Executive Summary

A growing number of youth in California experience mental illnesses and substance use disorders. The incidence of major depressive episodes in adolescents has increased over the last five years, as has the national rate of alcohol and drug use. Unfortunately, access to mental health and SUD treatment falls far short: A majority of youth do not receive treatment.

Behavioral health conditions are illnesses of pediatric origin. Half of all mental illnesses appear by the mid-teens and three-quarters by the mid-20s. Many people first use alcohol, marijuana, and other drugs during adolescence, and studies have shown that the earlier people start, the greater the risk of later developing a substance use disorder.

For adolescents, mental illnesses and substance use disorders often occur together. As many as 60% to 75% of adolescents with substance use disorders are estimated to have a co-occurring mental illness. In some cases, substance use may begin as a strategy for self-medicating to manage psychiatric symptoms.

Earlier this year, CHCF published two Almanac reports: Mental Health in California: For Too Many, Care Not There and Substance Use in California: A Look at Addiction and Treatment. This report focuses on youth-specific data from those two publications to paint a picture of California youth and the behavioral health conditions they face.

KEY FINDINGS:

- The prevalence of serious emotional disturbance in children and adolescents varied by income, with much higher rates at lower income levels.
- The rate of depression has been steadily increasing among teens in California and the US. One in eight teens reported a major depressive episode in 2014–2015, up from one in 11 in 2011–2012. Two-thirds of adolescents with major depressive episodes did not get treatment.
- One in nine high school girls in California attempted suicide in 2015.
- By 11th grade, about half of California students have used alcohol and almost 40% have used marijuana.
- Nine percent of adolescents 12 to 17 reported using alcohol in the past month. Five percent reported binge use.

Notes: There is no single definition of “youth” or “adolescent.” Depending on the source, this report includes data for people under age 18 or under age 21, people ages 12 to 17, and high school students. Binge alcohol use, unless otherwise defined, is drinking five or more drinks for males, or four or more drinks for females, on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least one day in the past 30 days.

Mental Health Disorders Defined

Serious emotional disturbance (SED) is a categorization for children 17 and under who currently have, or at any time during the past year have had, a mental, behavioral, or emotional disorder resulting in functional impairment that substantially limits functioning in family, school, or community activities.

A major depressive episode (MDE) is a period of at least two weeks when a child or adult has experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. Approximately 70% of children with MDE have functional limitations that meet the criteria for SED.


Substance Use Disorders Defined

The American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM)* provides standard definitions of substance use disorder for the United States. These have changed over the last five years.

**Substance use disorder** is a problematic pattern of substance use leading to clinically significant impairment or distress as manifested by at least 2 of 11 symptoms occurring in a 12-month period. Presence of 2 to 3 symptoms is considered *mild*; presence of 4 to 5 symptoms is considered *moderate*; presence of 6 or more symptoms is considered *severe*. (DSM-5)

**Abuse of or dependence on alcohol or illicit drugs** is a maladaptive pattern of substance use leading to clinically significant impairment or distress occurring within a 12-month period. (DSM-IV TR)

**Substance abuse** is a pattern of substance use that leads to the failure to fulfill responsibilities at work, home, or school and/or repeated use in situations in which it is physically hazardous. (DSM-IV TR)

**Substance dependence** may include a user’s increase in tolerance, withdrawal syndrome, unsuccessful attempts to cut down or quit using, loss of control over substance use, and consistent use of more substances and for longer than intended. (DSM-IV TR)

**Binge alcohol use**, unless otherwise defined, is drinking five or more drinks for males, or four or more drinks for females, on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least one day in the past 30 days.

**Illicit drugs** are marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, methamphetamine, or prescription-type drugs used nonmedically.

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*The current version is DSM-5. Some of the measures for prevalence presented in this document reflect the diagnostic terminology in use at the time of data collection, which was the DSM-IV-TR. The definition for illicit drugs includes marijuana, which was legalized for use by adults 21 and older in California effective January 1, 2018.


In 2014, one in 13 California children and adolescents (those 17 and younger) had a serious emotional disturbance (SED). An SED is defined as a diagnosable mental, behavioral, or emotional disorder in the past year, which resulted in functional impairment that substantially interferes with or limits functioning in family, school, or community activities.

Notes: See page 3 for a full definition of serious emotional disturbance (SED). See methodology for a description of how this estimate was developed.

### Children and Adolescents with SED, by Region

**California, 2014**

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Coast</td>
<td>7.5%</td>
</tr>
<tr>
<td>Greater Bay Area</td>
<td>7.1%</td>
</tr>
<tr>
<td>Inland Empire</td>
<td>7.8%</td>
</tr>
<tr>
<td>Los Angeles County</td>
<td>7.8%</td>
</tr>
<tr>
<td>Northern and Sierra</td>
<td>7.8%</td>
</tr>
<tr>
<td>Orange County</td>
<td>7.3%</td>
</tr>
<tr>
<td>Sacramento Area</td>
<td>7.5%</td>
</tr>
<tr>
<td>San Diego Area</td>
<td>7.5%</td>
</tr>
<tr>
<td>San Joaquin Valley</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

**CA AVERAGE:**  7.6%

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Notes: See page 3 for a full definition of serious emotional disturbance (SED). See methodology for a description of how these estimates were developed. See appendix for a map of counties included in each region.

Children and Adolescents with SED, by Race/Ethnicity
California, 2014

PERCENTAGE OF POPULATION AGE 17 AND UNDER

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>6.9%</td>
</tr>
<tr>
<td>Asian</td>
<td>7.0%</td>
</tr>
<tr>
<td>Multiracial (non-Latino)</td>
<td>7.1%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>7.6%</td>
</tr>
<tr>
<td>Native American</td>
<td>7.9%</td>
</tr>
<tr>
<td>African American</td>
<td>8.1%</td>
</tr>
<tr>
<td>Latino</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

CA AVERAGE: 7.6%

Notes: See page 3 for a full definition of serious emotional disturbance (SED). See methodology for a description of how these estimates were developed.

Serious emotional disturbance was more common in children from lower-income families. One in 10 children below the poverty level suffered from a serious emotional disturbance.

Notes: See page 3 for a full definition of serious emotional disturbance (SED). FPL is federal poverty level; 100% of FPL was defined in 2014 as an annual income of $11,670 for an individual and $23,850 for a family of four. Excludes 2% of children for whom the level of income could not be determined. See methodology for a description of how these estimates were developed.

Depression, one of the most prevalent mental health disorders, has been steadily increasing among teens in California and the US. In 2014–2015, one in eight teens reported experiencing a major depressive episode (MDE) in the past year. Approximately 70% of teens who have an MDE experience functional limitations that meet criteria for a serious emotional disturbance (not shown).

*Healthy People is a set of goals and objectives with 10-year targets designed to guide national health promotion and disease prevention efforts, [www.healthypeople.gov](http://www.healthypeople.gov).

Notes: MDE is major depressive episode. Respondents with unknown past-year MDE data were excluded. State estimates are based on a small area estimation procedure in which state-level National Survey on Drug Use and Health (NSDUH) data from two consecutive survey years are combined with local-area county and census block group / tract-level data from the state to provide more precise state estimates.

Suicide Attempts Among High School Students by Gender and Need for Treatment, California vs. United States, 2015

Among high school students, self-reported rates of attempted suicide in the prior year were over twice as high for females as for males nationally and in California. One in nine high school girls in California attempted suicide in 2015. Attempts resulting in an injury, poisoning, or overdose that had to be treated by a doctor or nurse were higher for males than for females in California, but did not show the same pattern nationally.

*Healthy People is a set of goals and objectives with 10-year targets designed to guide national health promotion and disease prevention efforts, [www.healthypeople.gov](http://www.healthypeople.gov).

Children and Adolescents with SED and SUD  
California, 2011 to 2015, Selected Years

PERCENTAGE OF POPULATION AGE 17 AND UNDER USING COUNTY MENTAL HEALTH SERVICES

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>10.5%</td>
</tr>
<tr>
<td>2013</td>
<td>9.2%</td>
</tr>
<tr>
<td>2015</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

Mental disorders frequently co-occur with each other and with substance use disorders. Nearly 10% of children and adolescents with serious emotional disturbance who received county mental health services had a co-occurring substance use disorder.

Notes: See page 3 for a full definition of serious emotional disturbance (SED). Substance use disorder (SUD) is a problematic pattern of substance use leading to clinically significant impairment or distress as manifested by two or more diagnostic symptoms occurring in a 12-month period. County health services are provided for youth with SED who have Medi-Cal, are uninsured, or have other health insurance coverage.

SUD in the Past Year, by Drug Type and Age Group
California, 2015 to 2016

PERCENTAGE OF POPULATION AGE 12 TO 25

<table>
<thead>
<tr>
<th>Type of Substance Use Disorder</th>
<th>All Ages</th>
<th>12 to 17</th>
<th>18 to 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Substance</td>
<td>8.5%</td>
<td>5.1%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>10.6%</td>
<td>2.3%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Illicit Drugs</td>
<td>3.3%</td>
<td>3.9%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Pain Medication</td>
<td>7.9%</td>
<td>0.9%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Notes: SUD (substance use disorder) is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, methamphetamine, and nonmedical use of prescription drugs. Pain medication is referred to as pain reliever in the survey. See page 4 for further definitions.

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, CALIFORNIA Table 20 Selected Drug Use, Past Year Alcohol Use Disorder, and Past Year Mental Health Measures in California, by Age Group: Percentages, Annual Averages Based on 2015–2016 NSDUH accessed from www.samhsa.gov on April 12, 2018.

Young adults 18 to 25 had the highest rates of substance use disorder (SUD).

In the US, nine in ten adults who met clinical criteria for an SUD began smoking, drinking, or using drugs before age 18.*

*Adolescent Substance Use: America’s #1 Public Health Problem, National Center on Addiction and Substance Abuse at Columbia University, June 2011, www.centeronaddiction.org.
Marijuana was the most commonly used illicit drug among adolescents and young adults. About one-third of 18- to 25-year-olds and 13% of youth 12 to 17 reported use of marijuana in the past year. Chronic use of marijuana during adolescence is associated with impaired brain development, lower educational achievement, and reduced psychosocial functioning.*

*California Proposition 64 (2016) legalized recreational use of marijuana for adults over age 21, effective January 1, 2018. †Heroin use for age 12 to 17 was 0.004%.

Notes: Pain medication is referred to as pain reliever in the survey. See page 4 for further definitions.

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, CALIFORNIA Table 20 Selected Drug Use, Past Year Alcohol Use Disorder, and Past Year Mental Health Measures in California, by Age Group: Percentages, Annual Averages Based on 2015–2016 NSDUH accessed from www.samhsa.gov on April 12, 2018.

Alcohol Use, by Age Group
California, 2015 to 2016

PERCENTAGE OF POPULATION AGE 12 TO 25

9.1% 12 to 17
5.1% 18 to 25

54.1%
36.0%

% Alcohol Use
% Binge Alcohol Use

Past month...

Note: *Binge alcohol use* is defined as drinking five or more drinks for males or four or more drinks for females on the same occasion (i.e., at the same time or within a couple hours of each other) on at least 1 day in the past 30 days.

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, CALIFORNIA Table 20 Selected Drug Use, Past Year Alcohol Use Disorder, and Past Year Mental Health Measures in California, by Age Group: Percentages, Annual Averages Based on 2015–2016 NSDUH accessed from www.samhsa.gov on April 12, 2018.
Adolescent Lifetime Use of Substances
by Type and School Grade, California, 2013 to 2015

<table>
<thead>
<tr>
<th>Grade</th>
<th>Alcohol</th>
<th>Cold/Cough Medicine</th>
<th>Marijuana</th>
<th>Cocaine</th>
<th>Prescription Pain Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 7</td>
<td>13.3%</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Grade 9</td>
<td>32.3%</td>
<td>43.6%</td>
<td>23.1%</td>
<td>3.7%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Grade 11</td>
<td>51.7%</td>
<td>43.5%</td>
<td>37.9%</td>
<td>6.4%</td>
<td>21.8%</td>
</tr>
</tbody>
</table>

Notes: Includes students who indicated that they used substances to get high or for other than medical reasons. Cocaine includes methamphetamines or any amphetamines. Prescription pain medications (referred to as painkillers in the source) include tranquilizers or sedatives, diet pills, or other prescription stimulants. N/A is not asked.

Source: Gregory Austin et al., School Climate, Substance Use, and Student Well-Being in California, 2013–2015: Results of the Fifteenth Biennial Statewide Student Survey, Grades 7, 9, and 11, WestEd Health & Human Development Program, 2016, surveydata.wested.org (PDF).
## Adolescent Lifetime Use of Substances
### California, 2013 to 2015

**PERCENTAGE OF 11TH GRADE PUBLIC SCHOOL STUDENTS THAT USED ... AT LEAST FOUR TIMES TO GET HIGH**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>33.0%</td>
</tr>
<tr>
<td>Cold/Cough Medicines</td>
<td>31.2%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>25.1%</td>
</tr>
<tr>
<td>Prescription Pain Medications</td>
<td>8.2%</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>3.4%</td>
</tr>
<tr>
<td>Inhalants</td>
<td>3.6%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

Notes: Includes students who indicated that they used substances to get high or for other than medical reasons. **Cold/cough medicines** includes other over-the-counter medicines. **Prescription pain medications** (referred to as painkillers in the source) include tranquilizers or sedatives, diet pills, or other prescription stimulants. **Ecstasy** includes LSD and other psychedelics. **Cocaine** includes methamphetamines or any amphetamines.

Nearly one in five California Latino and white high school students reported drinking alcohol four or more times in their lifetimes. Of all racial/ethnic groups, Asian students were least likely to report having used either alcohol or marijuana four or more times.

### Adolescent Lifetime Use of Alcohol and Marijuana by Race/Ethnicity, California, 2013 to 2015

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Alcohol</th>
<th>Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>7.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td>African American</td>
<td>12.7%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Native Hawaiian / Pacific Islander</td>
<td>14.9%</td>
<td>12.7%</td>
</tr>
<tr>
<td>American Indian / Alaska Native</td>
<td>16.0%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>17.9%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Latino</td>
<td>18.4%</td>
<td>15.0%</td>
</tr>
<tr>
<td>White</td>
<td>19.2%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Other</td>
<td>11.6%</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

Treatment of Mental Health and Substance Use

Mental health conditions and substance use disorders are often chronic and recurring illnesses. While management can be challenging, there are treatments that work — but early identification and intervention is critical. Little data are available on treatment of youth behavioral health conditions in California. Studies have shown, however, that youth are severely underserved:

- Nationally, less than half of adolescents with psychiatric disorders received any kind of treatment in the past year.
- Disparities in access are widespread: Adolescents who are homeless, in the child welfare and juvenile justice systems, living in rural areas, or who are lesbian, gay, bisexual, and/or transgender were least likely to receive mental health services.
- Few people received early intervention: Delay in treatment ranges from 6 to 8 years for mood disorders, and 9 to 23 years for anxiety disorders.
- Fewer than 10% of youth who need substance use disorder services receive them. Reasons include lack of easy access, lack of a workforce trained to work with youth, stigma, and family and cultural barriers.

A majority of adolescents who experienced a major depressive episode (MDE) did not receive treatment. On average, between 2011 and 2015, about one-third of California adolescents who reported experiencing symptoms of an MDE during the past year received treatment. This was lower than the national rate of 38.9% (not shown).

Notes: Estimates are annual averages based on combined 2011–2015 NSDUH data. MDE is major depressive episode, as determined by survey respondents’ self-report of symptoms indicative of this diagnosis. Respondents with unknown past-year MDE or treatment data were excluded.

Use of Medi-Cal Specialty Mental Health Services
Adults and Children/Adolescents, California, FY 2012 to FY 2015

Children and youth have traditionally accounted for approximately half of all users of Medi-Cal specialty mental health services. Between 2012 and 2015, both groups grew, but the number of adults grew considerably faster. Expansion of Medi-Cal eligibility to additional adults in 2014, and the transition of children with Healthy Families coverage into Medi-Cal in 2013, contributed to this growth.

Notes: Fiscal year (FY) refers to July 1 of previous year through June 30 of stated year. Specialty mental health services are Medi-Cal entitlement services for adults and children that meet medical necessity criteria, which for children consist of having a specific covered diagnosis, functional impairment, and meeting impairment and intervention criteria consistent with the federal Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) mandate of the Medicaid Act.

Mental Health and Substance Use
Treatment

Average expenditures per Medi-Cal specialty mental health service user were at least 33% higher for children than for adults. Expenditures for children (9%) grew at a slower rate than expenditures for adults (22%) between fiscal years 2012 and 2015.

Notes: Specialty mental health services are Medi-Cal entitlement services for adults and children that meet medical necessity criteria, which for children consist of having a specific covered diagnosis, functional impairment, and meeting impairment and intervention criteria consistent with the federal Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) mandate of the Medicaid Act. Approved claims for specialty mental health as of August 3, 2016. Fiscal year (FY) refers to July 1 of previous year through June 30 of stated year.

Use of Medi-Cal Specialty Mental Health Services
Children/Adolescents, by Demographic, California, FY 2015

PERCENTAGE OF SERVICE USERS AGE 20 AND YOUNGER WHO ARE...

Gender
- Male: 55%
- Female: 45%

Age
- 12 to 17: 42%
- 6 to 11: 34%
- 0 to 5: 12%
- 18 to 20: 12%

Race/Ethnicity
- White: 25%
- Latino: 51%
- African American: 11%
- Other: 9%
- Native American: 1%
- Asian/Pacific Islander: 3%

Notes: Specialty mental health services are Medi-Cal entitlement services for adults and children that meet medical necessity criteria, which for children consist of having a specific covered diagnosis, functional impairment, and meeting impairment and intervention criteria consistent with the federal Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) mandate of the Medicaid Act. Fiscal year (FY) refers to July 1 of previous year through June 30 of stated year.

Follow-Up After Hospitalization
Children/Adolescents Using Medi-Cal SMHS, California, FY 2015

PERCENTAGE OF PSYCHIATRIC INPATIENT HOSPITAL DISCHARGES AGE 20 AND YOUNGER RECEIVING OUTPATIENT SERVICES

- **Within 7 Days**: 75%
- **Within 30 Days**: 58%

Notes:
- Specialty mental health services (SMHS) are Medi-Cal entitlement services for adults and children that meet medical necessity criteria, which for children consist of having a specific covered diagnosis, functional impairment, and meeting impairment and intervention criteria consistent with the federal Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) mandate of the Medicaid Act. Excludes data on beneficiaries that received follow-up services from a non-Medi-Cal community-based program or in jail or prison. Fiscal year (FY) refers to July 1 of previous year through June 30 of stated year.

Mental Health and Substance Use Treatments

Close to 60% of child/adolescent psychiatric discharges accessed outpatient services within seven days. However, one-quarter of child/adolescent discharges had not accessed outpatient services within a month.
Admission Rate, State- or County-Contracted SUD Programs by Age Group, California, FY 2014

UNIQUE CLIENTS PER 10,000 POPULATION

Notes: Unduplicated count of individuals for their first admission for substance use disorder (SUD) treatment during fiscal year 2014 to publicly monitored alcohol and other drug treatment programs.

Sources: Author calculations based on Statewide Overview Report 2015: Data Notebook Project on Behavioral Health in California, California Mental Health Planning Council, December 15, 2015, www.dhcs.ca.gov (PDF); Report P-3: State and County Total Population Projections by Race/Ethnicity and Detailed Age, 2010 through 2060 (as of July 1), California Department of Finance.

Mental Health and Substance Use Treatment

The rate of admission to state- or county-contracted substance use disorder (SUD) programs for youth under 18 was far lower than for other age groups. An estimated 60% to 75% of youth with SUD also need treatment for co-occurring mental health disorders.*

* Co-Occurring Disorders, youth.gov, accessed October 30, 2018, youth.gov
There was significant geographic variation in the availability of acute psychiatric inpatient beds in California: 46 counties had no psychiatric beds for children in 2015, and 25 counties had no acute psychiatric beds for adults. When inpatient facilities are far from where people live, it is more difficult for families to participate in treatment and for facilities to plan post-discharge care.

Notes:

Acute psychiatric inpatient beds excludes beds in California state hospitals. It includes psychiatric units in general acute care hospitals (including city and county hospitals), beds in acute psychiatric hospitals, and beds in psychiatric health facilities.

Source: California’s Acute Psychiatric Bed Loss, California Hospital Association, October 25, 2016.
Methodology for Estimates of Prevalence of SED

Prevalence estimates for serious emotional disturbance were developed by Dr. Charles Holzer using a sociodemographic risk model. These estimates are the basis for prevalence slides in this publication and in Mental Health in California: For Too Many, Care Not There.

Dr. Holzer’s estimates of serious emotional disturbance (SED) in children are based on studies commissioned by Substance Abuse and Mental Health Services’ Center for Mental Health Services and published in the Federal Register. The Center for Mental Health Services’ definition of SED is “persons from birth up to age 18, who currently or at any time during the past year have had a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria specified within DSM-IVR that resulted in functional impairment which substantially interferes with or limits the child’s role or functioning in family, school, or community activities. . . . Functional impairment is defined as ‘difficulties that substantially interfere with or limit a child or adolescent from achieving or maintaining one or more developmentally appropriate social, behavioral, cognitive, communicative, or adaptive skill.”

Dr. Holzer’s estimates are based on estimated rates of SED prevalence for children in families above and below the federal poverty level applied to the poverty and nonpoverty populations in each county using the 2015 ACS adjusted to the population estimates of the California Department of Finance, excluding children living in institutional or group living settings.

Dr. Holzer’s estimates were used by the former California Department of Mental Health to allocate Mental Health Services Act revenue based on prevalence and by the California Department of Health Care Services in its California Mental Health and Substance Use Needs Assessment Final Report.
Appendix: California Counties Included in Regions

<table>
<thead>
<tr>
<th>REGION</th>
<th>COUNTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Coast</td>
<td>Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura</td>
</tr>
<tr>
<td>Greater Bay Area</td>
<td>Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma</td>
</tr>
<tr>
<td>Inland Empire</td>
<td>Riverside, San Bernardino</td>
</tr>
<tr>
<td>Los Angeles County</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>Northern and Sierra</td>
<td>Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Plumas, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yuba</td>
</tr>
<tr>
<td>Orange County</td>
<td>Orange</td>
</tr>
<tr>
<td>Sacramento Area</td>
<td>El Dorado, Placer, Sacramento, Yolo</td>
</tr>
<tr>
<td>San Diego Area</td>
<td>Imperial, San Diego</td>
</tr>
<tr>
<td>San Joaquin Valley</td>
<td>Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare</td>
</tr>
</tbody>
</table>