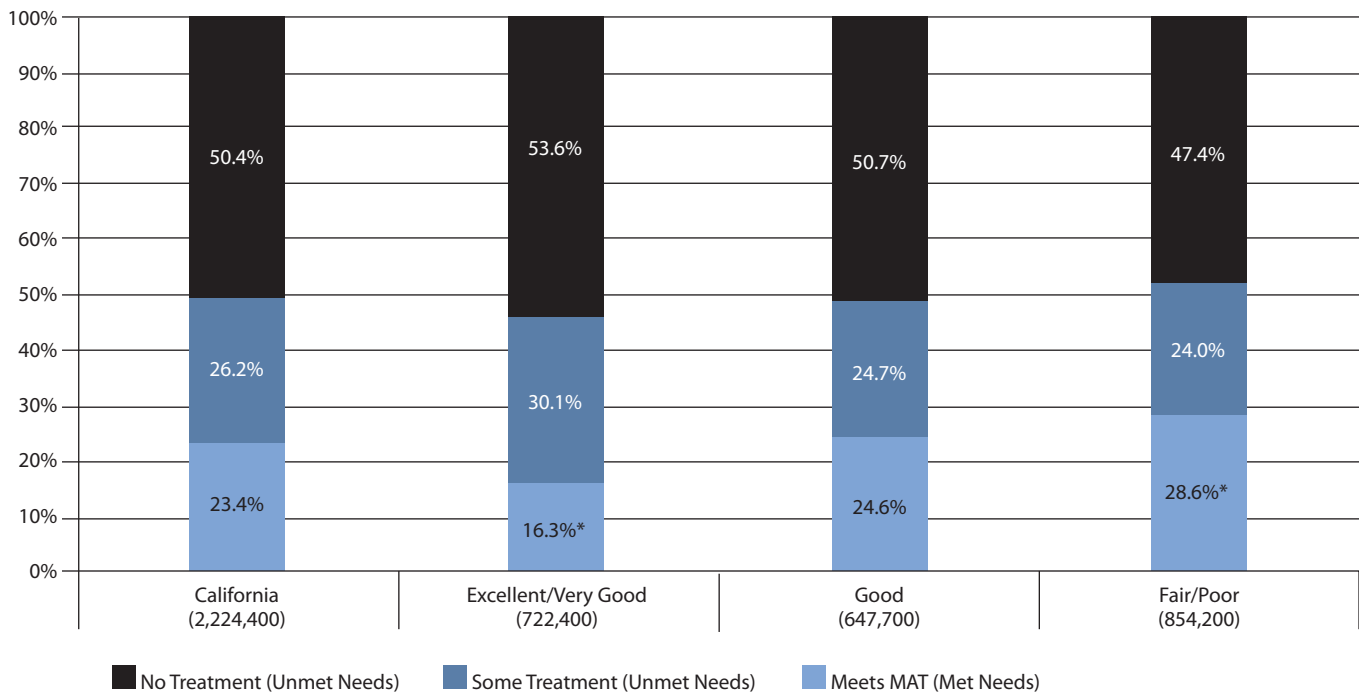
	No Treatment (Unmet Needs)	Some Treatment (Unmet Needs)	Meets MAT (Met Needs)
California (2,224,400)	50.4%	26.2%	23.4%
Excellent/Very Good (722,400)	53.6%	30.1%	16.3%*
Good (647,700)	50.7%	24.7%	24.6%
Fair/Poor (854,200)	47.4%	24.0%	28.6%*

Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

General Health Status

Interestingly, adults who seemed to be worse off with regard to general self-reported health status, disability status, or chronic conditions were more likely to have received minimally adequate treatment compared to their physically healthier counterparts. While it may appear that those with greater physical ailments were more likely to have received mental health treatment that met the requirements for minimally adequate treatment, we were not able to disentangle whether adults had sought help primarily for their mental health needs or whether they had received mental health treatment in conjunction with their physical health visits. For example, repeated contact with a physician for one or more chronic conditions may have

inflated the number of reported mental health–only visits and/or increased the opportunity for professional health-care service providers to address mental health needs. This may be an important distinction to make in gaining a better understanding of how adults access and utilize mental health services. Nevertheless, the data show self-reported health status as an important indicator of mental health service use.

Adults with mental health needs who reported excellent or very good health had the highest rate of unmet needs for mental health treatment, with 53.6% reporting no treatment and 30.1% reporting some treatment (Exhibit 4-10). Conversely, those who

Exhibit 4-11:

Unmet Needs by Disability Status, Adults 18 and Over with Mental Health Needs, CHIS 2007
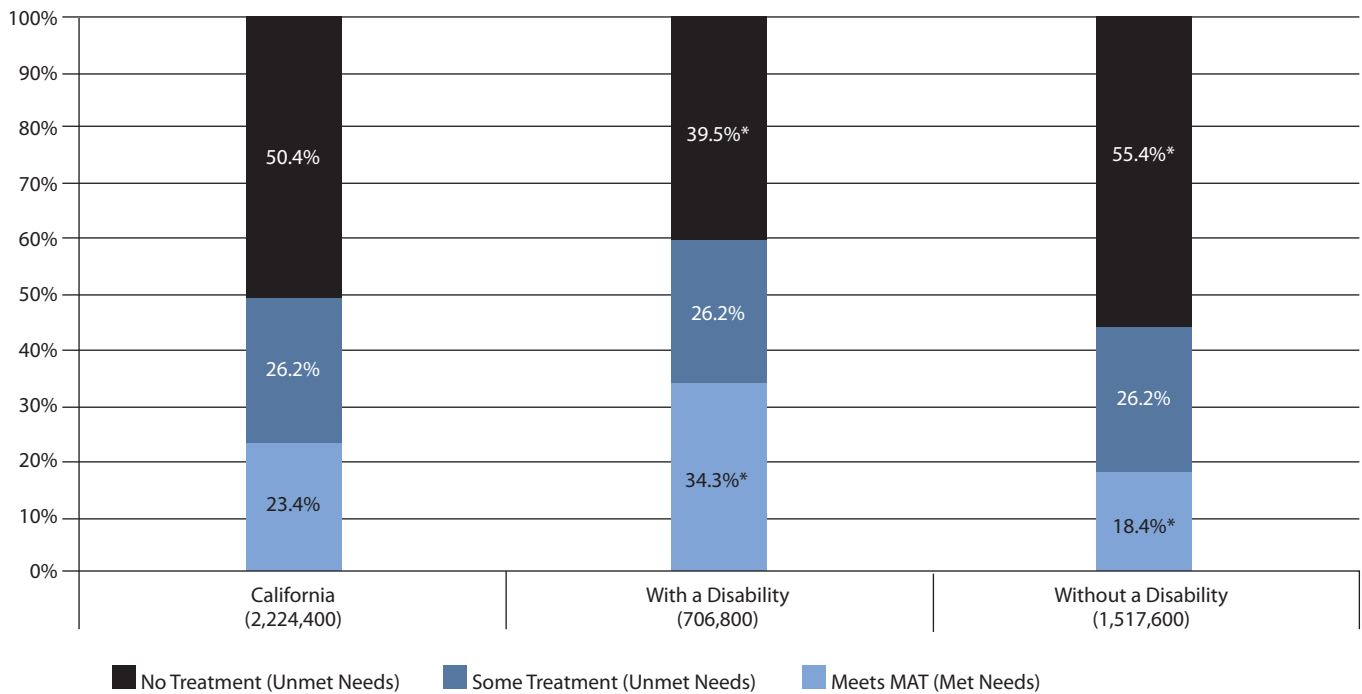
Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at $p < 0.05$.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

reported fair or poor health had slightly higher rates of receiving MAT (28.6%) than California adults overall (23.4%). In other words, physically healthier adults with mental health needs were less likely to receive any mental health treatment compared to adults who felt that their health was less favorable.

Disability Status

Among adults with mental health needs, those without a disability had the highest proportion of unmet mental health needs, with 55.4% reporting no treatment and 26.2% reporting some treatment (Exhibit 4-11). Conversely, those with a condition that limited their physical abilities reported higher rates of receiving minimally adequate treatment (34.3%).

Exhibit 4-12:

Unmet Needs by Chronic Conditions, Adults 18 and Over with Mental Health Needs, CHIS 2007
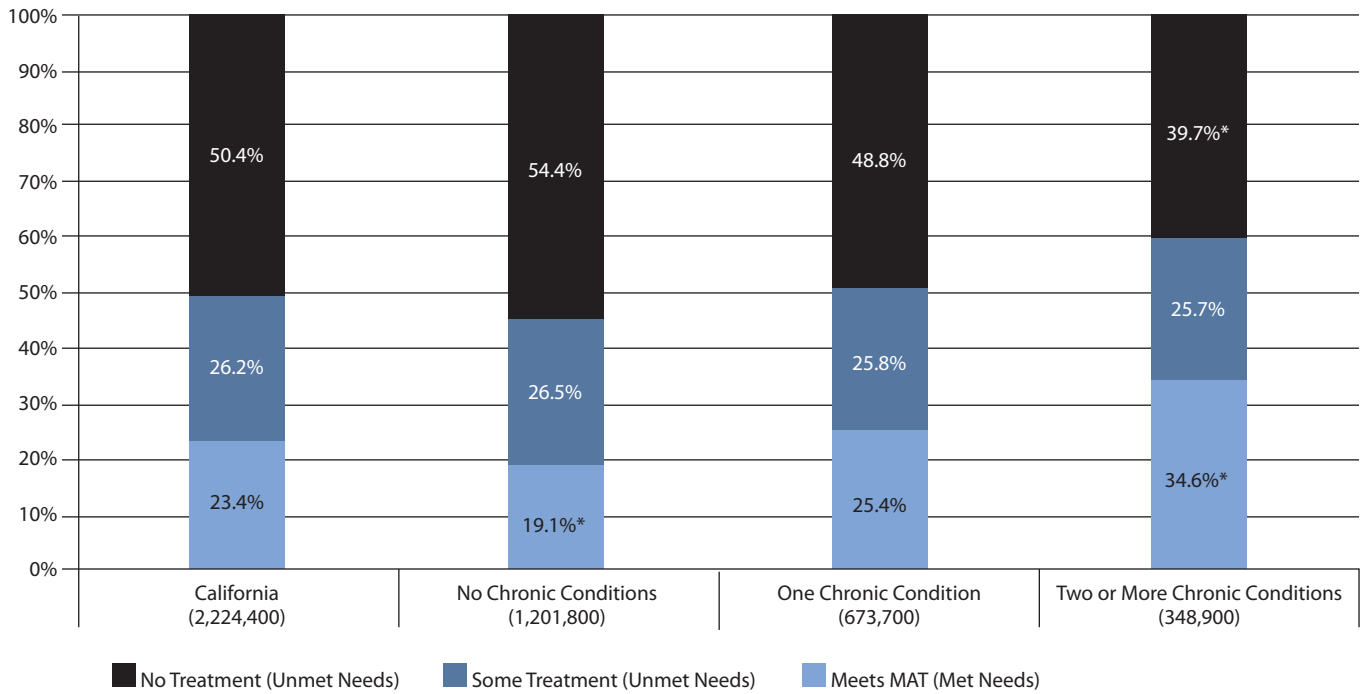
| | No Treatment (Unmet Needs) | Some Treatment (Unmet Needs) | Meets MAT (Met Needs) |

Notes: * Difference from unadjusted California average (50.4%, 26.2%, and 23.4% for No Treatment, Some Treatment, and Meets MAT, respectively) is statistically significant at p < 0.05.

MAT = minimally adequate treatment, which consists of four or more visits to a health professional (including mental health) plus taking a prescribed medication for mental health problems.

Unmet Needs includes both no treatment and some treatment categories.

Chronic Conditions

Receipt of minimally adequate treatment increases with each additional chronic condition reported. Four out of five adults who reported no chronic condition had unmet needs, with 54.4% receiving no treatment and 26.5% receiving some treatment (Exhibit 4-12). Conversely, more than one-third of adults who reported two or more chronic conditions (34.6%) had their needs met with MAT.

Summary

Among the 2.2 million adults in California with mental health needs, about one-quarter (23.4%) had received minimally adequate treatment (MAT), one-quarter (26.2%) had received treatment that did not meet MAT criteria, and half (50.4%) reported not having received any type of mental health treatment at all in the past 12 months. Using these rates as benchmarks, we found that receiving minimally adequate treatment was less likely depending on:

- *Age*: Eleven of every twelve young adults (ages 18-24) and three-quarters of adults 65 and older had unmet needs—i.e., they had received inadequate or no treatment for their mental health needs (Exhibit 4-1).

- *Gender:* Males had higher unmet needs than females, with more than three-quarters receiving either no treatment or treatment that did not meet MAT criteria (Exhibit 4-2).

- *Educational attainment:* Mental health treatment was directly associated with lower educational attainment. Among adults with less than a ninth-grade education, seven out of eight had unmet needs for mental health treatment (Exhibit 4-3).

- *Federal poverty level:* Rates did not differ by federal poverty level; however, approximately 75% of adults at each poverty level had unmet needs for mental health treatment (Exhibit 4-4).

- *Insurance status:* Uninsured adults and those with private health insurance had higher rates of unmet need than those who were insured or who had public insurance (Exhibit 4-5).

- *Race/ethnicity:* Asians and African Americans were more likely to have unmet mental health needs compared to other subgroups. Native Hawaiians, Pacific Islanders, and multiracial groups had the highest rate of receiving treatment that did not meet MAT criteria (Exhibit 4-6).

- *Nativity:* Unmet needs differed by nativity status. Latinos and Asians born abroad had the highest rates of unmet mental health needs, and U.S.-born Latinos and Asians had the highest rates of receiving treatment that did not meet MAT criteria (Exhibit 4-7).

- *English proficiency:* Treatment for mental health needs was directly associated with English proficiency, with those who did not speak English well or at all having the highest rate of unmet mental health needs (Exhibit 4-8).

- *Region:* Adults in all regions had high rates of unmet mental health needs (Exhibit 4-9).

- *General Health Status:* In comparison to adults reporting fair or poor health, adults with mental health needs who self-reported being in excellent or very good health had the highest rate of unmet needs for mental health care (Exhibit 4-10).

- *Disability status:* Compared to those with a disability, those with no condition that limited their physical abilities were more likely to have unmet needs for mental health treatment. (Exhibit 4-11).

- *Chronic conditions:* Adults with no chronic health conditions had higher rates of unmet mental health needs compared to adults with one or more chronic health conditions (Exhibit 4-12).

In a more robust analysis that best explains the variation in unmet needs, a logistic regression model revealed that being in younger age groups, being male, having lower educational attainment, having poor English proficiency, and being uninsured were all risk factors associated with having unmet needs for mental health treatment (see Model 3 in Appendix D).

Using data from the 2007 California Health Interview Survey (CHIS 2007), this report provides an overview of adult mental health needs, describes the factors associated with receiving mental health treatment, and highlights the disparities in both need and treatment among subgroups in California. Findings from this report are important for discussions of resource allocation, as they can aid in efforts to identify and provide treatment for those most at risk of developing serious mental illness and those with unmet needs, to provide needed services to community-residing populations suffering from serious mental illness, and to identify potential barriers to receiving services within medically underserved communities.

Prevention and Early Intervention

Under the Prevention and Early Intervention component of the Mental Health Services Act, emphasis is placed on preventive screening and early intervention for subgroups whose risk for developing serious mental illness is elevated. This means identifying those vulnerable populations with circumstances that may lead to unfavorable mental health outcomes (e.g., increased daily stressors and/or other socioeconomic barriers). Additionally, early intervention can aid individuals with mental health conditions that are in their early manifestations but are not yet severe enough to warrant extensive mental health care interventions. With the current fiscal environment, the goals of the Mental Health Services Act (MHSA) are fundamental to preserving resources for the most seriously mentally ill and to increasing productivity in school, work, family, and other life domains for those most at risk.

Results from this report inform both the prevention and early intervention efforts of the MHSA.

- **Create community-based support systems for economically vulnerable subgroups.** Unmarried adults, single parents with children, and the publicly insured have disproportionally higher levels of mental health needs than their respective counterparts. This suggests that the economically disadvantaged may have income-related distress that can lead to severe emotional or mental difficulties. Coping with financial stressors may be especially challenging for adults with little or no social support. Providing community-based support systems through locally situated programs aimed at socially isolated adults, single mothers, and low-income families can help reduce the impact of poverty and economic stressors on mental health.[4]

- **Provide training for community liaisons, educators, and public health and other public officials working with ethnically diverse populations.** Sexual minorities, Native Hawaiians and Pacific Islanders, Whites, U.S.-born Latinos, adults who speak English only, adults who were never married or who are widowed, single parents, and multiracial groups have high levels of mental health needs—regardless of socioeconomic background. This suggests that social environments play an important role in rendering certain groups vulnerable to increased psychological distress. Public health officials (including community liaisons, social service workers, and clinicians) as well as other groups (such as police and educators) need training and educational materials to better

inform their interventions with individuals vulnerable to discrimination based on sexuality, race, ethnicity, or other characteristics. Identifying the early signs of mental distress among specific at-risk members of minority populations can help prevent a downward spiral toward full-blown mental disorders.

- **Integrate mental health services into primary care settings.** Adults who had asthma, heart disease, high blood pressure, multiple chronic conditions, or physical disabilities and those who engaged in binge drinking all had significant mental health needs. This suggests that primary health care settings that address these physical conditions may also offer the greatest opportunity for addressing potential or developing mental health problems. Under the premise of the Department of Health Care Services 1115 Waiver on Integrated Care, nearly half of the population with multiple chronic conditions had serious psychiatric disorders.

The integration of behavioral health centers and primary medical services for at-risk individuals, as well as for those with serious psychiatric disorders, is optimal for early prevention and treatment efforts. These "medical homes" can offer screening opportunities for the sick and disabled who will likely benefit from medications and/or referrals to specialized mental health care services. Depending on the socioeconomic needs of the community, there may be several integration models to consider. Selection of the appropriate type of integrated care is crucial to addressing the mental health needs within a specific population.

Community Service Needs and Treatment

One of the goals of the Mental Health Services Act (MHSA) is to provide state and local funds to adequately meet the needs of all children and adults who can be identified and enrolled in programs under this measure.[22] It is critical that community planners and directors of mental health care services utilize available information to accurately identify those who have unmet needs and may benefit from targeted interventions and treatment; receipt of appropriate mental health care can lead to recovery and to resiliency of the individual in the community.[19]

Findings in this report inform and support the development and implementation of community-based mental health services as mandated by the MHSA.

- **Provide culturally and linguistically competent outreach, screening, and services for the treatment of mental disorders in the community.** The data indicate that foreign-born adults of Latino and Asian ethnicity as well as non-English speakers generally were the least likely to have received minimally adequate treatment for their mental health needs and the most likely to have had no treatment at all. In other words, these population subgroups had the highest rates of unmet needs. This may suggest that a lack of English language proficiency and the cultural stigma attached to seeking help for mental health concerns might serve as barriers to accessing and utilizing services. Evaluating various models for the integration of mental and primary health care, such as co-location of mental health centers in community-based care settings where these groups often seek health care, could help bridge this

barrier. Screening and educational training for front-line workers and providers in these clinical settings can increase service utilization by offering culturally and linguistically appropriate outreach, screening, and treatments. Appropriate translations of key, if not all, materials into the adult's native language may provide an important gateway to a better understanding of mental health needs and the potential benefit of services.

- **Integrate mental health care education into the general health care framework.** Adults with chronic health conditions, disabilities, and self-reported fair or poor health were more likely to receive adequate treatment for a mental health condition compared to their healthier counterparts. This suggests that in addition to the proposed integration of mental health services into primary care settings, traditional health care systems can play an important role by identifying and/or referring patients to specialty mental health treatment.

More training is needed to encourage outreach to and engagement with individuals who may be suffering from poor mental health but are not adequately utilizing health care services. Similarly, public health initiatives and strategies need to be developed to educate health care recipients about the benefits of receiving mental health care treatment and about the ways in which they can maximize outcomes in clinical encounters. A reduction in the stigma and discrimination associated with mental illness may be achieved if delivery of treatment is integrated within the framework of a trusted and reliable health care network.[21]

Mental Health Care and Health Care Reform

The societal costs associated with mental illness are alarming. According to a 2007 Milken Institute report, total lost productivity due to mental disorders reached $171 billion nationally in 2003. The recovery and resiliency goals of the MHSA can be achieved through greater access and adequate treatment for those suffering from mental illnesses. With the ongoing debate over health care reform in California, more evidence-based initiatives are needed to support these goals.

- **Extend health insurance coverage to young adults through parents' policies.** Findings in this report show that adults between the ages of 18 to 24 were the least likely to have their mental health needs met compared to other age groups. This indicates that the younger population is less likely to access specialized mental health services due to a lack of health insurance and/or continuous insurance coverage. Lack of treatment for this age group could have detrimental effects both on family systems and on the future workforce. The health care reform provision that provides extended health insurance coverage to young adults through a parent's existing policy may help reduce the insurance barrier to mental health treatment and enable more young adults to reach their potential as healthy and productive members of society.

- **Encourage parity of mental health treatment benefits under existing health care reform.** Those with no coverage or inconsistent insurance coverage had very high rates of unmet needs, suggesting that access barriers to needed services may contribute to the limited success of treatment goals. Health care reform that supports the parity of mental health benefits with other medical coverage will likely benefit those with serious mental health needs by establishing long-term

treatment plans for recovery. Findings from this report also indicate that the privately insured were less likely to receive minimally adequate treatment compared to those with public insurance. More attention is needed to address discrepancies in mental health coverage and parity under private insurers.

- **Encourage health care providers to screen and refer patients for specialized mental health care services.** Adults in California with chronic health conditions were the most likely to receive minimally adequate mental health treatment. However, the direct cost of mental health treatment and indirect cost due to lost productivity have serious economic implications at the community and state levels. The circular decline of mental health and physical health can be prevented through the identification of those most at risk. This can best be achieved in the primary care setting through standard screening and regular patient wellness visits, with physicians, nurses, and caseworkers identifying those who are most likely to have co-occurring mental health conditions. Recent preventive-based health care reform supports this policy through proposals for mandatory coverage and the elimination of co-pays for adult depression screening in the clinical setting.

Next Steps

The CHIS mental health data provide an excellent opportunity to establish timely, reliable estimates on the prevalence of mental health needs in California. The inclusion of survey content on both mental health symptoms and disabilities related to mental/emotional health provides measures that can appropriately estimate mental health needs in the state. As presented in this report, mental health needs vary along important socioeconomic and demographic indicators that warrant further exploration. While the statistical adjustments applied for age, gender, income, and education are useful, they are limited. Additional analyses are needed in order to achieve a better understanding of what factors are most strongly and independently associated with mental health needs and treatment utilization in California, and how such factors may differ among segments of the population. A better understanding of these variances will provide crucial information that can be used to inform tailored treatment and intervention programs for at-risk and vulnerable populations.

Conceptualizing Mental Health Needs

The concept of *need* is fundamental to understanding, planning, and tracking mental health services in California. Conceptualizing and defining the population in need of mental health services is a difficult task under the best of circumstances.[9] Using validated indicators of serious psychological distress[10] and physical impairment due to a mental/emotional problem,[11] along with current scientific understanding, we use a combination of psychological symptoms and impairment to define and measure the population in need.

This approach is consistent with the Substance Abuse and Mental Health Service Administration (SAMHSA) definition,[12] the mental health service eligibility criteria set forth by the Center for Mental Health Services (CMHS),[13] the measurement of serious mental illness eligibility criteria described in the Mental Health Services Act,[14] and previous research.[15]

The SAMHSA definition of SMI stipulated in P.L. 102-321 requires the person to have at least one 12-month disorder (other than a substance-use disorder) that meets DSM-IV criteria[25] and to have "serious impairment." Serious impairment is defined as impairment equivalent to a Global Assessment of Functioning (GAF) score of less than 60.[26]

The California Department of Mental Health's "medical necessity criteria" are essentially the same as those of SAMHSA, except that the DSM-IV criteria are not inclusive and the criteria for "serious impairment" may be more stringent. An additional requirement for medical necessity is that the person is likely to deteriorate without treatment, will benefit from treatment, and cannot be treated in a medical (primary care) setting.

For Mental Health Services Act (MHSA) prevention services, the inclusion of less severely afflicted individuals is possible (e.g., persons in medical settings exhibiting symptoms of mental disorders such as depression). Wider inclusion of mental disorders depends on the preventive programs individual counties may have elected to develop using MHSA prevention dollars.

The 2007 CHIS survey included six questions that assessed the likely presence of psychological distress and four questions that assessed the level of impairment:

Exhibit A-1:

Six Items in Kessler 6 (K6), Adults 18 and Over with Serious Psychological Distress (i.e., K6 ≥ 13), N = 2,286,500, CHIS 2007

In the past 12 months, about how often did you...	All of the Time	Most of the Time	Some of the Time	A Little of the Time	Not at All
Feel Nervous	30.8%	42.6%	19.9%	4.4%	2.3%
Feel Hopeless	22.0%	39.8%	30.7%	5.9%	1.6%
Feel Restless	30.1%	35.2%	25.7%	6.5%	2.6%
Feel Depressed	19.4%	35.9%	34.8%	7.3%	2.6%
Feel Everything Is an Effort	31.3%	38.1%	24.0%	4.8%	1.8%
Feel Worthless	17.0%	26.6%	34.4%	12.0%	10.0%

Exhibit A-2:

Level of Impairment from Sheehan Disability Scale, Adults 18 and Over with Serious Psychological Distress
(i.e., K6 ≥ 13), N = 2,286,500, CHIS 2007

Did your emotions interfere a lot, some, or not at all with your…	Severe (a lot)	Moderate (some)	No Impairment (not at all)
Performance at work	44.0%	37.1%	18.8%
Household chores	49.5%	33.4%	17.0%
Social life	57.6%	32.0%	10.5%
Relationship with family and friends	48.6%	39.3%	12.1%

Note: Performance at work is only asked of adults, age 18 – 70, N = 1,640,500.

Serious Psychological Distress (SPD)

Serious psychological distress (SPD) is measured using the Kessler 6 (K6). The K6 measures both past 30-day and past 12-month psychological distress and was designed to estimate the proportion of those with serious mental illness within a population. Originally developed for use in the U.S. National Health Interview Survey (NHIS), the K6 was first validated in a convenience sample in Boston[15] and has also been validated in several other surveys in the U.S. and internationally.[10] The K6 is included in the annual NHIS and the annual SAMHSA National Survey on Drug Use and Health (NSDUH), as well as in the California Health Interview Survey (CHIS).

Responses to the six K6 items (see Exhibit A-1) are combined into a composite score, with a score of 13 or greater indicating serious psychological distress (SPD). SPD is a reliable estimate of persons with serious mental illness (SMI) within a population.[15] As noted, this measure captures SPD either in the past 30 days or in the past 12 months. For purposes of this report, we used SPD in the past 12 months to estimate mental health needs in California. CHIS 2007 data show that 8.5% (2.3 million) of adults in California reported symptoms that indicated SPD in the past 12 months. California estimates of SPD in 2008 from the National Survey on Drug Use and Health (NSDUH 2006–2009) are similar, at 9.2% of California adults with SPD (see Exhibit E-4, Appendix E).

Impairment Due to Emotional or Mental Health

Impairment due to emotional or mental health is measured using the Sheehan Disability Scale (SDS) four-item scale.[11] The SDS captures the extent to which an adult's emotions interfered in four life domains (see Exhibit A-2). These domains include work (for those less than 70 years of age), chores, social life, and personal relationships. Scores for each domain are added to create an indicator of overall impairment (range 0, 8). An impairment score (SDS) of 1 or greater indicates at least a moderate level of interference in at least one domain.

Defining Mental Health Needs

Adults with "mental health needs" are defined as those with serious psychological distress and at least a moderate level of impairment in one or more life domains. Those without mental health needs are all adults who do not meet the above threshold of combined symptoms and impairment. The definition of mental health needs in this report has several limitations. Thresholds of the Kessler 6 (score ≥ 13) and of the Sheehan Disability Scale may be less stringent indicators of mental health needs than what is required to meet the criteria of "medical necessity" set forth by the Department of Mental Health. One example of this limitation would be mothers with postpartum depression who cannot properly respond to their infants' needs. Additionally, since CHIS data

is self-reported and not based on a diagnostic assessment, some individuals who are very symptomatic or impaired might not recognize or report their problems and thus would not be identified as having mental health needs.

Measuring Mental Health Needs

To estimate the proportion and number of adults in California with mental health needs using the CHIS 2007 data, an indicator of need was constructed using a combination of the Kessler 6 (K6) and Sheehan (SDS) measures. Those with "mental health needs" are those with serious psychological distress (K6 ≥ 13) and at least a moderate level of impairment in one or more domains (SDS ≥ 1); those without mental health needs are all others who do not meet this threshold of combined symptoms and impairment.

Among the 26.8 million adults in California, 2.2 million (8.3%) were identified as having mental health needs. Adults without mental health needs were comprised of a small group (N = 62,200) with SPD who did not report impairment due to their mental or emotional health and the 24.5 million adults without SPD (Exhibit A-3).

Limitations of CHIS Data

CHIS is a household survey and does not capture the prevalence of mental health needs among those who live in group quarters (e.g., nursing homes, dormitories, residential treatment centers, prisons, etc.) or who are homeless. Sources suggest that about 17% of the 165,000 inmates in California's prisons have a mental illness,[27] and another study suggests that adults in California who have a mental illness are almost four

Exhibit A-3:
Conceptual Model for Assessing Adult Mental Health Needs in California, CHIS 2007
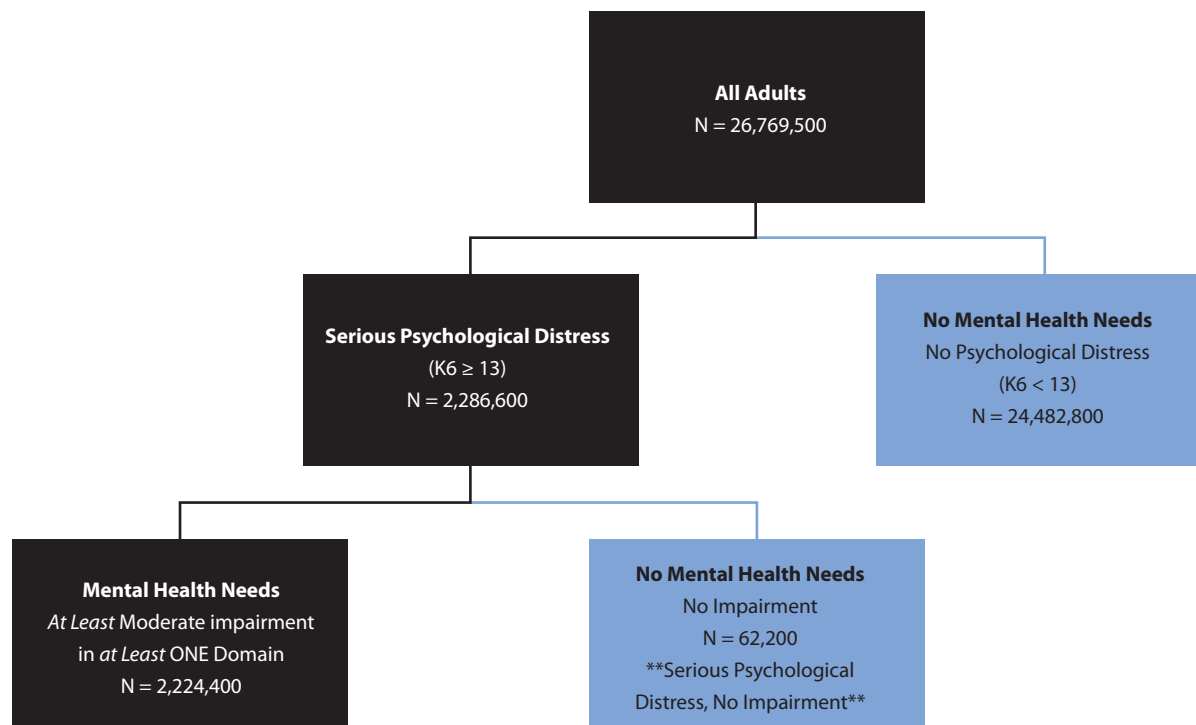
Note: Numbers may not sum to total due to rounding.

times more likely to be in a jail or prison than in a hospital.[28] While accurate estimates are difficult to obtain, California may have 160,000 people who are homeless, making it the state with the largest homeless population in the nation.[29] National estimates indicate that 45% of the homeless population have some level of mental health problems at any given time, and that about 25% have a serious mental illness.[30, 31] While the group quarters and homeless populations together probably account for only a small proportion of California's nearly 27 million adults, these populations have high mental health needs; thus, the absence of these groups in the CHIS data leads to an underestimation of the number of adults in California with mental health needs.

There are many other limitations to CHIS data and the measures generated with CHIS for this report. While the K6 has been validated in several studies, the SPD threshold of 13 is based on national data. It would be ideal to validate the K6 specifically in California in order to generate a threshold based on the California population. Other limitations with CHIS measures are discussed in the report and appendices where appropriate.

Appendix B

Distribution Tables for Mental Health Needs

Exhibit B-1:
Distribution of Mental Health Needs by Sociodemographic Characteristics, Adults 18 and Over, CHIS 2007

	Adults in California		Adults in California with Mental Health Needs		
	N	%	N	%	CIs[32]
Total	26,769,500	100%	2,244,400	8.3%	(7.8 – 8.8%)
Gender					
Male	13,121,200	49.0	841,100	**37.8**	**(34.7 – 41.0%)**
Female	13,648,200	51.0	1,383,300	**62.2**	**(59.0 – 65.3%)**
Age					
18-24	3,703,100	13.8	469,000	**21.1**	**(18.2 – 24.2%)**
25-39	7,576,700	28.3	718,500	**32.3**	**(29.3 – 35.4%)**
40-64	11,691,700	43.7	921,400	41.4	(38.5 – 44.4%)
65+	3,798,000	14.2	115,600	**5.2**	**(4.5 – 6.1%)**
Poverty Level					
0-99%	3,735,800	14.0	452,400	**20.3**	**(17.8 – 23.1%)**
100-199%	4,525,900	16.9	486,700	**21.9**	**(19.5 – 24.5%)**
200-299%	3,690,300	13.8	353,100	15.9	(13.7 – 18.5%)
> 300%	14,817,300	55.4	932,200	**41.9**	**(38.9 – 45.0%)**
Education Level					
< 9th Grade	2,486,900	9.3	185,100	8.3	(6.8 – 10.2%)
9th – 11th Grade	1,937,000	7.2	274,700	**12.4**	**(10.4 – 14.7%)**
High School/Vocational School	7,843,500	29.3	737,600	**33.2**	**(30.2 – 36.3%)**
Some College	5,867,700	21.9	574,400	**25.8**	**(23.1 – 28.7%)**
College	5,160,700	19.3	307,600	**13.8**	**(12.1 – 15.8%)**
Postgraduate School	3,473,600	13.0	145,100	**6.5**	**(5.5 – 7.8%)**
Ethnicity/Race					
Latino	8,453,700	31.6	760,900	34.2	(31.1 – 37.4%)
White	12,724,800	47.5	1,021,900	45.9	(42.9 – 49.0%)
African American	1,525,500	5.7	146,500	6.6	(5.1 – 8.4%)
American Indian/Alaska Native	168,200	0.6	28,200	**1.3**	**(0.8 – 2.1%)**
Asian	3,398,700	12.7	202,100	**9.1**	**(7.2 – 11.5%)**
Native Hawaiian/Pacific Islander & Multiracial	498,100	1.9	64,800	**2.9**	**(2.2 – 3.8%)**
Nativity					
U.S.-Born Latino	3,688,800	13.8	430,800	**19.4**	**(16.7 – 22.4%)**
Latino Born Abroad	4,764,800	17.8	330,100	**14.8**	**(12.7 – 17.3%)**
U.S.-Born Asian	847,100	3.2	54,000	2.4	(1.5 – 4.0%)
Asian Born Abroad	2,551,600	9.5	148,200	**6.7**	**(5.0 – 8.8%)**
English Proficiency					
Speaks English Only	15,935,600	59.5	1,419,600	**63.8**	**(60.7 – 66.8%)**
Speaks Very Well/Well	7,016,800	26.2	561,700	25.3	(22.5 – 28.2%)
Speaks Not So Well/Poor	3,817,000	14.3	243,100	**10.9**	**(9.2 – 13.0%)**

Notes: **Bold numbers** indicate that the difference from population distribution is statistically significant at p < 0.05.

Exhibit B-2:

Distribution of Mental Health Needs by Sociodemographic Characteristics (continued), Adults 18 and Over, CHIS 2007

	Adults in California		Adults in California with Mental Health Needs		
	N	%	N	%	CIs[32]
Total	**26,769,500**	**100%**	**2,244,400**	**8.3%**	**(7.8 – 8.8%)**
Marital Status					
Married	14,717,100	55.0	795,900	**35.8**	**(33.0 – 38.6%)**
Living with Partner	1,977,600	7.4	233,400	**10.5**	**(8.7 – 12.7%)**
Widowed/Separated/Divorced	3,823,400	14.3	435,600	**19.6**	**(17.3 – 22.1%)**
Never Married	6,251,400	23.4	759,600	**34.2**	**(31.0 – 37.4%)**
Family Type					
Single, No Children	10,120,700	37.8	1,122,100	**50.5**	**(47.3 – 53.6%)**
Married, No Children	7,389,100	27.6	380,600	**17.1**	**(15.2 – 19.2%)**
Married with Children	7,642,600	28.6	440,200	**19.8**	**(17.6 – 22.2%)**
Single with Children	1,617,000	6.0	281,500	**12.7**	**(10.5 – 15.1%)**
Sexual Orientation					
Sexual Minority	919,300	4.5	180,900	**10.5**	**(8.4 – 13.1%)**
Heterosexual	19,418,900	95.5	1,541,600	**89.5**	**(86.9– 91.6%)**
California Regions					
Northern/Sierra	1,043,500	3.9	111,100	**5.0**	**(4.3 – 5.9%)**
Bay Area Counties	5,379,300	20.1	384,400	**17.3**	**(14.9 – 20.0%)**
Sacramento Area	1,511,200	5.7	122,200	5.5	(4.4 – 6.9%)
San Joaquin Valley	2,587,400	9.7	224,700	10.1	(8.4 – 12.0%)
Central Coast Counties	1,615,900	6.0	155,700	7.0	(5.6 – 8.7%)
Los Angeles County	7,302,800	27.3	590,700	26.6	(24.0 – 29.3%)
Other Southern Counties	7,329,400	27.4	635,600	28.6	(25.8 – 31.5%)

Notes: Responses for Celibate and Nonsexual are included in the heterosexual category.

Sexual orientation is only asked of adults ages 18-70, Adults in CA N = 20,338,200, Adult in CA with Mental Health Needs N = 1,722,600.

Bold numbers indicate that the difference from population distribution is statistically significant at p < 0.05.

Exhibit B-3:
Distribution of Health Status and Comorbid Conditions by Mental Health Needs, Adults 18 and Over, CHIS 2007

	Adults in California		Adults in California with Mental Health Needs		
	N	%	N	%	CIs[32]
Total	**26,769,500**	**100%**	**2,244,400**	**8.3%**	**(7.8 – 8.8%)**
Health Status					
Body Mass Index					
Underweight	683,300	2.6	64,000	2.9	(2.1 – 3.9%)
Normal	10,636,300	39.7	830,300	37.3	(34.3 – 40.5%)
Overweight	9,417,000	35.2	705,100	**31.7**	**(28.8 – 34.7%)**
Obese	6,032,900	22.5	625,004	**28.1**	**(25.5 – 30.9%)**
Self-Reported Health					
Excellent/Very Good	13,628,200	50.9	722,400	**32.5**	**(29.6 – 35.6%)**
Good	8,065,800	30.1	647,700	29.1	(26.3 – 32.1%)
Fair/Poor	5,075,400	19.0	854,200	**38.4**	**(35.0 – 41.4%)**
Disability					
Has a condition that limits basic physical activity	4,359,400	16.3	706,800	**31.8**	**(29.0 – 34.7%)**
Comorbid Chronic Health Conditions					
Heart Disease	1,665,200	6.2	192,000	**8.6**	**(7.2 – 10.3%)**
High Blood Pressure	6,940,000	25.9	640,700	**28.8**	**(26.2 – 31.5%)**
Asthma	3,486,000	13.0	473,900	**21.3**	**(18.8 – 24.0%)**
Diabetes	2,072,000	7.7	183,800	8.3	(6.9 – 9.8%)
Multiple Chronic Conditions					
0 Chronic Conditions	16,326,900	61.0	1,201,800	**54.0**	**(50.9 – 57.1%)**
1 Chronic Condition	7,435,600	27.8	673,700	30.3	(27.6 – 33.1%)
2 or More Chronic Conditions	3,006,900	11.2	348,900	**15.7**	**(13.7 – 17.9%)**
Comorbid Behavioral Risk Factors					
Binge Drinking	6,623,000	24.7	673,200	**30.3**	**(27.3 – 33.4%)**
Current Smoker	3,867,400	14.5	641,900	**28.9**	**(26.1 – 31.8%)**

Note: **Bold numbers** indicate that the difference from population distribution is statistically significant at p < 0.05.

Exhibit B-4:
Distribution of Mental Health Needs by Insurance Status, Adults 18-64, CHIS 2007

	Adults 18-64 in California		Adults 18-64 in California with Mental Health Needs		
	N	%	N	%	CIs[32]
Total	**22,971,500**	**100%**	**2,108,800**	**9.2%**	**(8.6 – 9.8%)**
Insurance Type, Adults 18-64					
Uninsured	4,256,300	18.5	429,400	20.4	(17.8 – 23.2%)
Public	3,019,000	13.1	557,200	**26.4**	**(23.7 – 29.4%)**
Private	15,572,100	67.8	1,092,700	52.0	(48.7 – 55.3%)
Insured Past 12 Months, Adults 18-64					
Uninsured All Year	3,349,700	14.6	302,100	14.3	(12.2 – 16.8%)
Uninsured Part Year	2,118,600	9.2	298,200	**14.1**	**(12 – 16.6%)**
Insured All Year	17,503,300	76.2	1,508,500	71.5	(68.5 – 74.4%)

Notes: Estimates are for adults age 18-64. Adults 65 and over are assumed to be covered by Medicare.

Bold numbers indicate that the difference from population distribution is statistically significant at p < 0.05.

Conceptualizing Unmet Needs for Mental Health Treatment

In CHIS 2007, adults were asked about seeking professional mental health treatment and the use of prescription medication for their mental health needs. In this section the concept of unmet needs in relation to mental health treatment for those with and without mental health needs is discussed. For the purposes of this report, we use evidence-based guidelines[17] to develop a measure of minimally adequate treatment (MAT) to better understand unmet needs and the factors associated with them. This measure of minimally adequate treatment is based on several questions included in the CHIS mental health module, including access to and utilization of mental health services and use of prescription medication.

To assess access to mental health services, adults were asked about the type of health provider seen for their mental health treatment. Specifically, adults were asked whether they had seen their primary care physician (PCP), general practitioner, or some other mental health professional (e.g., a counselor, psychiatrist, or social worker) in the past 12 months for problems with their mental health, emotions, nerves, or use of alcohol or drugs. Mental health treatment did not differ by type of professional seen: 34% of adults who were identified as having mental health needs reported having seen their PCP or general practitioner for mental health problems in the past 12 months, and 35.5% reported having seen a mental health professional in the same period (5.0% and 6.4%, respectively, for adults without mental health needs) (Exhibit C-1). Evaluating the two types of professionals in combination, 20% of adults with mental health needs reported having seen both their PCP **and** a mental health professional in the past 12 months (2.4% for adults without mental health needs).

Exhibit C-1:
Type of Provider Seen in Past 12 Months by Mental Health Needs, CHIS 2007

In the past 12 months have you seen "........" for problems with your mental health, emotions, nerves, or your use of alcohol or drugs?	Adults with Mental Health Needs (N = 2,224,400)	Adults without Mental Health Needs (N = 24,545,050)
"your primary care physician or general practitioner"		
Yes	34%	5%
No	66%	95%
"any other professional, such as counselor, psychiatrist, or social worker"		
Yes	35.5%	6.4%
No	64.5%	93.6%
Primary care physician **AND** mental health provider	20%	2.4%

Access to Mental Health Services

Access to mental health services is defined as receiving treatment from either type of provider. Among the 2,224,400 adults identified as having mental health needs, about half (49.6%, or 1,103,633) reported that they had received treatment from either a PCP **or** a mental health professional, while the other half (50.4%, or 1,120,767) reported that they had not received any treatment (Exhibit C-2). Among adults identified as not having mental health needs, 9.0% were also accessing mental health services.

However, there are two important limitations that need to be considered when interpreting these estimates. The 50.4% of adults identified as having mental health needs and not receiving treatment may be an overestimate: there may be individuals who meet the K6 threshold but who do not see themselves as needing treatment and neither seek treatment nor accept any offer of treatment. In addition, the 9.0% of adults identified as not having mental health needs but receiving mental health treatment may be adults with DSM-IV criteria who are in fact receiving adequate treatment and so did not meet the threshold for mental health needs based on the K6 and the Sheehan Disability Scale. Therefore, without validation of the K6 with DSM-IV criteria, the mental health needs threshold is not a complete assessment of adults in California who need mental health treatment.

Exhibit C-2:
Access to Mental Health Services by Mental Health Needs, CHIS 2007

Access to Mental Health Services	Adults with Mental Health Needs (N = 2,224,400)	Adults without Mental Health Needs (N = 24,545,050)
Primary care physician **OR** mental health provider	49.6%	9.0%
Did not receive treatment	50.4%	91.0%

Utilization of Mental Health Services

Utilization of mental health services is assessed by asking adults who sought care how many visits they made to any professional in the past 12 months for their mental or emotional health or their use of drugs and/or alcohol. This includes visits to primary care physicians and/or mental health professionals but does not include overnight hospital stays. Among adults with mental health needs, 49% (1.1 million) reported seeking mental health treatment in the past 12 months, compared to 9% (2.2 million) of adults who did not meet the threshold for mental health needs. The number of mental health visits is determined for these groups.

Among adults with mental health needs who sought care, the mean number of visits in the past 12 months was 14.2 visits, while the mean number of visits for adults without mental health needs who sought care was 8.9 visits. About two-thirds (64.1%) of adults with mental health needs made four or more visits to a professional for mental health treatment, while a

quarter (27.2%) made fewer than four visits, and 8.7% made no visits in the past 12 months (Exhibit C-3). About half (49.1%) of adults identified as not having mental health needs made four or more visits, 42% made fewer than four visits, and 8.9% made no visits in the past 12 months.

As mentioned in the previous section (Access to Mental Health Services), there are limitations to consider when interpreting these estimates. Among the 8.7% of adults identified as having mental health needs who made no visits to a professional in the past 12 months, there may be some adults who do not see themselves as needing treatment. Conversely, among adults identified as not having mental health needs who were making visits in the past 12 months, there may be some adults with a DSM-IV diagnosis who were receiving adequate treatment and were therefore not identified as having mental health needs using only the K6 and the Sheehan Disability Scale.

Exhibit C-3:
Utilization of Mental Health Services by Mental Health Needs, Adults 18 and Over Who Sought Care for Mental Health Problems, CHIS 2007

In the past 12 months, how many visits did you make to a professional for problems with your mental or emotional health or use of alcohol or drugs? Do not include overnight hospital stays.	Adults with Mental Health Needs (N = 1,103,600)	Adults without Mental Health Needs (N = 2,217,800)
4 or more visits	64.1%	49.1%
Fewer than 4 visits	27.2%	42%
No visits	8.7%	8.9%

Exhibit C-4:

Prescription Medication by Mental Health Needs, CHIS 2007

During the past 12 months, did you take any prescriptrion medications, such as an antidepressant or sedative, almost daily for two weeks or more, for an emotional or personal problem?	Adults with Mental Health Needs (N = 2,224,400)	Adults without Mental Health Needs (N = 24,545,000)
Yes	38.9%	7.4%
No	61.1%	92.6%

Use of Prescription Medication for Mental Health

Use of prescription medication for mental health was assessed by asking adults whether they took a prescription medication, such as an antidepressant or sedative, almost daily for two weeks or more in the past 12 months for an emotional or personal problem. Among adults with mental health needs, more than one-third (39% or 866,300) took a prescribed medication for two weeks or more during the past 12 months, compared to less than 8% (1,816,300) of adults without mental health needs (Exhibit C-4).

Similar to previous sections, it is important to consider the limitations when interpreting estimates for the use of prescription medications. Among the 61.1% of adults with mental health needs who were not taking a prescription medication, there may be some adults who did not need a prescription medication or some who did not sense a need for, or want, a prescription medication. Additionally, among the 7.4% of adults without mental health needs who reported taking a prescription medication, some may have had mental health needs but were not identified as such due to the limitations of using a threshold such as the K6 without a validation study on DSM-IV criteria.

Defining Minimally Adequate Treatment (MAT)

Minimally Adequate Treatment (MAT) is based on evidence-based guidelines for the treatment of a serious mental illness (SMI). Evidence-based MAT includes either (1) four or more visits with a health professional and at least two months of prescribed medication, or (2) eight visits of psychotherapy lasting at least 30 minutes.[17] As described above, CHIS captures whether or not adults have visited a health professional for their mental or emotional health, the number of visits, and whether or not they have taken prescription medication for their mental or emotional health; it does not, however, capture the two-month duration of prescription medication use or the duration of psychotherapy sessions. Therefore, using evidence-based guidelines and considering the limitations of CHIS data, we define **minimally adequate treatment (MAT) as four or more visits with a health professional in the past 12 months and use of a prescription medication for mental health in the past 12 months.**

Defining Unmet Needs

Unmet needs is defined as not receiving MAT. Adults with unmet needs include those who did not receive any treatment and those who received some treatment but the treatment did not meet the MAT threshold. Met needs, therefore, is defined as receiving MAT.

The definition of minimally adequate treatment used in this report has several limitations that should be considered when interpreting the estimates of met and unmet needs. The type and duration of treatment varies substantially from person to person and is largely dependent on the type of diagnosis and stage of recovery; thus, using the criteria for MAT may not accurately reflect unmet and met needs for some people. For example, in the acute stages of treatment for an SMI, some people may make many visits and take a prescription medication, but if this is not the proper treatment for this individual, the person is not having her or his needs met for receiving adequate

care. Others who may be further along in their recovery and are receiving adequate treatment may require fewer than four visits per year, yet are adequately having their needs for mental health treatment met. Therefore, there may be a range of unmet needs among those who have been identified as having met needs and, likewise, a range of met needs among those who have been identified as having unmet needs.

Measuring Unmet Needs

To estimate the proportions and numbers of adults in California who did and did not receive adequate care for their mental health, we examined CHIS 2007 data by mental health needs using the MAT measure described in the previous section. Adults who did not meet the MAT threshold were considered to have

unmet needs; this group included those who had received some treatment, but not MAT, as well as those who reported not having received any treatment at all within the past 12 months.

Among the 2,224,400 adults with mental health needs, more than three-quarters (76.6%, or 1,703,000) had unmet needs. The population with unmet needs included half (50.4%, or 1,120,800) who reported receiving no treatment and more than one-quarter (26.2%, or 582,200) who reported that they had received some treatment (but no MAT) (Exhibit C-5). Overall, only one-quarter (23.4 %, or 521,400) of adults with mental health needs had had their needs adequately met (i.e., had received minimally adequate treatment or better).

Exhibit C-5:
Conceptual Model for Assessing Unmet Needs for Mental Health Treatment Among Adults with Mental Health Needs, CHIS 2007
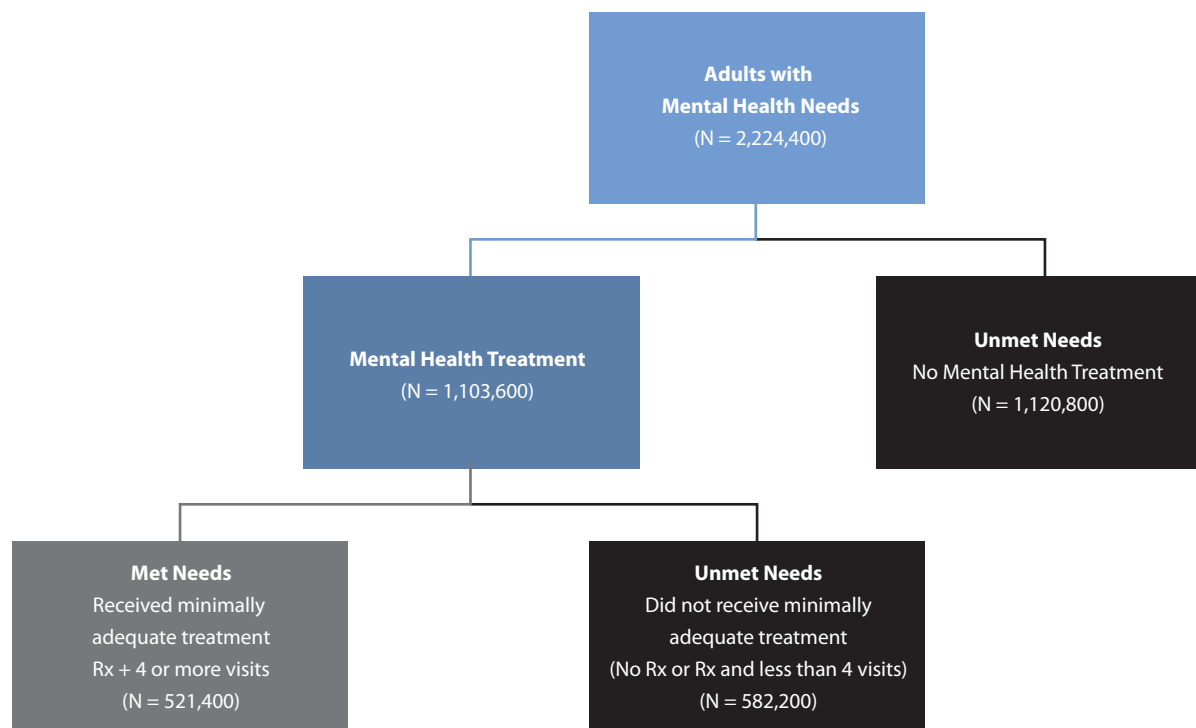
Note: Numbers may not sum to total due to rounding.

Exhibit C-6:
Unmet Needs for Mental Health Treatment by Mental Health Needs, CHIS 2007

	Adults with Mental Health Needs		Adults without Mental Health Needs	
	%	N	%	N
Unmet Needs				
Some Treatment	26.2	582,200	6.8	1,681,300
No Treatment	50.4	1,120,800	91.0	22,327,300
Total Unmet Needs	76.6	1,703,000	–	–
Met Needs				
Meets Minimally Adequate Treatment	23.4	521,400	2.2	536,500

Note: Numbers may not sum to total due to rounding.

Among the 24.5 million adults who did not meet the threshold for mental health needs, 2.2% received MAT, 6.8% did not receive MAT, and 91% did not receive any mental health treatment (Exhibit C-6).

However, due to the use of the K6 threshold versus DSM-IV criteria, it is difficult to determine whether adults who were identified as not having mental health needs but who were receiving mental health treatment were those who had "met un-need" or those who had "met needs." "Met un-need" refers to people who do not have a current mental disorder but who are consulting clinicians for other mental health problems. "Met needs" refers to people who do have a DSM-IV diagnosis but who are receiving adequate treatment and are therefore not being captured using the K6 threshold.

Validity of CHIS Mental Health Treatment Estimates

In order to assess the validity of CHIS mental health treatment estimates (which are based on self-report data), the CHIS 2007 estimates were compared to the California Department of Mental Health's administrative data, which contain counts of adult mental health service use. To make the comparison as accurate as possible, the comparison was limited to adults enrolled in the Medi-Cal program. The estimated number of adults enrolled in Medi-Cal who received some mental health treatment based on CHIS 2007 was 272,600, which is higher than the administrative count of 228,746.[33] Since many adults may seek

mental health treatment from providers outside of county mental health programs, it is expected that the CHIS estimates will be higher than the administrative data counts. And while this comparison is somewhat crude, it nevertheless provides some assurance that the CHIS data accurately represent mental health treatment patterns in California.

As a reminder and summary of the limitations that need to be considered when interpreting the estimates of met and unmet needs, "mental health needs" is assessed by using a threshold of the Kessler 6 (K6) and not case ascertainment using DSM-IV criteria, which may be underestimating mental health needs and overestimating unmet needs. For example, an adult with schizophrenia may be in recovery and would not have symptoms of serious psychological distress as measured by the K6; this individual would thus be identified as an adult without mental health needs. However, this person would still have a need for mental health services and may be captured in the 2.2% of those with met needs or 6.8% of those receiving some treatment among adults without mental health needs in Exhibit C-6.

Additionally, by using the K6, it is assumed that those who meet the threshold for mental health need are those who should be receiving mental health treatment. However, there may be individuals who meet the threshold for mental health need but who may not see themselves as needing treatment and will therefore not seek treatment or will refuse any offer of treatment.

Logistic Regression Models

Exhibit D-1:

Logistic Regression Models for Mental Health Needs and Unmet Needs for Mental Health Treatment, CHIS 2007

	Mental Health Needs Model 1		Mental Health Needs Model 2		Unmet Needs Model 3	
	OR	CIs[32]	OR	CIs[32]	OR	CIs[32]
Age (reference 18-24)						
65 and over	0.29	(0.19 – 0.47)***	0.25	(0.15 – 0.40)***	1.04	(0.51 – 2.11)
40-64	0.90	(0.69 – 1.16)	0.72	(0.55 – 0.95)	0.20	(0.12 – 0.36)***
25-39	1.13	(0.86 – 1.48)	0.99	(0.75 – 1.32)	0.34	(0.19 – 0.61)**
Gender (reference Male)						
Female	1.78	(1.52 – 2.09)***	1.98	(1.68 – 2.34)***	0.60	(0.45 – 0.81)**
Education (reference Postgrad)						
Less than 9th Grade	2.32	(1.53 – 3.51)***	1.53	(0.98 – 2.38)	1.92	(0.92 – 4.01)
9th-11th Grade	3.12	(2.17 – 4.50)***	2.09	(1.45 – 3.01)***	1.63	(0.87 – 3.04)
High School/Vocational School	1.97	(1.51 – 2.58)***	1.52	(1.16 – 1.99)*	2.18	(1.4 – 3.40)**
Some College	1.71	(1.34 – 2.18)***	1.50	(1.18 – 1.90)**	1.15	(0.78 – 1.69)
Poverty Level (reference 300% +)						
0-99%	1.75	(1.34 – 2.29)***	1.40	(1.06 – 1.84)*	0.95	(0.57 – 1.59)
100-199%	1.74	(1.37 – 2.20)***	1.42	(1.12 – 1.81)*	1.08	(0.69 – 1.68)
200-299%	1.64	(1.29 – 2.09)***	1.47	(1.15 – 1.88)*	0.99	(0.64 – 1.53)
Race/Ethnicity (reference non-Latino White)						
Latino	0.75	(0.60 – 0.95)*	0.77	(0.60 – 0.97)*	1.20	(0.81 – 1.77)
Black	0.74	(0.52 – 1.04)	0.73	(0.51 – 1.04)	2.45	(1.35 – 4.43)*
Asian	0.72	(0.52 – 0.99)*	0.70	(0.50 – 0.98)*	1.87	(0.85 – 4.09)
American Indian/Alaska Native	0.99	(0.54 – 1.82)	0.77	(0.38 – 1.55)	1.89	(0.77 – 4.59)
Native Hawaiian/Pacific Islander & Multiracial	1.19	(0.81 – 1.76)	1.11	(0.77 – 1.61)	1.90	(1.06 – 3.42)*
Family Type (reference Married, with Children)						
Single, No Children	2.17	(1.75 – 2.70)***	1.85	(1.48 – 2.31)***	–	–
Single, with Children	2.41	(1.86 – 3.13)***	2.08	(1.58 – 2.74)***	–	–
Married, No Children	1.07	(0.85 – 1.34)	0.98	(0.78 – 1.23)	–	–
English Proficiency (reference Not well/Not at all)						
Speak English Only/Very Well/Well	1.90	(1.40 – 2.58)***	2.04	(1.49 – 2.80)***	0.22	(0.12 – 0.42)***
Sexual Orientation (reference Heterosexual)						
Sexual Minority	2.08	(1.57 – 2.77)***	1.91	(1.44 – 2.53)***	–	–
Self-Reported Health (reference Excellent/Very Good/Good)						
Fair/Poor	–	–	3.28	(2.71 – 3.97)***	0.66	(0.48 – 0.89)*
Health Behaviors						
Current Smoker (reference Yes)	–	–	1.90	(1.57 – 2.30)***	0.75	(0.54 – 1.04)
Binge Drinking (reference Yes)	–	–	1.09	(0.91 – 1.30)	1.19	(0.87 – 1.63)
Insurance Type (reference uninsured)						
Public	–	–	–	–	0.30	(0.18 – 0.51)***
Private	–	–	–	–	0.65	(0.38 – 1.10)

*p-value < 0.05, ** p-value < 0.001, *** p-value < 0.0001

Note: OR = Odds Ratio, CI = 95% Confidence Intervals; due to small sample size, Native Hawaiians and Pacific Islanders were grouped with multiracial group.

Benchmarking CHIS Mental Health Estimates to NSDUH

In order to assess the accuracy of CHIS mental health estimates for California, an objective source of comparable estimates was explored. The National Survey on Drug Use and Health (NSDUH) is an ongoing survey conducted by the Substance Abuse and Mental Health Service Administration (SAMHSA) of the National Institutes of Health. It contains a number of identical or similar measures that provide a benchmark for comparison with the CHIS mental module. NSDUH is an appropriate benchmarking source for CHIS, since both surveys employ population-based probability samples and share similar mental health and other content. This appendix provides a comparative outline detailing the similarities of the two surveys' estimates of mental health both in California and nationally. Comparisons of CHIS and NSDUH survey methodology are explained first, followed by comparisons of the Kessler 6, Sheehan Disability Scale, and mental health prescription usage for each survey. Comparisons are also made of the two surveys for several key health indicators and demographics. The analogous findings of the two surveys provide greater confidence in the accuracy of mental health estimates from CHIS.

Survey Methods and Administration

NSDUH collects information from residents of households, noninstitutional group quarters (e.g., nursing homes, shelters, rooming houses, and dormitories), and civilians living on military bases. Those who are institutionalized, not residing in a household (e.g., homeless), and residents living abroad (e.g., military personnel) are excluded from NSDUH. Thus, NSDUH represents the civilian, noninstitutionalized population residing in the United States who are 12 years of age and older.

This is similar to the CHIS sample, which also represents the noninstitutionalized population, but CHIS excludes those living in noninstitutional group quarters.

NSDUH employs a 50-state design with an independent, multistage area probability sample for each state and the District of Columbia. This design provides a large enough sample to yield direct estimates for the eight largest states (including California). The surveys employ different modes, with CHIS conducted by telephone and NSDUH conducted in person; there may be differences due to modes that we cannot assess. In-person surveys tend to have higher response rates. In 2008, NSDUH's screening response rate was 89 percent, with a weighted interview response rate of 74 percent. The overall adult response rate for the CHIS 2007 was 18.7 percent. The national achieved sample size for 2008 was 68,736, with approximately 3,600 California respondents. CHIS 2007 included three separate samples: a landline random-digit-dial (RDD) sample, a separate RDD cell phone – only sample (800–1,000 adults), and an area probability sample in Los Angeles County (800–1,000 adults). In 2007, CHIS interviewed 53,611 households in California, including 51,048 adults.

Both NSDUH and CHIS administer advance letters to elicit participation in their respective surveys. NSDUH provides a $30 incentive for completing the interview, while CHIS provides a $2 incentive for landline respondents and $25 reimbursement for cell-phone respondents. NSDUH administers interviews in English or Spanish, while CHIS is administered in five languages, including English, Spanish, Chinese (Mandarin and Cantonese dialects), Vietnamese, and Korean. NSDUH interviewers are provided by the

U.S. Census Bureau. CHIS data collection is conducted by subcontract with Westat, an employee-owned social research firm with headquarters in Rockville, Maryland.

Data Processing and Weighting

For missing values, NSDUH's imputation process uses a combination of model-assisted imputation and a random nearest neighbor hot-deck imputation.[34] Weighting for NSDUH is a four-stage sample selection scheme in which an extra selection stage of Census tracts is added before the selection of a segment. Many relevant state-specific covariates (defined by demographic domains within states) are included in the multivariate models used to create the weights. A hierarchical structure was used in grouping states with covariates defined at the national level, at the Census division level within the nation, at the state group within the Census division, and, whenever possible, at the state level. Census control totals by age, race, gender, and Hispanic origin were required for the civilian, noninstitutionalized population of each state. The Population Estimates Branch of the U.S. Census Bureau produces the necessary population estimates for NSDUH.

For CHIS, missing values are imputed through multiple methods, including random selection (for items used in the weighting procedures), with nearly all other variables imputed through hot-deck imputation without replacement. Household weights are created for all households that complete the CHIS screener, which is then used to compute a person-level weight. To adjust the person-level weight, a raking method is used, ensuring that CHIS estimates are consistent with population control totals. Detailed methodology reports for CHIS 2007 are available online at *http://www.chis.ucla.edu/methodology.html.*

Note that tables in this appendix use NSDUH data pooled from several years to provide more stable mental health estimates.

Kessler 6

A methodological study by Kessler et al. (2003) was conducted in order to select severe mental illness (SMI) screening scales for NSDUH. Three sets of screening scales were tested, including a truncated version of the WHO Composite International Diagnostic Interview Short Form (CIDI-SF) scale, the K10/K6 scale, and the WHO Disability Assessment Schedule (WHO-DAS). The screening scales were administered to 155 respondents along with the Structured Clinical Interview (SCID) for DSM-IV and scores on the GAF. The study found that all screening scales were significantly related to SMI, with the most efficient scale being the K6. Neither the CIDI-SF nor the WHO-DAS added significantly to the prediction accuracy of the K6 scale. The K6 had a sensitivity of 0.36 (0.08) and a specificity of 0.96 (0.02), and the total classification accuracy was .92 (0.02) in predicting SMI.[15]

In comparison to previous years, the 2008 NSDUH employed a module of K6 questions that captured distress levels at two different time periods. The K6 consisted of two sets of six questions that asked respondents how frequently they had experienced symptoms of psychological distress during: (1) the past 30 days (i.e., K6 30-day) and (2) the one month in the past year when they were at their worst emotionally (i.e., K6 12-month). The reference period has an effect on the rate estimated, not only because responses may be subject to recall bias, but also because longer reference periods may result in a higher number of affirmative responses. CHIS 2007 utilizes the same reference time periods for the K6 questions.

Methods

NSDUH asks all six of the K6 30-day questions of respondents 18 years and older (see Exhibit E-1 and Exhibit E-2 for distribution). After administration of the K6 30-day, respondents are then asked this question: "Was there a month in the past 12 months when you felt more depressed, anxious, or emotionally stressed than you felt during the past 30 days?" If a respondent reports yes to this question, then the K6

questions are re-administered to obtain the K6 12-month indicator (Exhibit E-3 and Exhibit E-4). Twenty-four percent of the total sample received the K6 12-month. The K6 12-month indicator included in NSDUH represents mental health symptoms during the worst month in any of the previous 12 months.

CHIS 2007 administers the K6 in a similar manner, whereby all adult respondents age 18 years and older are administered the K6 30-day questions. Respondents are then asked whether there was a month in the past 12 months "when these feelings occurred more often than they did in the past 30 days." For those who answer yes, the K6 12-month questions are then administered. Twenty-one percent of the total sample received the K6 12-month series. The K6 12-month

indicator represents mental health symptoms during the worst month in any of the previous 12 months.

The NSDUH 2008 and CHIS 2007 utilize nearly identical wording for both the K6 questions (30-day and 12-month), although some statements in CHIS have been shortened for telephone administration. For instance, in NSDUH, the question reads "During the past 30 days, how often did you feel down on yourself, no good, or worthless?" In CHIS, the question reads, "During the past 30 days, how often did you feel worthless?" Because CHIS employs such a diverse sample, simplifying the statements allows for questions to be more easily administered in a culturally comparable manner.

Exhibit E-1:
Percent Distribution of Past 30-Day K6 Scores Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2008-2009

Distress	CHIS 2007		NSDUH California 2008-2009		NSDUH National 2008-2009	
	Percentage	CI (95%)	Percentage	CI (95%)	Percentage	CI (95%)
0	20.0	(19.4-20.7)	24.9	(23.1-26.9)	24.9	(24.4-25.5)
1	13.7	(13.1-14.2)	12.9	(11.3-14.6)	12.2	(11.9-12.6)
2	14.8	(14.2-15.3)	12.8	(11.6-14.2)	12.6	(12.2-12.9)
3	11.6	(11.1-12.1)	10.7	(9.6-12.1)	10.5	(10.1-10.8)
4	9.6	(9.1-10.1)	8.0	(6.9-9.2)	8.5	(8.2-8.8)
5	7.1	(6.7-7.6)	6.0	(5.1-7.0)	6.4	(6.1-6.7)
6	5.5	(5.1-5.9)	4.8	(4.0-5.8)	5.4	(5.1-5.6)
7	3.8	(3.5-4.1)	4.3	(3.6-5.1)	3.9	(3.7-4.2)
8	3.3	(2.9-3.6)	2.9	(2.4-3.6)	3.2	(3.0-3.4)
9	2.3	(2.1-2.6)	2.9	(2.3-3.7)	2.5	(2.4-2.7)
10	1.9	(1.7-2.1)	1.9	(1.5-2.5)	1.9	(1.8-2.1)
11	1.3	(1.1-1.5)	1.6	(1.2-2.1)	1.7	(1.6-1.8)
12	1.2	(1.0-1.4)	1.9	(1.4-2.4)	1.8	(1.6-1.9)
13	0.7	(0.6-0.9)	0.8	(0.6-1.2)	1.0	(0.9-1.0)
14	0.9	(0.7-1.1)	0.5	(0.3-0.9)	0.7	(0.6-0.8)
15	0.5	(0.3-0.6)	0.5	(0.3-0.8)	0.6	(0.5-0.7)
16	0.4	(0.3-0.5)	0.3	(0.2-0.6)	0.5	(0.4-0.6)
17	0.3	(0.2-0.4)	0.5	(0.3-0.8)	0.4	(0.4-0.5)
18	0.3	(0.2-0.4)	0.7	(0.4-1.0)	0.4	(0.4-0.5)
19	0.2	(0.1-0.3)	0.2	(0.1-0.3)	0.3	(0.2-0.3)
20	0.2	(0.1-0.2)	0.1	(0.1-0.3)	0.2	(0.1-0.2)
21	0.1	(0.1-0.2)	0.1	(0.1-0.3)	0.1	(0.1-0.2)
22	0.1	(0.0-0.1)	0.1	(0.0-0.4)	0.1	(0.1-0.1)
23	0.0	(0.0-0.0)	0.1	(0.0-0.3)	0.1	(0.1-0.1)
24	0.1	(0.0-0.1)	0.3	(0.1-0.5)	0.2	(0.2-0.2)

Exhibit E-2:
Past Month Serious Psychological Distress (SPD) Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2008-2009

	CHIS 2007		NSDUH California 2008-2009		NSDUH National 2008-2009	
	Percentage	CI (95%)	Percentage	CI (95%)	Percentage	CI (95%)
Yes	3.8	(3.4-4.1)	4.3	(3.6-5.1)	4.6	(4.3-4.8)
No	96.2	(95.9-96.6)	95.7	(94.9-96.4)	95.4	(95.2-95.7)

NOTE: Serious Psychological Distress (SPD) is defined as having a score of 13 or higher on the K6 scale.

Exhibit E-3:
Percent Distribution of Past 12-Month K6 Scores Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2006-2009

	CHIS 2007		NSDUH California 2006-2009		NSDUH National 2006-2009	
Distress	Percentage	CI (95%)	Percentage	CI (95%)	Percentage	CI (95%)
0	19.1	(18.5-19.7)	20.9	(19.6-22.2)	20.9	(20.6-21.3)
1	12.6	(12.1-13.1)	14.6	(13.6-15.6)	13.1	(12.8-13.4)
2	13.3	(12.7-13.8)	10.4	(9.6-11.2)	10.5	(10.3-10.8)
3	10.4	(9.9-10.9)	9.0	(8.2-9.9)	9.0	(8.8-9.2)
4	8.2	(7.8-8.6)	7.2	(6.5-8.0)	7.5	(7.3-7.7)
5	6.3	(5.9-6.7)	6.2	(5.5-6.9)	6.0	(5.8-6.2)
6	5.3	(4.9-5.6)	5.4	(4.7-6.1)	5.4	(5.3-5.6)
7	3.7	(3.4-4.0)	4.0	(3.5-4.6)	3.9	(3.8-4.1)
8	3.5	(2.4-3.0)	2.9	(2.5-3.4)	3.2	(3.1-3.4)
9	2.7	(2.3-2.8)	2.8	(2.4-3.3)	2.7	(2.6-2.8)
10	2.5	(1.7-2.1)	2.4	(2.0-2.9)	2.4	(2.3-2.5)
11	1.9	(1.8-2.3)	2.3	(2.0-2.8)	2.2	(2.1-2.3)
12	2.0	(1.8-2.3)	2.8	(2.4-3.2)	2.7	(2.6-2.8)
13	1.4	(1.2-1.5)	1.4	(1.1-1.7)	1.7	(1.6-1.8)
14	1.5	(1.2-1.7)	1.2	(1.0-1.5)	1.4	(1.3-1.5)
15	1.2	(1.0-1.4)	1.0	(0.8-1.3)	1.2	(1.1-1.2)
16	0.9	(.8-1.4)	1.0	(0.8-1.3)	1.1	(1.0-1.2)
17	0.7	(0.5-0.8)	0.7	(0.5-0.9)	1.0	(0.9-1.1)
18	0.8	(0.6-0.9)	1.0	(0.7-1.2)	1.1	(1.1-1.2)
19	0.5	(0.4-0.6)	0.5	(0.4-0.7)	0.6	(0.6-0.7)
20	0.4	(0.3-0.5)	0.5	(0.4-0.7)	0.5	(0.4-0.5)
21	0.3	(0.2-0.4)	0.3	(0.2-0.5)	0.4	(0.4-0.4)
22	0.3	(0.2-0.3)	0.3	(0.2-0.4)	0.3	(0.3-0.3)
23	0.1	(0.1-0.1)	0.4	(0.3-0.6)	0.3	(0.3-0.4)
24	0.5	(0.4-0.6)	0.9	(0.7-1.2)	0.8	(0.7-0.9)

Exhibit E-4:
Past Year Serious Psychological Distress (SPD) Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2006-2009

	CHIS 2007		NSDUH California 2008-2009		NSDUH National 2008-2009	
	Percentage	CI (95%)	Percentage	CI (95%)	Percentage	CI (95%)
Yes	8.5	(8.0-9.0)	9.2	(8.5-10.0)	10.4	(10.2-10.6)
No	91.5	(91.0-92.0)	90.8	(90.0-91.5)	89.6	(89.4-89.8)

NOTE: Serious Psychological Distress (SPD) is defined as having a score of 13 or higher on the K6 scale.

Sheehan Disability Scale (SDS)

NSDUH respondents were administered the Sheehan Disability Scale (SDS) following the K6 questions. The SDS was included in the depression questionnaire module and refers to impairment that is due specifically to symptoms of distress. The universe for the SDS are respondents who indicated during the administration of any of the K6 items (either the past month or past 12 months) that they had experienced one or more of the K6 symptoms at least "a little of the time." In 2008, the subsample was split, with half the respondents administered the World Health Organization Disability Assessment Schedule (WHODAS) (34%) and the other half receiving the SDS (34% of sample).

In CHIS 2007, respondents were also administered the Sheehan Disability Scale (SDS) following the K6 questions. Administration of the SDS was dependent on responses to the K6 "worst month in the last 12 months" question. Compared to NSDUH, CHIS was more selective, as only respondents who scored 6 or greater on the K6 "worst month in the last 12 months" question were administered the SDS. Of the entire CHIS sample, 30% of adult respondents were administered the SDS.

In NSDUH, the role domains are assessed on a 0 to 10 visual analog scale, with impairment categories of "none" (0), "mild" (1-3), "moderate" (4-6), "severe" (7-9), and "very severe" interference (10). For purposes of our comparisons with CHIS, the NSDUH SDS was limited to respondents who scored 6 or above on the K6 12-month indicator. (See Exhibit E-5 and Exhibit E-6 for NSDUH distribution.) In CHIS 2007, the SDS was administered with three answer choices: "not at all," "some," and "a lot." (See Exhibit E-7 for CHIS distribution.)

One domain of the SDS asks respondents whether their emotions interfere with work. CHIS limits this question to adults 70 years of age or younger. Additionally, CHIS respondents younger than 70 years were allowed to specify that they did not work (6%). For purposes of comparison, these responses have been collapsed into the "not at all" category. In contrast, NSDUH 2008 asked all adult respondents who were administered the SDS whether their emotions interfered with work. Additionally, NSDUH respondents who reported not working were collapsed into the "none (0)" impairment category.

Exhibit E-5:
Severity of Role Impairment As Measured by the Sheehan Disability Scale Among Persons Age 18 or Older with Past Year Major Depressive Episode and Past Year K6 Score Greater Than or Equal to 6, NSDUH 2005-2007

NSDUH National 2005-2007	None 0	1	2	3	4	5	6	7	8	9	Very Severe 10
Home	2.9	0.8	4.2	9.1	8.4	12.3	13.4	15.9	10.8	7.7	14.5
Work[1]	16.6	4.1	6.8	11.4	8.0	10.8	12.0	9.8	6.6	7.8	6.2
Social Life	2.7	1.8	5.6	8.0	6.8	10.6	13.7	15.2	11.2	11.2	13.3
Relationships	3.9	4.4	6.8	7.9	11.0	9.9	9.9	16.6	9.9	10.5	9.2

NOTES: Estimates in this table are shown only for 2005-2007, because adjusted variables were not produced for role impairment to account for questionnaire changes in 2008.

Respondents with unknown role impairment data were excluded.

1 Estimates for the work domain are restricted to persons between the ages of 18 and 70 years old. Respondents who indicated that they did not work were included in the "None (0)" category.

Exhibit E-6:

Severity of Role Impairment As Measured by the Sheehan Disability Scale Among Persons in California Age 18 or Older with Past Year Major Depressive Episode and a Past Year K6 Score Greater Than or Equal to 7, NSDUH 2005-2007

NSDUH National 2005-2007	None 0	1	2	3	4	5	6	7	8	9	Very Severe 10
Home	2.2	2.7	4.2	7.0	7.6	15.5	14.9	14.3	13.3	6.8	11.7
Work[1]	15.0	4.6	6.9	9.8	7.9	14.1	10.1	9.2	7.7	5.3	9.2
Social Life	2.3	2.7	4.7	7.3	7.6	14.4	12.6	13.5	12.7	10.1	12.0
Relationships	3.9	3.2	6.2	8.7	8.8	14.6	11.8	13.0	11.5	8.4	10.0

NOTES: Estimates in this table are shown only for 2005-2007 because adjusted variables were not produced for role impairment to account for questionnaire changes in 2008.

Respondents with unknown role impairment data were excluded.

[1] Estimates for the work domain are restricted to persons between the ages of 18 and 70 years old. Respondents who indicated that they did not work were included in the "None (0)" category.

Exhibit E-7:

Sheehan Disability Scale Among Persons in California Age 18 or Older with a Past Year K6 Score Greater Than or Equal to 6, CHIS 2007

CHIS 2007	No Impairment (Not at All)		Moderate (Some)		Severe (A Lot)	
	Percentage	CI (95%)	Percentage	CI (95%)	Percentage	CI (95%)
Home	31.1	(29.6-32.6)	45.2	(43.6-46.7)	23.7	(22.4-25.0)
Work[1]	45.5	(43.9-47.2)	38.1	(36.6-39.7)	16.3	(15.1-17.6)
Social Life	26.2	(24.8-27.5)	45.8	(44.2-47.3)	28.1	(26.6-29.5)
Relationships	25.4	(24.0-26.7)	50.8	(49.2-52.4)	23.8	(22.4-25.2)

[1] Estimates for the work domain are restricted to persons between the ages of 18 and 70 years old. Respondents who indicated that they did not work were included in the "None (0)" category.

Mental Health Prescription Drug Use

Both NSDUH and CHIS ask about prescription drug use for mental health problems. The 2008 NSDUH respondents were asked: "During the past 12 months, did you take any prescription medication that was prescribed for you to treat a mental or emotional condition?" The 2007 CHIS asked respondents this question: "During the past 12 months, did you take any prescription medications, such as an antidepressant or sedative, almost daily for two weeks or more, for an emotional or personal problem?" For purposes of comparing CHIS with NSDUH estimates, rates are presented for prescription utilization among (1) the entire adult population, (2) those who took prescriptions and had a K6 score of 6 or greater, and (3) those who took prescriptions and had a K6 score of 13 or greater (SPD). (See Exhibit E-8.)

In 2008, NSDUH included numerous questions on inpatient and outpatient mental health service utilization, as well as on perceived need for mental health services. In CHIS 2007, all respondents were asked whether they had seen their primary care physician and/or another health professional in the past 12 months for problems with their "mental health, emotions, nerves, or use of alcohol or drugs." Another question asks, "In the past 12 months, have you seen any other professional, such as a counselor, psychiatrist, or social worker, for problems with your mental health, emotions, nerves, or your use of alcohol or drugs?" Due to differences in question wording and administration, we are unable to make comparisons between NSDUH and CHIS estimates for mental health treatment and perceived need for mental health services.

Exhibit E-8:
Past Year Prescription Drug Treatment AND Past Year K6 Score Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2006-2009

Took Prescription Medication for Mental Health	CHIS 2007[1]		NSDUH California 2006-2009[2]		NSDUH National 2006-2009[2]	
	Percentage	CI (95%)	Percentage	CI (95%)	Percentage	CI (95%)
Total	10.0	(9.5 – 10.4)	9.2	(8.3 – 10.2)	11.1	(10.9 – 11.4)
K6 >= 6	6.7	(6.3 – 7.15)	6.5	(5.8 – 7.3)	8.0	(7.8 – 8.2)
K6 >= 13 (has SPD)	3.2	(3.0 – 3.6)	3.1	(2.7 – 3.6)	4.0	(3.9 – 4.2)

1   The CHIS question asks respondents whether they took any prescription medications, such as an antidepressant or sedative, almost daily for two weeks or more for an emotional or personal problem.

2   The NSDUH question asks respondents whether they took any prescription medication that was prescribed for them to treat a mental or emotional condition.

Key Health Indicators

Both NSDUH and CHIS ask the general health question "Would you say your health in general is excellent, very good, good, fair, or poor?" Like CHIS, NSDUH also measures the presence of health conditions. In NSDUH, health conditions are listed (e.g., heart disease, diabetes, high blood pressure, and asthma), and the respondents then identify whether a doctor or other medical professional has ever told them that they had a particular listed condition. NSDUH also asks questions related to smoking cigarettes. In both NSDUH and CHIS, respondents are asked whether they have ever smoked 100 cigarettes in their entire life. Finally, NSDUH and CHIS both ask respondents about alcohol use. Estimates differ, however, as the NSDUH time frame asks about the past 30 days, while CHIS 2007 asks about the past year. (See Exhibit E-9.)

Exhibit E-9:
Health Conditions Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2006-2009

	CHIS 2007	NSDUH California 2006-2009[1]	NSDUH National 2006-2009[1]
General Health			
Excellent	19.5	25.1	23.2
Very Good	31.2	34.7	36.1
Good	30.1	27.1	27.5
Fair	14.9	11.3	10.5
Poor	4.2	1.9	2.8
Conditions (Ever Had)			
Asthma	13.0	11.3	10.7
Diabetes	7.8	7.4	8.1
Heart Disease	6.3	4.5	6.0
High Blood Pressure	26.1	18.4	23.0
Smoking			
Smoked 100 Cigarettes in Lifetime	38.0	38.2	46.0

1   Cases with unknown self-reported health, conditions, and smoking were excluded.

Demographics

NSDUH and CHIS have many similarities when comparing demographic characteristics. Both surveys collect basic demographic characteristics such as gender, marital status, and education. Also, NSDUH and CHIS both ask about current insurance status and whether the respondent was born in the United States. (See Exhibit E-10.)

Exhibit E-10:
Demographic Characteristics Among Persons Age 18 or Older, CHIS 2007 and NSDUH 2006-2009

	CHIS 2007	NSDUH California 2006-2009	NSDUH National 2006-2009
Gender			
Male	49.0	49.1	48.3
Female	51.0	50.9	51.7
Age			
18-25	15.3	16.0	14.7
26-34	17.8	17.1	15.9
35-49	31.6	29.7	28.8
50 +	35.2	37.2	40.6
Marital Status			
Married	55.0	52.8	55.1
Other (Widow, Divorced, Separated)	21.7	17.2	19.1
Never Married	23.3	30.0	25.8
Education			
Less than High School	19.3	17.3	15.9
High School Graduate	24.0	25.7	31.0
Some College	25.5	26.4	25.4
College Graduate	31.0	30.6	27.6
Race/Ethnicity			
Non-Hispanic			
White	48.8	46.5	68.9
Black/African American	6.1	6.2	11.5
Native Am/AK Native	.7	0.1	0.5
Native HI/Other Pacific Islander	.3	1.0	0.3
Asian	11.6	12.4	4.3
More than one race	1.5	1.6	1.1
Hispanic/Latino	30.7	32.1	13.4
Poverty Level[1]			
<100% FPL	13.9	12.6	11.7
100-199% FPL	16.9	20.5	18.9
>=200% FPL	69.1	66.9	69.5
Employment Status			
Full Time[2]	59.0	52.4	53.6
Part Time[2]	8.1	14.8	13.4
Unemployed[3]	3.9	4.9	4.2
Other[4]	28.9	27.9	28.7
Currently Insured			
Yes	84.0	81.8	84.6
No	16.0	18.2	15.4
Born in the U.S.			
Yes	66.5	66.4	84.5
No	33.5	33.6	15.5

1   NSDUH estimates of poverty level exclude persons age 18-22 residing in a college dormitory.

2   In the full-time and part-time categories in NSDUH, estimates of employed persons include those who are not at work in the past week based on usual employment.

3   The Unemployed category in NSDUH includes persons who did not have a job last week and were not looking for a job.

4   The "Other" employment category for NSDUH includes retired persons, disabled persons, homemakers, students, and other persons not in the labor force.

CHIS 2007 Methodology

The California Health Interview Survey (CHIS) is conducted by the UCLA Center for Health Policy Research and is the largest state health survey in the nation. Conducted every other year since 2001, CHIS is a telephone survey administered in five languages: English, Spanish, Chinese (Mandarin and Cantonese dialects), Korean, and Vietnamese. The survey, which covers every county in the state, uses a geographically stratified sample design to produce statistically stable estimates for adults at the county level in 41 individual counties, with the remaining 17 counties combined into three multi-county strata. As a survey of households, CHIS does not include persons living in group quarters (such as dormitories, nursing homes, or prisons) or the homeless population. CHIS has included a cell phone sample since 2007 in order to capture the rapidly growing population living in households that do not have a landline telephone. In 2007, a total of 51,048 adults, 3,638 adolescents, and 9,913 children were interviewed.[36]

To produce population estimates from the CHIS data, weights are applied to the sample data to account for the probability of selection and a variety of other factors, some resulting directly from the design and administration of the survey. The sample is weighted to represent the noninstitutionalized population for each sampling stratum and statewide. The data presented in this report are weighted to represent the adult California population living in households. For more detailed information on weighting, please see the CHIS 2007 Methodology Report Series.[37]

CHIS 2007 Mental Health Module

With the support of the California Department of Mental Health (DMH), the 2007 California Health Interview Survey (CHIS 2007) included a mental health module that was administered to all adults (age 18 and over). The CHIS 2007 adult mental health module included questions on mental health status, mental health disability, perceived need, use of mental health services, and potential barriers to mental health treatment (see CHIS 2007 Adult Mental Health Questions). All CHIS data cycles also collect extensive information for all age groups on health status, health conditions, health-related behaviors, health insurance coverage, access to health care services, and other health and health-related issues.

CHIS 2007
Adult Mental Health Questions

california
health
interview
survey

QA07_F1   The next questions are about how you have been feeling during the past 30 days.

About how often during the past 30 days did you feel nervous—Would you say all of the time, most of the time, some of the time, a little of the time, or none of the time?

AJ29

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F2   During the past 30 days, about how often did you feel hopeless—all of the time, most of the time, some of the time, a little of the time, or none of the time?

AJ30

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F3   During the past 30 days, about how often did you feel restless or fidgety?

AJ31

[INTERVIEWER NOTE: IF NEEDED SAY, "All of the time, most of the time, some of the time, a little of the time, or none of the time?"]

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F4   How often did you feel so depressed that nothing could cheer you up?

AJ32

[INTERVIEWER NOTE: IF NEEDED SAY, "All of the time, most of the time, some of the time, a little of the time, or none of the time?"]

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F5   During the past 30 days, about how often did you feel that everything was an effort?

AJ33

[INTERVIEWER NOTE: IF NEEDED SAY, *"All of the time, most of the time, some of the time, a little of the time, or none of the time?"]*

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F6   During the past 30 days, about how often did you feel worthless?

AJ34

[INTERVIEWER NOTE: IF NEEDED SAY, *"All of the time, most of the time, some of the time, a little of the time, or none of the time?"]*

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F7   Was there ever a month in the past 12 months when these feelings occurred more often than they did in the past 30 days?

AF62

YES 1
NO 2
REFUSED . . . .-7
DON'T KNOW . . . .-8

PROGRAMMING NOTE QA07_F8;
IF QA07_F7=1 THEN CONTINUE WITH QA07_F8;
ELSE SKIP TO PROGRAMMING NOTE QA07_F14;

QA07_F8   The next questions are about the one month in the past 12 months when you were at your worst emotionally.

During that same month, how often did you feel nervous—all of the time, most, some, a little, or none of the time?

AF63

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F9   During that same month, how often did you feel hopeless—all of the time, most, some, a little, or none of the time?

AF64

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F10   How often did you feel restless or fidgety?

AF65

[INTERVIEWER NOTE: IF NEEDED SAY, *"All of the time, most of the time, some of the time, a little of the time, or none of the time?"]*

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F11   How often did you feel so depressed that nothing could cheer you up?

AF66

[INTERVIEWER NOTE: IF NEEDED SAY, "All of the time, most of the time, some of the time, a little of the time, or none of the time?"]

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F12   How often did you feel that everything was an effort?

AF67

[INTERVIEWER NOTE: IF NEEDED SAY, "All of the time, most of the time, some of the time, a little of the time, or none of the time?"]

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F13   How often did you feel worthless?

AF68

[INTERVIEWER NOTE: IF NEEDED SAY, "All of the time, most of the time, some of the time, a little of the time, or none of the time?"]

ALL 1
MOST 2
SOME 3
A LITTLE 4
NONE 5
REFUSED . . . .-7
DON'T KNOW . . . .-8

PROGRAMMING NOTE QA07_F14intro;
IF (QA07_F1 + QA07_F2 + QA07_F3 + QA07_F4 + QA07_F5 + QA07_F6 > 5) OR
(QA07_F8 + QA07_F9 + QA07_F10 + QA07_F11 + QA07_F12 + QA07_F12 >5) OR
(IF QA07_F1-F6= ONE OUT OF RANGE RESPONSE AND F1-F6>4) OR
(IF QA07_F8-F12=ONE OUT OF RANGE RESPONSE AND F8-F6>4) THEN CONTINUE WITH QA07_F14;
IF QA07_F7=1 THEN CATI HIGHLIGHT {AGAIN, PLEASE};
ELSE SKIP TO QA07_F19;

QA07_F14intro
Think {again, please} about the month in the past 12 months when you were at your worst emotionally.

PROGRAMMING NOTE QA07_F14;
IF AGE>70 GO TO QA07_F15;
ELSE CONTINUE WITH QA07_F14;

QA07_F14   Did your emotions interfere a lot, some, or not at all with your performance at work?

AF69

A LOT 1
SOME 2
NOT AT ALL 3
DOES NOT WORK 4
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F15   Did your emotions interfere a lot, some, or not at all with your household chores?

AF70

A LOT 1
SOME 2
NOT AT ALL 3
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F16   Did your emotions interfere a lot, some, or not at all with your social life?

AF71

A LOT 1
SOME 2
NOT AT ALL 3
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F17   Did your emotions interfere a lot, some, or not at all with your relationship with friends and family?

AF72

A LOT 1
SOME 2
NOT AT ALL 3
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F18   Now think about the past 12 months. About how many days out of the past 365 days were you totally unable to work or carry out your normal activities because of your feeling nervous, depressed, or emotionally stressed?

AF73

[INTERVIEWER NOTE: IF NEEDED SAY, "You can use any number between 0 and 365 to answer."]

_____ NUMBER OF DAYS

REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F19   Was there ever a time during the past 12 months when you felt that you might need to see a professional because of problems with your mental health, emotions, or nerves or your use of alcohol or drugs?

AF81

YES 1
NO 2
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F20   In the past 12 months have you seen your primary care physician or social worker for problems with your mental health, emotions, or nerves or your use of alcohol or drugs?

AF74

YES 1
NO 2
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F21   In the past 12 months have you seen any other professional, such as a counselor, psychiatrist, or social worker for problems with your mental health, emotions, nerves or your use of alcohol or drugs?

AF75

YES 1
NO 2
REFUSED . . . .-7
DON'T KNOW . . . .-8

> **PROGRAMMING NOTE QA07_F22:**
> IF QA07_F20=1 OR QA07_F21 = 1 THEN CONTINUE WITH QA07_F22;
> ELSE SKIP TO QA07_F27;

QA07_F22   Did you seek help for your mental or emotional health or for an alcohol or drug problem?

AF76

MENTAL/EMOTIONAL HEALTH 1
ALCOHOL/DRUG PROBLEM 2
BOTH MENTAL & ALCOHOL/DRUG .3
REFUSED . . . .-7
DON'T KNOW . . . .-8

> **PROGRAMMING NOTE QA07_F23:**
> IF QA07_F22=1, DISPLAY: "mental or emotional health?"
> IF QA07_F22=2, DISPLAY: "use of alcohol or drugs?"
> IF QA07_F22=3, DISPLAY: "mental or emotional health and your use of alcohol or drugs?"
> ELSE SKIP TO QA07_F24;

QA07_F23   In the past 12 months, how many visits did you make to a professional for problems with your {mental or emotional health?/ use of alcohol or drugs?/mental or emotional health and your use of alcohol or drugs?} Do not count overnight hospital stays.

AF77

_____ NUMBER OF VISITS

REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F24   Are you still receiving treatment for these problems from one or more of these providers?

AF78

YES 1 . . . .
    [GO TO QA07_F27]
NO 2
REFUSED . . . .-7
    [GO TO QA07_F27]
DON'T KNOW . . . .-8
    [GO TO QA07_F27]

QA07_F25   Did you complete the recommended full course of treatment?

AF79

YES 1
    [GO TO QA07_F27]
NO 2
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F26   What is the MAIN REASON you are no longer receiving treatment?

AF80

GOT BETTER/NO LONGER NEEDED .1
NOT GETTING BETTER 2
WANTED TO HANDLE
     PROBLEM ON OWN 3
BAD EXPERIENCES
     WITH TREATMENT 4
LACK OF TIME/TRANSPORTATION . .5
TOO EXPENSIVE 6
INSURANCE DOES NOT COVER 7
OTHER (SPECIFY) 8
REFUSED . . . .-7
DON'T KNOW . . . .-8

QA07_F27   During the past 12 months, did you take any prescription medications, such as an antidepressant or sedative, almost daily for two weeks or more, for an emotional or personal problem?

AJ5

YES 1
NO 2
REFUSED . . . .-7
DON'T KNOW . . . .-8

> **PROGRAMING NOTE QA07_F28:**
> IF QA07_F19 = 1 AND (QA07_F20 NE 1 AND QA07_F21 NE 1) (PERCEIVED NEED, BUT NO TREATMENT) CONTINUE; ELSE SKIP TO QA07_G1;

QA07_F28   Here are some reasons people have for not seeking help even when they think they might need it. Please tell me "yes" or "no" for whether each statement applies to why you did not see a professional.

You were concerned about the cost of treatment.

AF82

```
YES  ...............................1
NO ................................2
REFUSED  .........................-7
DON'T KNOW  ....................-8
```

QA07_F29   You did not feel comfortable talking with a professional about your personal problems.

AF83

```
YES  ...............................1
NO ................................2
REFUSED  .........................-7
DON'T KNOW  ....................-8
```

QA07_F30   You were concerned about what would happen if someone found out you had a problem.

AF84

```
YES  ...............................1
NO ................................2
REFUSED  .........................-7
DON'T KNOW  ....................-8
```

QA07_F31   You had a hard time getting an appointment.

AF85

```
YES  ...............................1
NO ................................2
REFUSED  .........................-7
DON'T KNOW  ....................-8
```

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