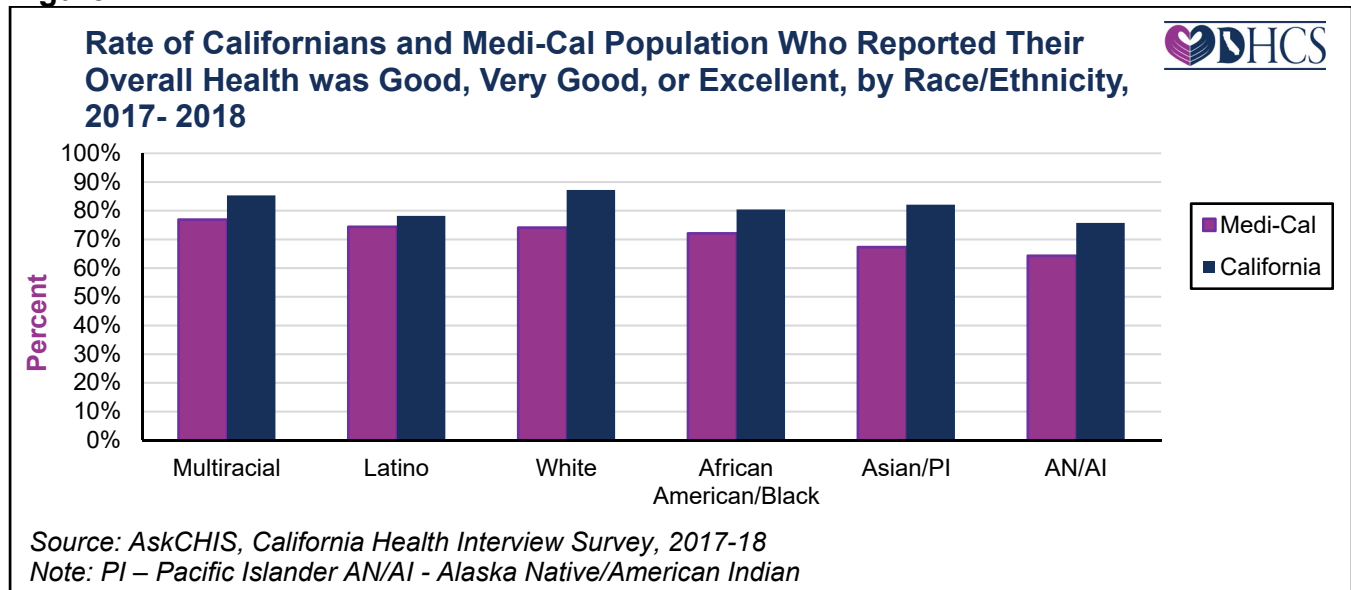## Acknowledgements/Contributors

Overall Health Status

Self-rated overall health status has been shown to be a strong predictor of morbidity and mortality.[1-2] Research indicates a strong relationship between poor self-rated health status and the onset of chronic conditions such as stroke, arthritis, heart disease, diabetes, and lung disease.[2] Poor self-rated health status has also been associated with risk factors for chronic disease (e.g. smoking and mental distress).[3] Self-rated health is valid across different races and ethnicities thereby allowing for comparisons of overall health between these groups.[4] Understanding disparities in self-rated overall health status can be useful in guiding intervention and prevention strategies in order to improve health status and avert more serious consequences.[5]

In California, Whites were more likely to report that their overall health status was good, very good, or excellent (87.2%), while in the Medi-Cal population the Multiracial group had the highest rate (76.9%). Regardless of race/ethnicity, the Medi-Cal population reported lower rates than the California population.

Figure

Rate of Californians and Medi-Cal Population Who Reported Their Overall Health was Good, Very Good, or Excellent, by Race/Ethnicity, 2017- 2018

Source: AskCHIS, California Health Interview Survey, 2017-18
Note: PI – Pacific Islander AN/AI - Alaska Native/American Indian

Link to Overall Health Status 2013 Fact Sheet

1. Bamia C, Orfanos P, Juerges H, et al. Self-rated health and all-cause and cause-specific mortality of older adults: Individual data meta-analysis of prospective cohort studies in the CHANCES Consortium. *Maturitas*. 2017;103:37-44.
2. Latham K, Peek CW. Self-rated health and morbidity onset among late midlife U.S. adults. *J Gerontol B Psychol Sci Soc Sci*. 2013;68(1):107-116.
3. Rohrer, JE, Arif A, Denison A, Young R, Adamson S. Overall self-rated health as an outcome indicator in primary care. *J Eval Clin Pract*. 2007;13(6):882-888.
4. Allen CD, McNeely CA, Orme, JG. Self-rated health across race, ethnicity, and immigration status for US adolescents and young adults. *J Adolesc Health*. 2016; 58(1):47-56.
5. Centers for Disease Control and Prevention (CDC). *Health-Related Quality of Life (HRQOL)*. October 31, 2018. http://www.cdc.gov/hrqol/concept.htm. Accessed July 20, 2020.

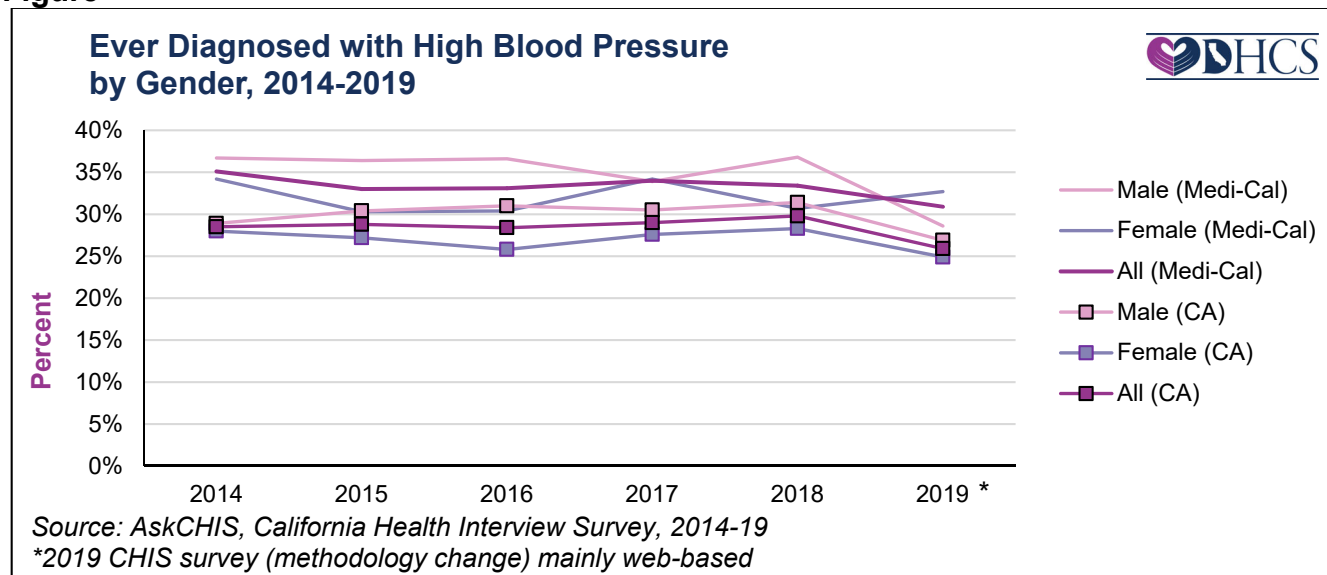**Link to Data Sources and Methods**

Hypertension by Gender

Hypertension, or high blood pressure (HBP), increases the risk for two of the leading causes of death in the United States, heart disease and stroke.[1] HBP is often coined the "silent killer" as it does not have symptoms and can only be diagnosed by being measured.[2] Men tend to have a higher prevalence of HBP than women until menopause, after which women's rate of HBP increases and eventually surpasses that of men.[2-3] Women also experience specific types of HBP, such as pregnancy HBP and post-menopausal HBP, which are leading causes of morbidity and mortality for these groups.[3] Research has also found that men have less awareness of having HBP than women.[3] It is important to understand these disparities as it can help inform efforts to increase awareness and control of HBP.[4]

In 2019, the rate of ever being diagnosed with HBP was 25.9% for California and 30.9% for the Medi-Cal population. From 2014 to 2019, California females had the lowest rates of all the groups (see Figure). Medi-Cal males have consistently reported the highest rates of all the groups, except for a drop in 2017 and 2019 in which Medi-Cal females slightly surpassed Medi-Cal males. Regardless of the year, the Medi-Cal population had higher rates of ever being diagnosed with HBP than the California population.

Figure

Ever Diagnosed with High Blood Pressure by Gender, 2014-2019

Source: AskCHIS, California Health Interview Survey, 2014-19
*2019 CHIS survey (methodology change) mainly web-based

1. Centers for Disease Control and Prevention. High Blood Pressure. https://www.cdc.gov/bloodpressure/about.htm. Published May 19, 2020. Accessed August 20, 2020.
2. Ramirez LA, Sullivan JC. Sex differences in hypertension: Where we have been and where we are going. *Am J Hypertens*. 2018;31(12):1247-1254. doi:10.1093/ajh/hpy148
3. Reckelhoff, Jane F. Gender differences in hypertension. *Curr Opin Nephrol Hypertens*. 2018:27(3):176-181. doi: 10.1097/MNH.0000000000000404
4. Balfour PC Jr, Rodriguez CJ, Ferdinand KC. The role of hypertension in race-ethnic disparities in cardiovascular disease. *Curr Cardiovasc Risk Rep*. 2015;9(4):18. doi:10.1007/s12170-015-0446-5

Link to Data Sources and Methods
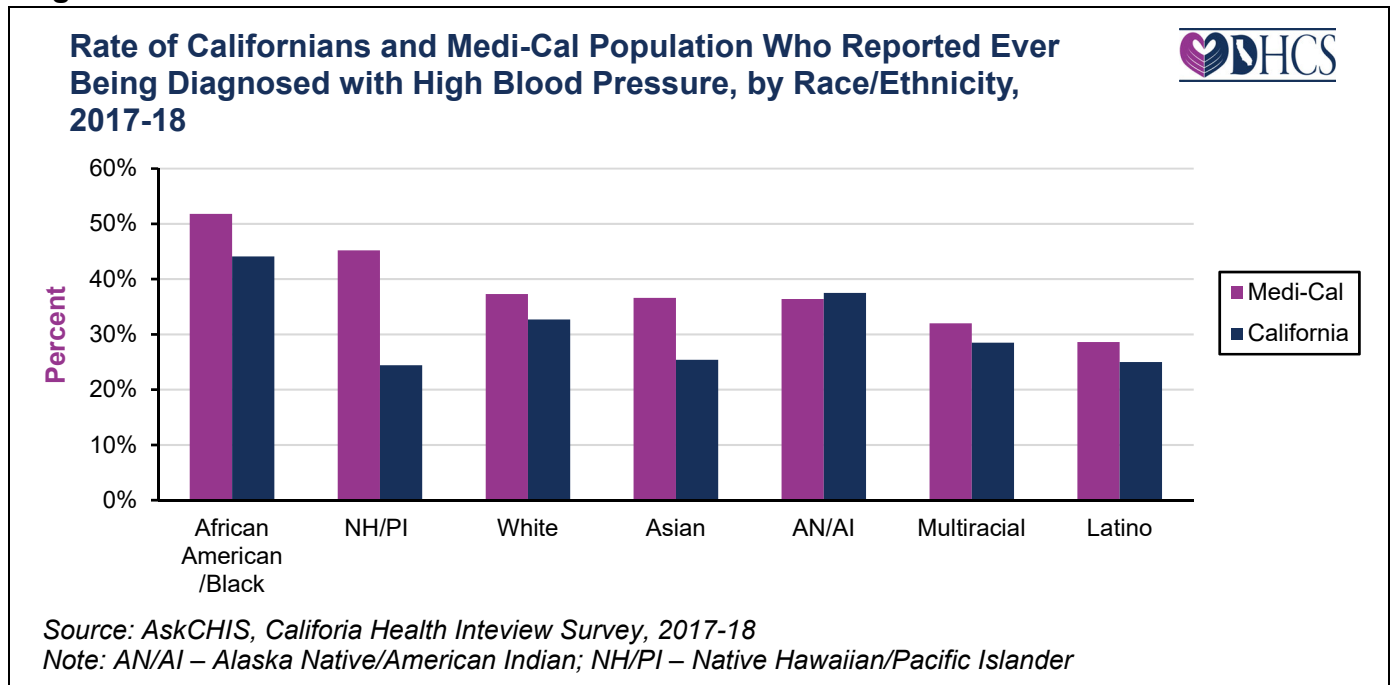
Hypertension by Race/Ethnicity

Hypertension, or high blood pressure (HBP), increases the risk for other health conditions, such as cardiovascular disease and chronic kidney disease.[1] HBP often has no symptoms, and it can only be caught by being measured.[1] Research has found that in the United States, HBP prevalence is highest among African Americans/Blacks, and related morbidity and mortality risks are higher for African Americans/Blacks than for Whites.[2-4] Hispanics and Asians have varying prevalence of HBP that is often similar to or less than that of Whites, but controlled HBP is highest among Whites.[2-3] Understanding these disparities can allow for concentrated efforts to increase awareness and control of HBP in these groups.[5]

In both the California and Medi-Cal population, African Americans/Blacks were more likely to report ever being diagnosed with HBP (44.1%; 51.8%, respectively), (see Figure). The Medi-Cal population reported higher rates of being diagnosed with HBP than the general California population for every race/ethnicity except AN/AI.

Figure

Rate of Californians and Medi-Cal Population Who Reported Ever Being Diagnosed with High Blood Pressure, by Race/Ethnicity, 2017-18

Source: AskCHIS, Califoria Health Inteview Survey, 2017-18
Note: AN/AI – Alaska Native/American Indian; NH/PI – Native Hawaiian/Pacific Islander

1. Centers for Disease Control and Prevention. High Blood Pressure. https://www.cdc.gov/bloodpressure/about.htm. Published May 19, 2020. Accessed August 20, 2020.
2. Ostchega Y, et al.. Hypertension prevalence among adults aged 18 and over: United States, 2017-2018. NCHS data brief, no 364. Hyattsville, MD: National Center for Health Statistics. 2020.
3. Fryar CD, et al. Hypertension prevalence among adults aged 18 and over: United States, 2015-2016. NCHS data brief, no 289. Hyattsville, MD: National Center for Health Statistics. 2017.
4. Lackland DT. Racial differences in hypertension: implications for high blood pressure management. *Am J Med Sci*. 2014;348(2):135-138. doi:10.1097/MAJ.0000000000000308
5. Balfour PC Jr, Rodriguez CJ, Ferdinand KC. The Role of Hypertension in Race-Ethnic Disparities in Cardiovascular Disease. *Curr Cardiovasc Risk Rep*. 2015;9(4):18. doi:10.1007/s12170-015-0446-5

Link to Data Sources and Methods
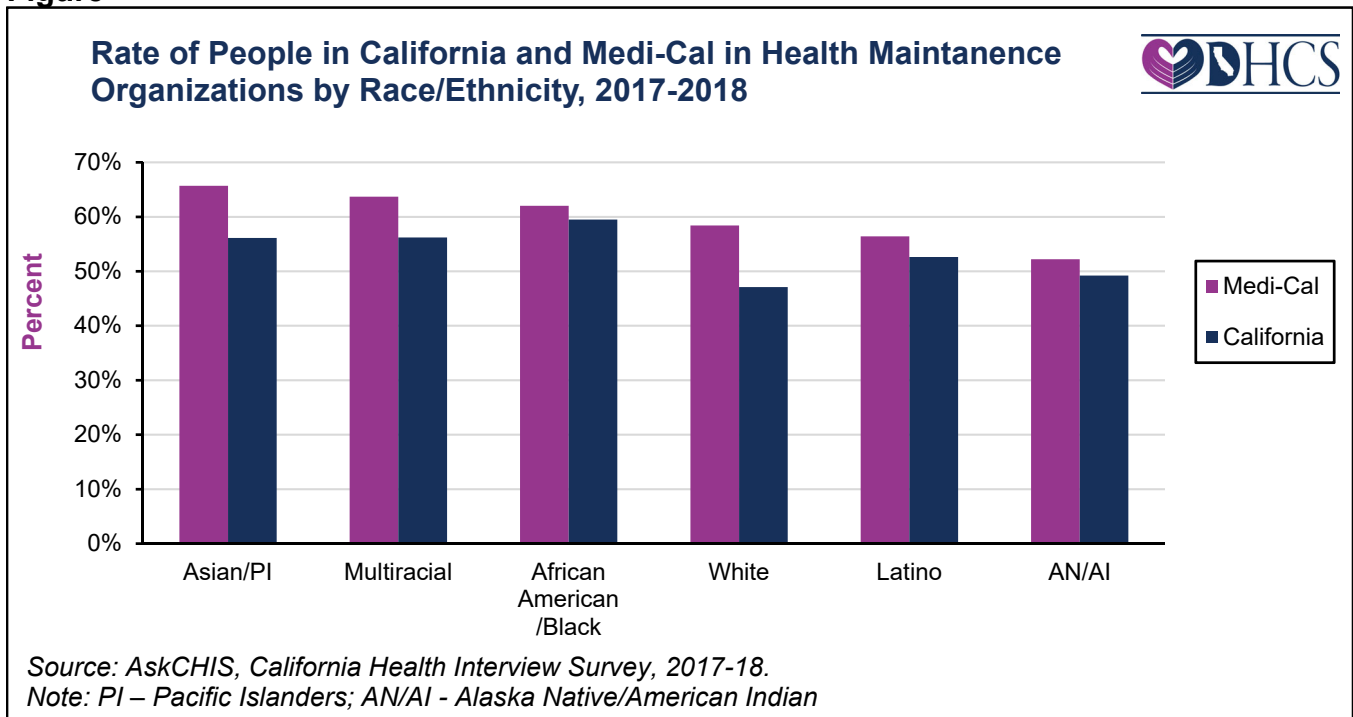
Health Maintenance Organizations

In the past few decades, managed care has become the main payment model for health care in many parts of the United States.[1] More than 70 million Americans have been enrolled in Health Maintenance Organizations (HMOs), a type of managed care plan.[1] HMOs have a network of providers that treat patients for a pre-paid cost, with goals of improved care coordination, lower costs, and increased emphasis on preventative care.[2] The evidence also supports that managed care plans are successful in reducing health disparities. For instance, research has found HMOs to be effective in minimizing racial and ethnic disparities in rates of mammography.[4]

In California, African Americans/Blacks were more likely to report being in an HMO, while in the Medi-Cal population, Asians/Pacific Islanders were most likely (see Figure). Data from 2011-2012 also showed that African Americans/Blacks reported being in an HMO at the highest rates and Whites reported at the lowest rates in California (see Health Maintenance Organization 2013). Regardless of race/ethnicity, the Medi-Cal population reported higher rates of being in an HMO than the general California population.

Figure

Rate of People in California and Medi-Cal in Health Maintanence Organizations by Race/Ethnicity, 2017-2018

Source: AskCHIS, California Health Interview Survey, 2017-18.
Note: PI – Pacific Islanders; AN/AI - Alaska Native/American Indian

Link to Health Maintenance Organizations 2013 Fact Sheet

1. Cauchi R. Managed Care, Market Reports and the States. https://www.ncsl.org/research/health/managed-care-and-the-states.aspx. Published July 7, 2017. Accessed August 30, 2020.
2. Falkson SR, Srinivasan VN. Health Maintenance Organization (HMO). In: StatPearls. Treasure Island (FL): StatPearls Publishing; May 2, 2020.
3. Ayanian JZ, et al. Racial and ethnic differences in use of mammography between Medicare Advantage and traditional Medicare. J Natl Cancer Inst. 2013;105(24):1891-1896. doi:10.1093/jnci/djt333

Link to Data Sources and Methods
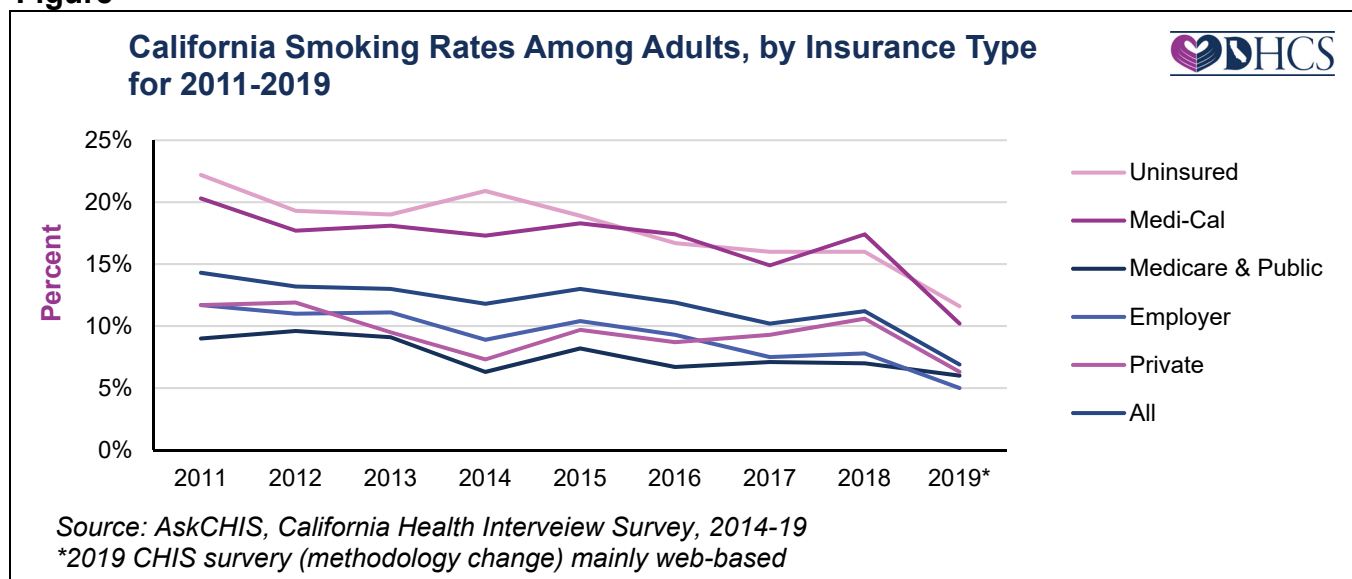
Smoking Prevalence By Insurance

While smoking prevalence has declined over the years, it remains a costly national and state public health issue. 1 in 5 deaths each year in the United States (U.S.) is attributed to smoking, and California has the largest number of smokers in U.S.[1] The U.S. economic cost of smoking is estimated at more than $300 billion in direct health care costs and lost productivity.[2] In California, smoking-attributable illnesses are 11% of Medi-Cal medical expenditures.[3] Research has shown higher rates of smoking among those in Medicaid and those uninsured, and in some cases, these smoking rates are more than twice that of adults with private health insurance.[4]

Smoking is a risk factor for various chronic diseases and cancers; however, quitting can mitigate and in some cases eliminate these health risks.[1] Research has found that while many smokers want to quit, it takes multiple quit attempts before being successful.[1] However, those who are able to quit smoking before age 40 decrease their risk of dying from smoking-related diseases by 90%.[5]

In 2019, the smoking rate for Californian adults was 7%, compared to 10% for the Medi-Cal population. From 2011 to 2019, the adult smoking rates were highest among those without insurance, except in 2016 and 2018 when the Medi-Cal group had the highest rate.

Figure

California Smoking Rates Among Adults, by Insurance Type for 2011-2019

Source: AskCHIS, California Health Interveiew Survey, 2014-19
*2019 CHIS survery (methodology change) mainly web-based

1. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2018*, Sacramento, CA: California Department of Public Health, 2018.
2. Jamal A, et al. Current cigarette smoking among adults — United States, 2005–2014. MMWR Morb Mortal Wkly Rep 2015;64:1233-1240.
3. Department of Health Care Services. *Quitting Smoking Just Got Easier for Medi-Cal Members.* 2013. https://www.dhcs.ca.gov/individuals/Documents/MIQS%20Patient%20Flyers/MIQS_News_Release_9-30-13.pdf. Published Sept 13, 2020. Accessed Aug. 26, 2020.
4. Centers of Disease Prevention and Control. *Smoking Rates for Uninsured and Adults on Medicaid more than Twice those for Adults with Private Health Insurance.* https://www.cdc.gov/media/releases/2015/p1112-smoking-rates.html. Accessed Aug. 8, 2020.
5. Jha P, Ramasundarahettige C, Landsman V, et al. 21st Century hazards of smoking and benefits of cessation in the United States. New England JN of Med, 2013;368(4):341-50.

Link to Data Sources and Methods
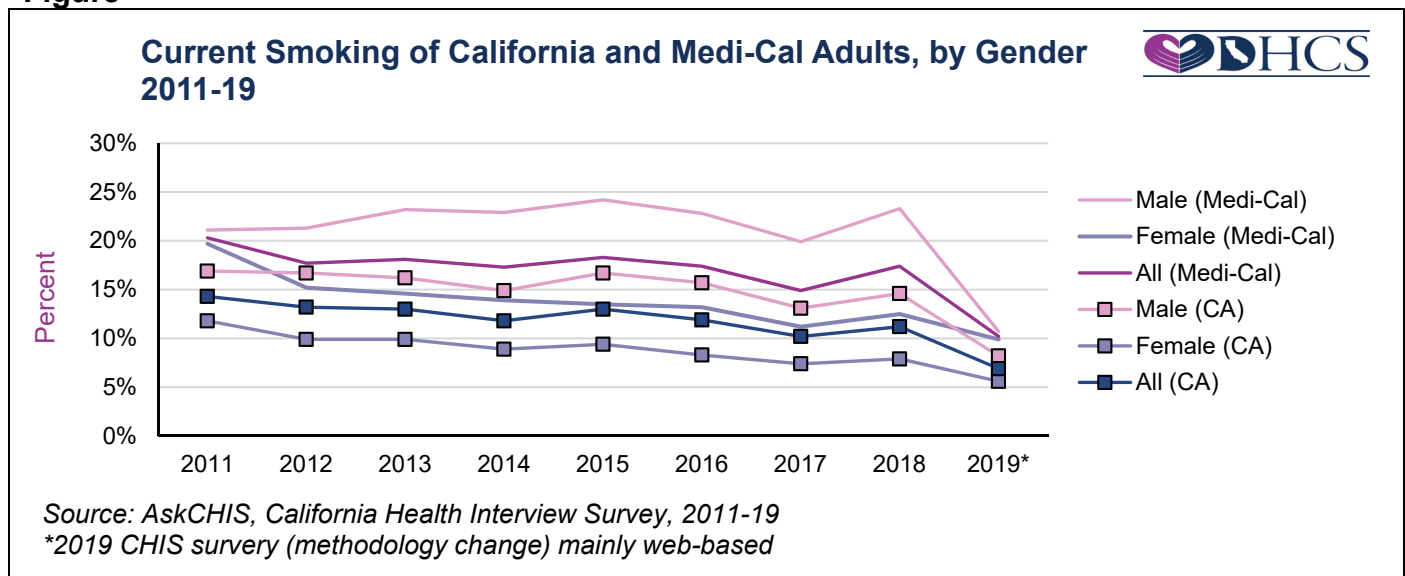
Smoking Prevalence by Gender

Smoking remains a national and state public health issue, with 1 in 5 deaths each year in the United States (U.S.) attributed to smoking,[1] and the number of Californian smokers at close to 4 million, exceeding the entire populations of 21 U.S. states.[2] In California, tobacco is one of the leading causes of mortality and morbidity.[4] Smoking in the U.S. causes 87% of lung cancer deaths, 32% of coronary heart deaths, and 79% of all cases of chronic obstructive pulmonary diseases (COPD).[1] However, quitting before the age of 40 can reduce the risk of dying from a smoking-related disease by about 90%.[5]

There continues to be a gender difference in smoking rates, with men reporting higher rates than women (5-10% difference).[3] Over the past 50 years, women's risk of smoking related diseases has increased, and now more women are dying from COPD than men.

In 2019, the smoking rate for California was 7%, while it was 10% for the Medi-Cal population. Males consistently had higher smoking rates than their female counterparts in both the Medi-Cal and the general California population regardless of the year.

Figure

Current Smoking of California and Medi-Cal Adults, by Gender 2011-19

Legend:
- Male (Medi-Cal)
- Female (Medi-Cal)
- All (Medi-Cal)
- Male (CA)
- Female (CA)
- All (CA)

Source: AskCHIS, California Health Interview Survey, 2011-19
*2019 CHIS survery (methodology change) mainly web-based

1. U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Accessed Jan 2017.
2. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2015*, Sacramento, CA: California Department of Public Health, 2015.
3. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2016*, Sacramento, CA: California Department of Public Health, 2016.
4. Department of Health Care Services. *Quitting Smoking Just Got Easier for Medi-Cal Members.* 2013. https://www.dhcs.ca.gov/individuals/Documents/MIQS%20Patient%20Flyers/MIQS_News_Release_9-30-13.pdf. Accessed Aug. 26, 2020.
5. Centers for Disease Control and Prevention. Tobacco-related mortality. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/index.htm. Published May 15, 2017. Accessed April 20 2018.

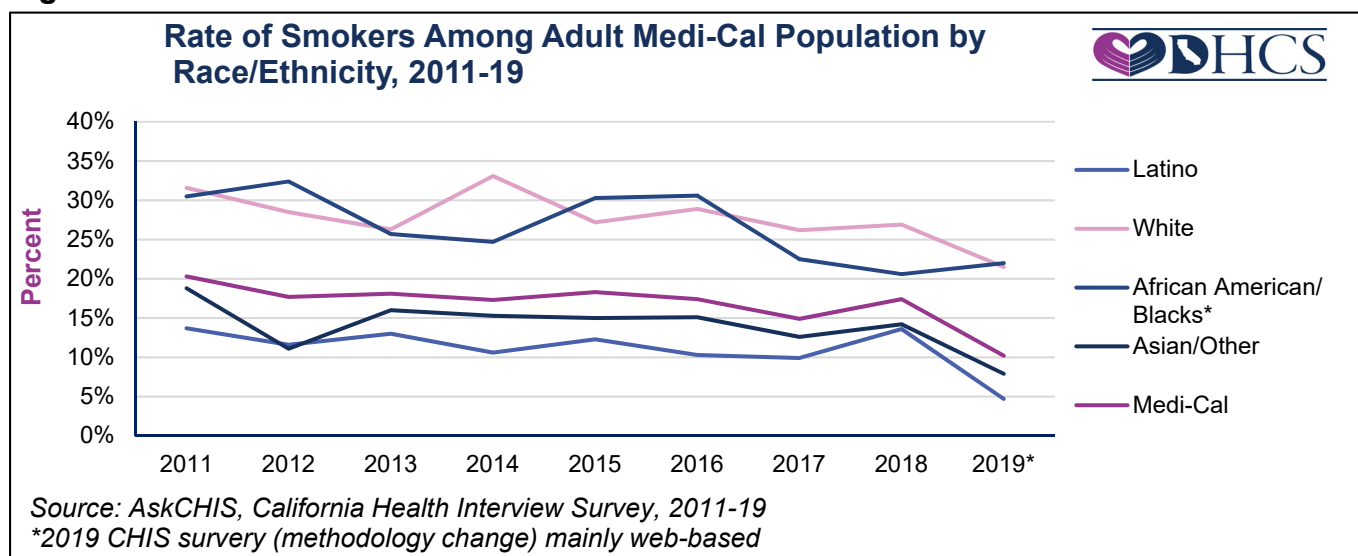**Link to Data Sources and Methods**

Smoking Prevalence by Race/Ethnicity

Smoking prevalence continues to be a national public health issue, with 1 in 5 deaths each year in the United States (U.S.) attributed to smoking.[1] 10 times as many people in the U.S. have died from smoking as have in all U.S. wars.[1] Smoking increases the risk of coronary heart disease (2-4 times), stroke (2-4 times), and lung cancer (25-25.7 times).[2]

Smoking in California continues to be a public health issue, with the number of Californian smokers at close to 4 million, a figure which exceeds the entire population of 21 U.S. states.[3] From 1998 to 2014, the smoking prevalence in California declined by 51%.[4] However, tobacco remains the leading cause of mortality and morbidity in California.[2] When looking at racial/ethnic differences, the data shows that African Americans/Blacks and Native Americans have higher smoking rates compared to other race/ethnicities.[3]

In 2018, the smoking rate for California was 11.2%, while it was 17.4% for the Medi-Cal population. From 2011 to 2018, in the Medi-Cal population, there were racial/ethnic smoking differences, with Whites and African Americans/Blacks having higher rates and Latinos having the lowest rate regardless of the year (see Figure).

Figure

Source: AskCHIS, California Health Interview Survey, 2011-19
*2019 CHIS survery (methodology change) mainly web-based

1. U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Accessed January 4, 2017.
2. Centers for Disease Control and Prevention. Smoking and Tobacco. Health Effects of Cigarettes. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm. Published May 15, 2017. Accessed January 5, 2017.
3. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2015*, Sacramento, CA: California Department of Public Health, 2015
4. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2016*, Sacramento, CA: California Department of Public Health, 2016

Link to Data Sources and Methods
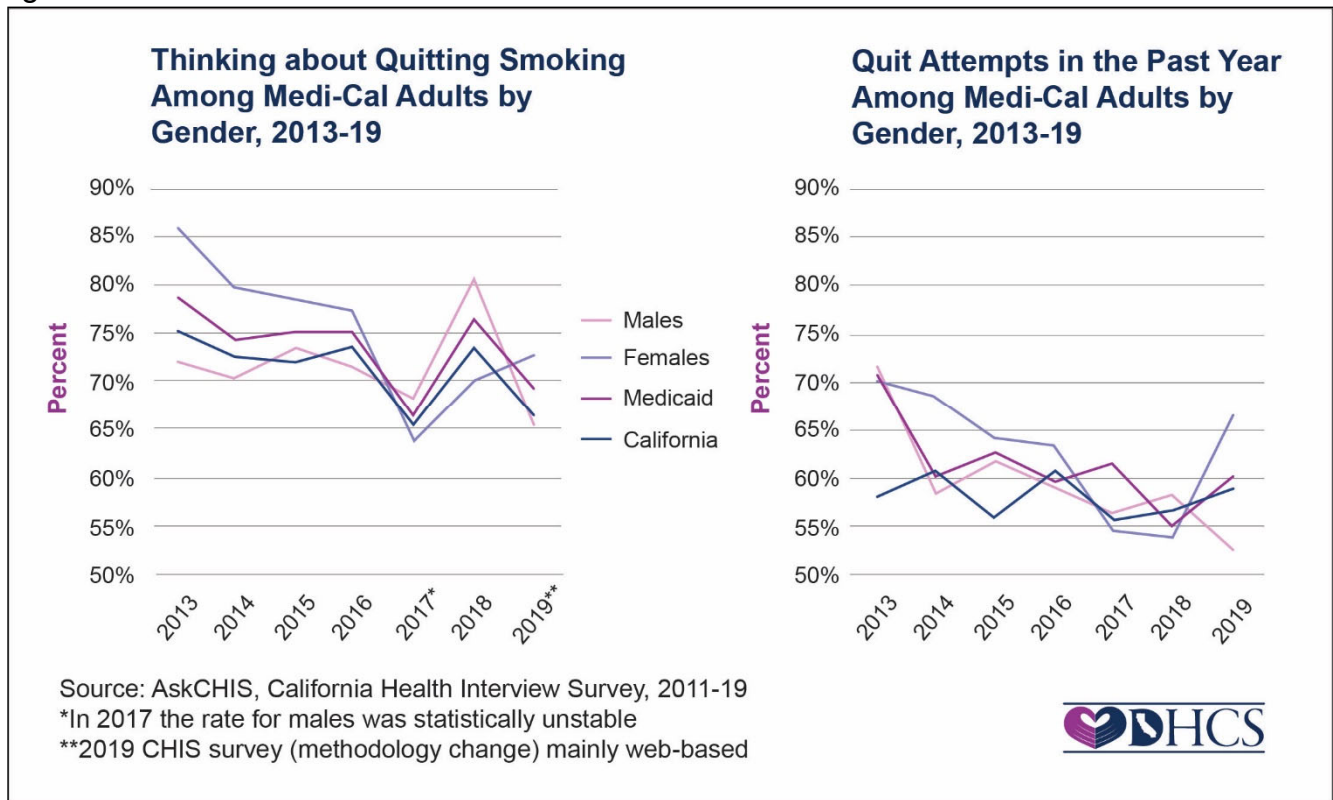
Smoking Cessation By Gender

Smoking cessation efforts have succeeded in lowering the prevalence of smoking in the United States (U.S.), [1] and in California, which decreased by 57% between 1988 to 2017 (24% to 10%).[2] However, smoking continues to be a national and state public health issues with 1 in 5 deaths annually in the U.S. attributed to smoking and the number of California smokers exceeding the population of 23 U.S. states.[2] Smoking prevalence continues to vary by gender with men reporting higher smoking rates than women.[2]

Smoking is associated with various health risks, including heart disease, lung cancer, and stroke,[1] although quitting can decrease people's disease risk.[3] Research has indicated that if no one smoked then one of every three cancer deaths in the U.S. would not happen.[3]

Among smokers, cessation efforts were mostly higher for Medi-Cal adults than California adults. Smoking cessation efforts among Medi-Cal adults varied by gender and decreased over time.

Figure

Source: AskCHIS, California Health Interview Survey, 2011-19
*In 2017 the rate for males was statistically unstable
**2019 CHIS survey (methodology change) mainly web-based

1. U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Accessed Jan 2017.
2. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2019*, Sacramento, CA: California Department of Public Health, 2019.
3. Centers for Disease Control and Prevention. Health Effects of Cigarette Smoking. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/ Published Apr. 28, 2018. Accessed Aug. 24 2018.

Link to Data Sources and Methods
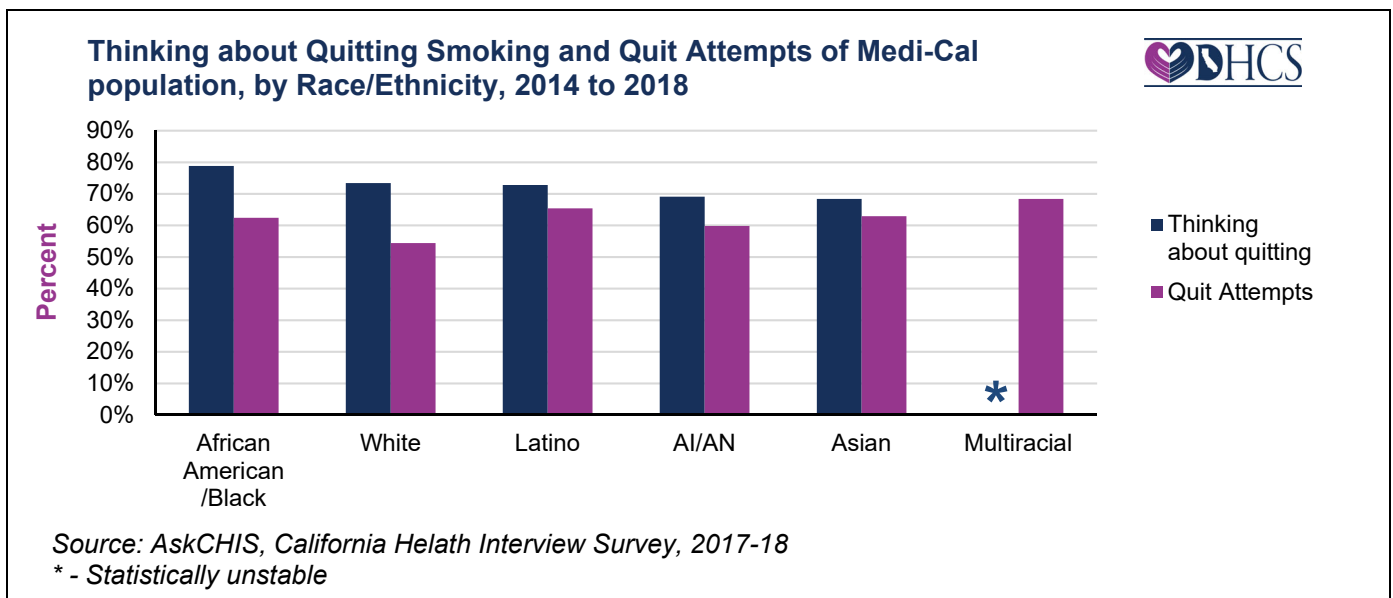
Smoking Cessation By Race/Ethnicity

National and state smoking cessation programs have been successful at decreasing smoking prevalence in the United States (U.S.) and California. However, smoking prevalence continues to be a national and state public health issue, with 1,300 deaths a day in the U.S. attributed to smoking[2] and California being the state with the highest amount of adult smokers.[1] The rate of smoking varies by race/ethnicity in California with higher rates among American Indians/Alaska Natives and African Americans/Blacks and lower rates among Hispanics and Asians/Pacific Islanders.[2]

Smoking is a risk factor for various chronic diseases, heart disease, and lung cancer; however, quitting can mediate and, in some cases, eliminate these health risks.[2] African Americans/Blacks have reported higher rates of wanting to quit than others groups.[3] Those who are able to quit smoking before age 40 decrease their risk of dying from smoking-related diseases by 90%.[4]

For Medi-Cal adults, rates were higher for thinking about quitting in the next six months than making a quit attempt. Also, African Americans/Blacks reported the highest rates of thinking about quitting both in Medi-Cal and California in general. There were not enough people in the Native Hawaiian/Pacific Islander group to report their rates (see figure).

Figure

Thinking about Quitting Smoking and Quit Attempts of Medi-Cal population, by Race/Ethnicity, 2014 to 2018

Source: AskCHIS, California Helath Interview Survey, 2017-18
* - Statistically unstable

1. California Department of Public Health, California Tobacco Control Program, *California Tobacco Facts and Figures, 2016*, Sacramento, CA: California Department of Public Health, 2016.
2. U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Accessed Jul 27 2018.
3. Centers for Disease Control and Prevention. Quitting smoking among adults- United States, 2001-2010. MMWR, 2011;60(44):1513-9. . https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6044a2.htm . Accessed Aug 3 2018.
4. Jha P, Ramasundarahettige C, landsman V, et al. 21st Century hazards of smoking and benefits of cessation in the United States. New England JN of Med, 2013;368(4):341-50.

Link to Data Sources and Methods

Chlamydia Screening by Race/Ethnicity

Chlamydia trachomatis is the most common sexually transmitted infection in the United States (US) with over 1.7 million cases reported to the Centers for Disease Control and Prevention in 2018.[1] In California, the chlamydia infection rate is highest among women aged 15 to 24.[2] Notably, the majority of cases are asymptomatic; thus, the true burden of chlamydia infection is underestimated.[3] In 2014, the US Preventive Services Task Force updated its previous recommendation on chlamydia screening for all sexually active females who are 24 years or younger and reserved screening for women 25 and older based on behavior risk criteria.[4] The Family Planning, Access, Care and Treatment (Family PACT) Program updated policy according to this recommendation and continually monitors chlamydia-screening rates within the Program.

In Fiscal Year (FY) 2018-19, 71% of sexually active women aged 24 years and younger had at least one chlamydia screening test in the Family PACT Program. In women aged 24 and under, African American/Black women had the highest chlamydia screening rate (75%) with Hispanics (70%) having the lowest (see Figure 1).

Figure 1. Chlamydia Screening in Female Family PACT Clients by Age and Ethnicity, FY 2018-19
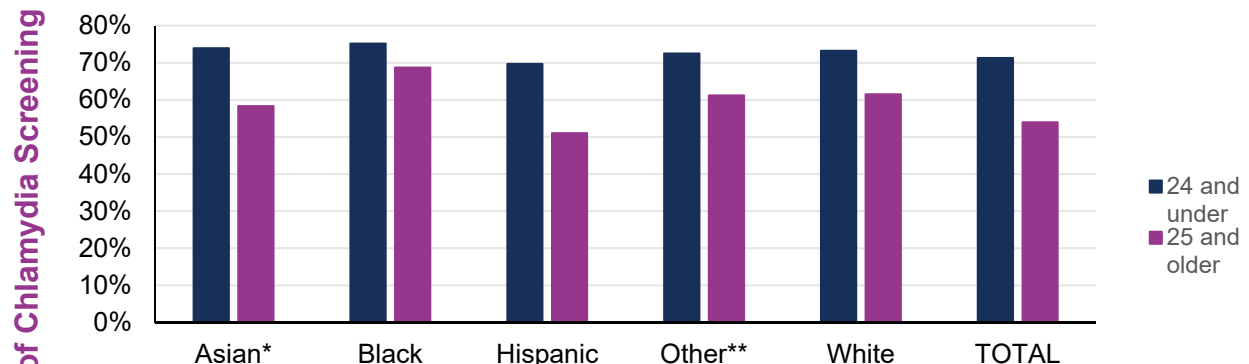
Data Source: Medi-Cal Management Information System/ Decision Support System | Date Represented: FY 2018-19 | Date Downloaded: 12 October 2020
*Asian include Pacific Islanders and Filipinos; ** Other include American Indian and Alaskan Native

1. CDC. Sexually Transmitted Disease Surveillance, 2018. Atlanta, GA: Department of Health and Human Services; October 2019. Accessed on October 7, 2020
2. Torrone E, Papp J, Weinstock H. Prevalence of *Chlamydia trachomatis* genital infection among persons aged 14–39 years — United States, 2007–2012. *MMWR Morb Mortal Wkly Rep*. 2014;63(38):834–838.
3. Stamm WE. *Chlamydia trachomatis* infections in the adult. In: Holmes KK, Sparling PF, Stamm WE, et al., eds. *Sexually Transmitted Diseases.* 4th ed. New York, NY: McGraw-Hill; 2008:575–606
4. U.S. Preventive Services Task Force. (2019). Final recommendation statement: Chlamydia and gonorrhea: Screening. https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/chlamydia-and-gonorrhea-screeningThis link is external to health.gov. (Accessed on October 7, 2020

Link to Data Sources and Methods

Data Sources and Methods

This document provides a summary of the data sources and methods that were used for each of the *Health Disparities in the Medi-Cal Population* fact sheets. The first section provides details about the data sources and methods for fact sheets based on survey data. The second section describes the Medi-Cal Management Information System/Decision Support System (MIS/DSS) data warehouse and how indicators were constructed from fee-for-service claims and managed care encounter data. It also covers the remaining fact sheets that use data sources produced by California government agencies [i.e., Office of Statewide Health Planning and Development (OSHPD), California Department of Public Health (CDPH), and California Department of Education (CDE)]. The last section provides details about defining race and ethnicity categories for the fact sheets.

Many of the fact sheets replicate the *Let's Get Healthy California Task Force (LGHCTF) Final Report* in the California Medi-Cal population.[1] The methods and indicators used for these fact sheets have numerous similarities to those used in the *LGHCTF Final Report*. First, it was possible to replicate most of the fact sheets that were based on survey data given the availability of information about Medi-Cal members. Thus, for these indicators, direct comparisons were possible between the overall California rate and the Medi-Cal population. Second, with the exception of the Preventable Hospitalizations fact sheet, rates were not adjusted for age or sex. In addition to the similarities, there were a few notable differences between the fact sheets using non-survey data and some of the indicators in the *LGHCTF Final Report*. Specifically, some of the data were not available to create indicators for the Medi-Cal population. Thus, proxy indicators were created that were conceptually similar, albeit different than the original indicators published in the report. In addition, for some indicators, comparisons had to be made between Medi-Cal and non-Medi-Cal rates rather than the overall California population rate.

There are also fact sheets based on quality measures from the Center for Medicaid and Medicare (CMS) Adult Medicaid Quality grant. In these fact sheets, comparisons were made between Medi-Cal and its national counterpart Medicaid, and with national and California-based commercial plans.

Finally, in contrast to the survey data with known or limited data quality problems, some of the non-survey indicators had more uncertainty regarding data quality. Details about these issues are found in specific sections below.

Survey Data

Some of the data for these fact sheets were collected from three Computer-Assisted Telephone Interview (CATI) surveys with a similar methodology that allows generalizability to the California state population:
1) California Health Interview Survey (CHIS), 2) Behavioral Risk Factor Surveillance Survey (BRFSS), and 3) Maternal and Infant Health Assessment (MIHA). Where appropriate, data from CHIS, BRFSS, and MIHA was weighted using the 2000 and 2010 Census to reflect the population of California (see MIHA section for specifics).

Because the age, race, and sex characteristics of respondents differ somewhat from the actual age, race, and sex characteristics of the California population, surveys use weighting

adjustment to improve the representativeness of their samples. CHIS was administered to youth aged 12 to 17 and adults over age 18. California BRFSS was administered to adults over the age of 18. The MIHA was administered to female adults over the age of 18 who had a live birth in California. Following is a description of the surveys and other data sources used for these fact sheets.

There are limitations when analyzing survey data. There is a certain amount of respondent bias inherent in any study; study participants are usually cooperative and wish to please the interviewer. Data from anonymous and confidential telephone and mail surveys cannot be verified and may be imprecise, especially for more sensitive topics.

The cross-sectional designs of these surveys also have some inherent limitations. Foremost of these is the inability to determine causation between variables, occurrences, and events. Additionally, while most of the survey scales, indices, and questions were previously validated, the surveys as a whole were not tested for validity or reliability. Following is a description of the surveys and other data sources used for these fact sheets.

California Health Interview Survey

CHIS is the largest state health survey and one of the largest health surveys in the United States. It started as a random-digit dial (RDD) telephone survey of households drawn from every county in California. In 2019, there was a decline of telephone surveys due to low response rates and cultural shifts in telephone use and this motivated UCLA Center for Health Policy Research change the methodology of the survey. Now the survey is a mixed-mode survey design using an address-based sampling (ABS) frame with a mail push-to-web survey followed by a telephone nonresponse follow-up. More details about the methodology change can be accessed here. The survey collects information from approximately 50,000 households, and it has been administered every two years since 2001. The CHIS sample is representative of the state's non-institutionalized population living in households. CHIS interviews one sample adult in each household. In households with children, CHIS interviews one adolescent aged 12 to 17 and obtains information for one child under age 12 by interviewing the adult who is most knowledgeable about the child.

The sample size for the 2019 CHIS was 25,691 (21,835 adults, 3,009 children, and 847 adolescents). In general, the adult sample size for each year is over 20,000 adults and varies for children and adolescents. CHIS sample size information for each individual year can be found here. The Medi-Cal sample for CHIS included people who reported having Medi-Cal only or Medi-Cal and Medicare. CHIS covers a wide range of topics, including health status, health conditions, health-related behaviors, health insurance coverage, access to and use of health care services, and the health and development of children and adolescents. To capture the rich diversity of the California population, interviews were conducted in five languages: English, Spanish, Chinese (Mandarin and Cantonese dialects), Vietnamese, and Korean. These languages were chosen based on analysis of 2000 Census data to identify the languages that would cover the largest number of Californians in the CHIS sample that either did not speak English or did not speak English well enough to otherwise participate.

CHIS is a collaborative project of the University of California, Los Angeles (UCLA) Center for Health Policy Research, CDPH, DHCS, and the Public Health Institute. CHIS is based at the UCLA Center for Health Policy Research in Los Angeles, California. Funding for CHIS comes from state and federal agencies and from several private foundations. Questions and topics

in the surveys may vary, dependent on funders' interests. To obtain the data or further information about this survey, interested parties may call (866) 275- 2447 or email chis@ucla.edu. Below is a list of the fact sheets that used the AskCHIS website to access the CHIS data.

Adolescent Fruit and Vegetable Consumption, Adolescent Physical Activity, Adolescent Sugar Sweetened Beverages Consumption, Adult Soda and Sweetened Beverages Consumption, Adolescent Obesity, Overall Health Status, Walking, Biking, Skating to School, Health Maintenance Organizations, Overall Health Status 2017-18, Hypertension by Race/Ethnicity, Hypertension by Gender, and Health Maintenance Organizations 2017-18,

Smoking Prevalence by Insurance, Smoking Prevalence by Race-Ethnicity, Smoking Cessation by Gender, Smoking Cessation by Race-Ethnicity, Smoking Prevalence by Gender

Data from CHIS were drawn from the public AskCHIS website [indicated in the fact sheet listed above as: California Health Interview Survey (AskCHIS)].

Neighborhood Safety Fact Sheet
CHIS information was not available on the public website (AskCHIS) for the Neighborhood Safety fact sheet; therefore, data were analyzed using public use CHIS data sets.

California Behavioral Risk Factor Surveillance Survey

BRFSS is the world's largest, on-going telephone health survey system, tracking health conditions and risk behaviors among adults over age 18 in the United States annually since 1984. BRFSS provides state-specific information about issues such as diabetes, obesity, cancer screening, nutrition, physical activity, tobacco use, and more.

BRFSS is a state-based system of health surveys that generate information about health risk behaviors, clinical preventive practices, and health care access and use primarily related to chronic diseases and injury. This survey is conducted by the 50 state health departments as well as those in the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands with support from the Centers for Disease Control and Prevention (CDC). BRFSS completes more than 400,000 adult interviews nationally and over 10,000 adult interviews in California each year. California BRFSS is administered in English and Spanish. Response rates measure how successful a survey has been in reaching selected respondents. Two rates are calculated for the BRFSS, an "upper-bound" rate and a CASRO (Council of American Survey Research Organizations) rate. The overall response rate for California BRFSS data used in these fact sheets ranged from approximately 34% to 58%, depending on the type of response rate calculated (57% to 58% for the upper-bound and 34% to 43% for CASRO). Funding for California BRFSS comes from CDC, California state programs, and several private foundations. Questions and topics in the surveys may vary dependent on funders' interests. To obtain the data or further information about this survey, interested parties may call (916) 278-2081 or email Julia Tomassilli at julia.tomassilli@csus.edu. For more technical information on these surveys, please refer to the BRFSS Documentation and Technical Report.[2]

Adverse Childhood Experiences, Adult Physical Activity, and Adult Obesity Fact Sheets
During the analyses for the Adverse Childhood Experiences, Adult Physical Activity, and Adult Obesity fact sheets, the California BRFSS was based at the Public Health Institute's Survey Research Group in Sacramento, California. The Medi-Cal program is specific to California;

therefore, there was not a Medi-Cal variable in the CDC BRFSS dataset. These fact sheets were focused on comparing the Medi-Cal population to the California population; therefore, the California BRFSS dataset, not the CDC BRFSS dataset, was used in these analyses.

Maternal and Infant Health Assessment (MIHA)

The Maternal and Infant Health Assessment, or MIHA, is a California population-based survey of women with recent live births, conducted annually since 1999. The MIHA questionnaire collects information about maternal and infant experiences and about maternal attitudes and behaviors before, during, and shortly after pregnancy. MIHA participants are English- or Spanish-speaking women who have had a live birth in California. MIHA data are weighted to represent all women in California with a live birth during each survey year, excluding women who are non-residents, are younger than 15 years of age at delivery, have a multiple birth of greater than three infants, or have a missing address on the birth certificate.

MIHA data are collected by mail with telephone follow up to non-respondents. Women are sent a questionnaire in the mail approximately 10-14 weeks after delivery. Non-respondents receive a reminder letter and a second questionnaire, if needed. Women who do not respond by mail are then asked to take the survey by phone. In 2011, the response rate was 69.9% and in 2012 the response rate was 69.6%.

The MIHA questionnaire and methods are similar to those used by the Centers for Disease Control and Prevention (CDC) in conducting the multi-state Pregnancy Risk Assessment Monitoring System (PRAMS). MIHA is a collaborative effort of the Maternal, Child and Adolescent Health (MCAH) and the Women, Infant and Children (WIC) Programs of the California Department of Public Health and the Center on Social Disparities in Health at the University of California, San Francisco.

Dental Visits During Pregnancy Fact Sheet

Breastfeeding Fact Sheet
Prenatal health insurance coverage and breastfeeding indicators reported in the Breastfeeding Fact Sheet are based on self-reported data from the 2011 MIHA survey. More information about these indicators and the MIHA survey can be found on the MIHA website: www.cdph.ca.gov/miha.

Women were classified as being on Medi-Cal during pregnancy if they reported Medi-Cal or a health plan paid for by Medi-Cal. Women who reported both Medi-Cal and private insurance were categorized as Medi- Cal.

Women were classified as having ever breastfed if they reported ever breastfeeding or feeding breast milk to their baby. Women whose infant did not reside with them were excluded.

Women were classified as having exclusively breastfed to 3 months postpartum if they reported only feeding their infant breast milk (no supplementation with formula, other liquids or food) for at least three months after delivery. Women whose infant did not reside with them or whose infant was not yet three months old at the time of the survey were excluded.

Medi-Cal Management Information System/Decision Support System (MIS/DSS)

To manage and store a vast amount of data, DHCS created a data warehouse and reporting system named the Medi-Cal Management Information System/Decision Support System (MIS/DSS). MIS/DSS contains 10 years of data (about 2.5 billion records) that are extracted from approximately 30 different sources (e.g., eligibility, fee-for-service paid and denied claims, mental health claims, dental claims, managed care encounter data, and Family PACT [Planning, Access, Care, and Treatment] program data). In addition, the warehouse includes numerous reference data files to help users map codes to specific labels and descriptions. For example, there are reference tables to The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9) and other Medi-Cal specific codes used in fact sheets before 2020 and ICD-10 codes used in more current fact sheets. MIS/DSS allows DHCS analytical staff to query specific types of claims or encounters and create analytical reports.

Three main types of Medi-Cal data were used in the fact sheets. First, eligibility data contain records for each month that a potential Medi-Cal member is eligible for services. Dual eligible members (eligible for both Medi-Cal and Medicare) were excluded because Medicare is generally the first payer. These data show when individuals are eligible for Medi-Cal services and thus are useful to construct denominators for rates. Second, there are data related to fee-for-service claims. Fee-for-service claims are submitted by providers to Medi-Cal through a fiscal intermediary for reimbursement for services. Third, managed care encounter data are collected to identify visits and services. Managed care plans are paid on a per member per month basis. Although managed care plans are not paid for individual services, they are required to submit to Medi-Cal "encounter" data for each visit. Fee-for-service claims data are known to be of higher quality in comparison to managed care encounter data given that financial reimbursement is associated with the former. Programs have recently been started to improve the quality of encounter data to ensure that all data are submitted (without duplicates), data elements are correctly coded, and the data represent real health care visits. Although important achievements have been made to improve the quality of encounter data, information derived from these data should be used with caution.

[Adolescent](#) and [Adult Depression Fact Sheets](#)

In addition to claims and encounter data, the MIS/DSS system includes numerous tables derived from a product called Symmetry® to "pre-aggregate" claims and encounters into both "episodes of care" and quality indicators. Episode Treatment Groups® (ETG®), which became available in 1993, offer a powerful way of creating episodes of care by placing inpatient, outpatient, and ancillary services into mutually exclusive and exhaustive categories. For example, if a person receives care for a broken arm, the initial visit to treat the break is specified as the "anchor" visit. Then all subsequent follow-up visits and prescriptions are linked to the anchor record to form an episode of care. Although conceptually similar to Diagnosis Related Groups (DRGs), the ETGs identify an entire episode of care regardless of whether it was inpatient or outpatient care. A benefit of using ETGs is that a variety of codes other than diagnosis codes are used to define specific conditions. For example, many of the ETGs are defined using procedure and revenue codes along with drug codes for specific prescriptions. Given that Medi-Cal only receives two diagnoses as defined by ICD- 9 codes, and few validity checks are performed on submitted datasets, it is advantageous that the ETGs define conditions using multiple code types. Concerning quality measurement, the Symmetry® Evidence Based Medicine Connect™ (EBM Connect™) product creates over 580 quality

indicators based on the claims and encounter records. Many of the EBM Connect™ quality indicators are based on algorithms that have been validated by groups such as the National Quality Forum.

The Adolescent and Adult Depression fact sheets included both fee-for-service claims and managed care encounter data from the MIS/DSS system. The Episode Treatment Groups® system version 8.0 was used to select all claims and encounters associated with episodes of care categorized as "major depression." The eligibility data from MIS/DSS was used to estimate the number of Medi-Cal members (for the specific age groups) that were at risk of this event.

Hypertension Management, Childhood Immunizations, and Colorectal Cancer Screening Fact Sheets

The three indicators in this group of fact sheets were created using the Symmetry® Evidence Based Medicine Connect™ version 8.0. The EBM Connect™ product implements all of the "business rules" or algorithms that define over 580 quality indicators. Some of the quality indicators are national standards, thus the algorithms copy as closely as possible all of the logic that is required to construct numerators and denominators for rates (e.g., inclusion and exclusion rules). For some of the indicators, EBM Connect™ creates the appropriate cohort of patients based on specific Episode Treatment Groups. For example, the hypertension indicator is generated by first selecting all patients that had an episode of care related to hypertension. There were a few limitations with the indicators in this category. First, since it was not possible to find data sources to replicate the *LGHCTF Final Report* indicators for the Medi-Cal population, results from EBM Connect™ were used to look at health indicators that were conceptually similar to the original indicators. Second, by using the MIS/DSS system for these indicators data were unavailable to report comparison rates for the non-Medi-Cal population. Third, all of the indicators described here used both fee-for-service claims and managed care encounter data. Given the known limitations of managed care encounter data, the results of these four fact sheets should be viewed as preliminary until additional validation has been performed or better data and associated indicators become available. Finally, the hypertension indicator has not been validated by expert panels.

Hypertension Management. There were four separate indicators in this fact sheet to evaluate if disparities existed with regards to how well Medi-Cal members from different racial/ethnic groups managed their hypertension. These medication adherence indicators relied on pharmacy claims data and were created to determine the degree to which a patient was adhering to a prescribed medication based on prescription filling patterns. Technical staff working on validating the encounter data has found that the pharmacy claims data were generally well reported and more reliable than the medical encounters.

Childhood Immunizations. The reported childhood immunization indicators from EBM Connect™ were similar but not identical to the national standard indicators on which they were based. These indicators could not be replicated exactly because the original indicators involved a hybrid methodology of both administrative and clinical data.

Colorectal Cancer Screening. The EBM Connect™ system used a nationally validated Healthcare Effectiveness Data and Information Set (HEDIS) measure to create this colorectal cancer screening indicator. HEDIS is a set of nationally recognized performance indicators used to evaluate health plans. HEDIS national standards are based on selected HEDIS indicators that assess compliance with chronic and acute conditions, as well as

preventive care.

[Mammography Screening](#), [Schizophrenia Medication Adherence](#), [Services for Substance Use Disorders](#), [Cervical Cancer Screening](#), [Chlamydia Screening](#), [Annual HIV Visits](#), and [Postpartum Care Visits Fact](#) [Sheets](#)
The eligibility data from MIS/DSS was used to determine the number of Medi-Cal members (for the specific age groups) that qualify for the above fact sheets measures. Most measures required 11 or 12 months enrollment; for the post-partum visit, women were required to have continuous enrollment from 43 days prior to delivery through 56 days after delivery. Individuals who do not receive all of their healthcare services from Medi-Cal (those who are not "full scope" members), would have some of their healthcare records in another location. For this reason, only full scope members are included in the measures. Since Family PACT (FPACT) eligibility and claims data is available in the MIS/DSS, these individuals were included in the chlamydia screening and cervical cancer screening measures, two services provided to FPACT members.

Although the CMS specifications for the Adult Medicaid Quality grant measures include the use of denied, pending reversed and suspended claims, they were not used because DHCS was advised by the data warehouse vendor that data quality for these types of claims is mixed. These claims are kept as a historical record of everything ever submitted to DHCS that was not accepted in the current claims data, including entries with wrong information. Since there is no indicator for the particular part of the claim which is in error, denied claims were not used.

Three measures (chlamydia testing, cervical cytology testing, and postpartum visit rates) were calculated in collaboration with the Bixby Center for Global Reproductive Health, University of California San Francisco.

To link to the specific CMS specification click on this link - http://www.medicaid.gov/Medicaid-CHIP-Program- [Information/By-Topics/Quality-of-Care/Downloads/Medicaid-Adult-Core-Set-Manual.pdf](#).

[Mammography Screening](#). This fact sheet contained the percentage of Medicaid-enrolled women ages 42 to 69 who received a mammogram to screen for breast cancer during the measurement year or the two years prior to the measurement year. The eligible population (denominator) includes women who are ages 42 to 69 (for a look back to age 40) as of the end of the measurement year to account for the 2-year, 3-month look-back period.
[Link to CMS Specifications for this measure](#)

[Schizophrenia Medication Adherence](#). This fact sheet contained the percentage of Medicaid enrollees ages 19 to 64 with schizophrenia that were dispensed and remained on an antipsychotic medication for at least 80 percent of their treatment period.
[Link to CMS Specifications for this measure](#)

[Services for Substance Use Disorders](#). This fact sheet contained the percentage of adolescent and adult patients with a new episode of alcohol or other drug (AOD) dependence who received the following. Initiation of AOD Treatment refers to the percentage of patients who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis. Engagement of AOD Treatment refers to the percentage of patients who initiated treatment and who had two

or more additional services with a diagnosis of AOD within 30 days of the initiation visit. [Link to CMS Specifications for this measure](#)

[Cervical Cancer Screening](#). This fact sheet contained the percentage of women 21 through 64 years of age who have had a Pap test during the measurement year or the two years prior to the measurement year. The eligible population (denominator) includes women who are ages 24 to 64 as of the end of the measurement year to account for the 3-year look-back period.
[Link to CMS Specifications for this measure](#)

[Chlamydia Screening](#). The measure in the 2016 fact sheet assessed the percentage of sexually active (see CMS specifications for criteria) women 21 to 24 years of age who had at least one test for chlamydia during the measurement year. In the original HEDIS specification, this measure had three reportable rates—ages 16 to 20 and 21 to 24 cohorts and a total cohort (ages 16 to 24). For reporting of the Medicaid Adult Core Set measure, only the rate for women aged 21 to 24 was calculated. [Link to CMS Specifications for this measure](#)

The measure in the 2020 fact sheet assessed the percentage of sexually active women 24 years of age and younger, who had at least one test for chlamydia during the fiscal year. The eligible population (denominator) includes women aged 24 years and younger, enrolled and eligible for services in Family PACT during the fiscal year. For this measure only FPACT data was used and was not analyzed per CMS specification.

[Annual HIV Visits](#). This fact sheet contained the percentage of adult patients, with a diagnosis of HIV/AIDS, with at least two medical visits during the measurement year, with a minimum of 90 and 180 days between each visit.

Medi-Cal members may move in and out of eligibility which may result in some care being reported outside of Medi-Cal. This can result in an incomplete record of a Medi-Cal member's treatment history. This phenomenon may negatively impact this measure. In California, the CDPH Office of AIDS maintains an independent registry system for individuals with HIV disease which DHCS use to fill data gaps. This measure was retired in 2013.
[Link to CMS Specifications for this measure](#)

[Postpartum Care Visits](#). This fact sheet contained the percentage of women, who delivered a live birth, and completed a postpartum visit between 21 days and 56 days after delivery.

In order to be included in the measure, a woman must have had a live birth between November 6, 2011 and November 5, 2012. The postpartum visit was considered timely if it occurred on or between 21 and 56 days after delivery. The women must have continuous enrollment from 43 days prior to delivery through 56 days after delivery. Administrative data from the Medi-Cal claims and encounters, eligibility, and maternity supplemental payment tables were used exclusively to complete this measure. Individuals whose care was recorded with a maternity global code may not have had a postpartum visit recorded, since there would not be a separate postpartum visit claim. Therefore, the results presented here may underestimate the true rate of care.

One challenge with this measure was using claims data to identify a delivery date, which anchored both the measure's numerator and denominator. However, there was no field in

the MIS/DSS data warehouse that consistently contained the delivery date. Therefore, DHCS and staff from the FPACT developed a methodology to impute the delivery date based on related data elements (i.e., infant birth dates found on maternal claims, maternity supplemental payment file, dates found on claims with professional modifiers, service dates, global billing codes, procedure codes, and diagnosis codes). DHCS and FPACT then assessed the validity of the methods by comparing the delivery dates found via our procedures with the delivery dates found in the vital records file, utilizing probabilistic matching.

[Link to CMS Specifications for this measure](#)

Office of Statewide Health Planning and Development

Two datasets available from OSHPD were used for specific fact sheets listed below. First, California licensed hospitals are required to submit data to OSHPD every six months about patients that are discharged from their facilities. The Patient Discharge Dataset (PDD) includes elements related to demographics (e.g., age, gender, race/ethnicity), diagnoses and procedures, expected source of payment, total charges, length-of- stay, and additional fields related to source of admission and place of discharge. The PDD is subjected to validation rules upon submission to OSHPD and has a reputation of being a useful and high-quality dataset.

Second, beginning in 2005, OSHPD began collecting encounter records associated with patients who are treated in licensed California emergency departments. Similar to the Patient Discharge Data, the Emergency Department (ED) dataset contains data elements related to demographics, treatment information, patient disposition, and expected source of payment. More information can be found on the OSHPD website: http://www.oshpd.ca.gov/HID/Products.

Analytical staff in the OSHPD Healthcare Information Division and the CDPH California Breathing unit produced information for the fact sheets below.

[Hospital-Acquired Conditions Fact Sheet](#)
The Agency for Healthcare Research and Quality (AHRQ) releases software each year to produce a variety of quality indicators using administrative hospital data. The Patient Safety Indicators (PSIs) are a set of indicators that can be used to identify potential adverse events that occur after procedures and childbirth. More information about the indicators can be found on the AHRQ website: [http://www.qualityindicators.ahrq. gov/modules/psi_overview.aspx](http://www.qualityindicators.ahrq.gov/modules/psi_overview.aspx).

OSHPD staff applied the SAS software version 4.4 of the PSIs to the 2011 Patient Discharge Data (PDD). Their analysis involved a few steps. First, the PDD was modified to conform to the data specifications required to produce the PSIs. Second, important parameters were set in the AHRQ SAS software to conform to the input data, and the PSI algorithms were applied to transform patient-level data into hospital observed and risk-adjusted rates. Third, a separate SAS program was run to produce a composite PSI indicator. The PSI composite combined 11 of the individual PSIs (using various weights) into one global measure of patient safety. Finally, using an "expected payer" field available in the PDD, the OSHPD researchers stratified the composite measure by Medi-Cal and non-Medi-Cal. It is important to note that the expected payer field is known to have data reliability issues, and thus the results should be compared to other data sources. For example, a preliminary file was used to link the OSHPD patient discharge dataset to the Medi- Cal eligibility file. Using only

records that matched on Social Security Number, problems were identified with the expected payer field. Staff is currently working on a more sophisticated probabilistic linkage, and when complete, this file can be used to create an updated fact sheet. For the current fact sheet, however, it is likely that the "expected payer" field is robust enough to present preliminary results.

Preventable Hospitalizations Fact Sheet

In addition to the PSIs, AHRQ also produced a set of indicators to measure "ambulatory care sensitive conditions." These conditions are chronic and acute conditions that if properly managed by patients and primary care physicians, are less likely to lead to acute complications that require hospitalizations. The AHRQ Prevention Quality Indicators (PQIs) are available to measure a number of chronic and acute conditions, and a global composite measure is provided to weight and aggregate a number of the individual indicators. OSHPD research staff followed similar steps as described above for the PSIs to produce PQI numerators. The PQIs were created as "area" indicators—numerators for specific geographic areas such as counties were divided by population data to get rates per 100,000 people. For example, OSHPD produced county- level PQI reports that showed the likelihood that people from particular counties were hospitalized for chronic and acute conditions. To produce the PQI composite measure for the Medi-Cal population, staff could not rely on the published census data that were integrated into the AHRQ software. Thus, DHCS staff received the PQI numerator data (stratified by race/ethnicity) from OSHPD staff, and then relied on eligibility data from the Medi-Cal MIS/DSS system (described above) to produce the denominators. For each racial/ethnic group, DHCS staff excluded "dual eligible" members that were eligible for both Medi-Cal and Medicare. Since Medicare is the primary payer for this population, Medi-Cal has incomplete claims/encounter data for this group.

Hospital Readmissions Fact Sheet

OSHPD research staff received from the Centers for Medicare and Medicaid Services (CMS) a preliminary version of the SAS computer code used to produce hospital readmission rates (the same staff also produced the rate for the *LGHCTF Final Report*). Staff applied the algorithms to the PDD to identify numerators and denominators. Similar to other analyses using the PDD described above, staff used the "expected payer" field to identify Medi-Cal and non-Medical patients (see note above about data quality issues associated with this field).

Childhood Asthma Emergency Department Visits Fact Sheet

OSHPD ED and PDD data were used to create numerators for the childhood asthma rate. Researchers from CDPH counted ED visits among children and adolescents aged 0 to 17 with a principal diagnosis defined by the ICD-9 code 493. When an ED visit resulted in a hospital admission, the visit was only recorded in the Patient Discharge Dataset. Thus, it was necessary to add visits from the hospital discharge database to the counts of ED visits (inpatient discharges that did not include an ED visit were excluded). With this methodology, the numerator counts were based on the number of ED visits, and not the number of unique individuals. Finally, the expected payer field within the OSHPD ED dataset was used to identify Medi-Cal members.

After receiving the stratified counts by race/ethnicity, the Medi-Cal MIS/DSS system was used to estimate the specific denominators to construct the rates. Medi-Cal members who were eligible for both Medi-Cal and Medicare ("dual eligibles") were excluded given that Medicare is the primary payer for this population and thus there are incomplete claims and encounter data for this group.

[Palliative Care Fact Sheet](#)
Using OSHPD Patient Discharge Data, researchers at the University of California, San Francisco identified 351 California acute care hospitals that they expected to have a palliative care program. They submitted a web-based survey with branching logic to each hospital to learn if they had a palliative care program. If any palliative care services were offered, a hospital was designated as a palliative care hospital. OSHPD publishes inpatient profiles on their website. These reports used the "expected payer" source from the Patient Discharge Data to count the number of hospital discharges with an expected payer of Medi-Cal. Looking at all of the general acute care hospitals in California, hospitals were categorized by the number of Medi-Cal members treated in 2011. Dr. Steven Z. Pantilat's team at the University of California, San Francisco linked their palliative care survey data to the list of hospitals categorized by Medi-Cal patients to identify the degree to which hospitals with a larger proportion of Medi-Cal members had a palliative care program.

California Department of Education
CDE publishes two data sources important for two fact sheets. First, the California Education Code since 1996 has mandated educational agencies to administer a physical fitness test (PFT) to all fifth, seventh, and ninth graders. The State Board of Education selected a test called the Fitnessgram® to measure minimum fitness levels that are likely associated with characteristics that can prevent inactivity-related diseases. Second, each spring students in grades two through eleven must take a Standardized Testing and Reporting (STAR) test. The purpose of the STAR tests is to access how well students are doing in various subjects such as math, reading, writing, science, and history. Both the STAR test results and the PFT data can be queried from the DataQuest system on the CDE website: http://data1.cde.ca.gov/dataquest/.

[Reading Proficiency and Childhood Physical Fitness Fact Sheets](#)
At the time of publication, there were no Medi-Cal specific data available to measure childhood physical fitness or reading proficiency. However, PFT and STAR data can be stratified by socio-economic status. Students were classified as "economically disadvantaged" if they participated in the free or reduced price meal program, or if their parent education level was coded as "not high school graduate." Within the DataQuest query system, the economically disadvantaged variable was used as a proxy measure for the Medi-Cal population given that the vast majority of Medi-Cal members are near or below federal poverty boundaries. In addition, the data were stratified by race/ethnicity.

Birth Cohort File
[Infant Mortality Fact Sheet](#)
Each year, analytical staff from CDPH link vital statistics from birth and death files to create the Birth Cohort File. The file allows researchers to evaluate both infant deaths and birth outcomes, and represents all of the live births that occurred in California for the calendar year. In addition, death information is available for all infants born in the calendar year but who died within 12 months of birth. More information can be found on the CDPH website: [http://www.cdph.ca.gov/data/dataresources/requests/Pages/BirthandFetalDeathFiles. aspx](http://www.cdph.ca.gov/data/dataresources/requests/Pages/BirthandFetalDeathFiles.aspx).

Using the Birth Cohort File, staff from CDPH created an infant mortality rate. The numerator was created by selecting infant deaths where the source of payment for prenatal care or delivery is indicated as Medi-Cal (or non-Medi-Cal). The denominator included all live births to California state residents where the source of payment for prenatal care or delivery is

indicated as Medi-Cal (or non-Medi-Cal). Using the Birth Cohort File, the overall California infant mortality rate was 4.9 per 1,000 births. This is higher than the overall rate of 4.7 per 1,000 births that is reported on the CDPH website. The CDPH report has a lower infant mortality rate because this report used an unlinked death file that had fewer reported deaths than the Birth Cohort File. The Birth Cohort File is produced after the death file and thus is able to incorporate out-of-state deaths and any additional deaths not reported in the original death file.

To stratify by the Medi-Cal population, two variables from the Birth Cohort File were used. First, two data elements were selected from the data field labeled "principle source of payment for prenatal care": "02" Medi-Cal, without Comprehensive Perinatal Services Program (CPSP) Support Services or "13" Medi-Cal, with CPSP Support Services. Second, one data element was selected from the field labeled "expected principle source of payment for delivery": "02" Medi-Cal. With detailed demographic data on the linked file, CDPH staff was able to stratify the results by race/ethnicity for the Medi-Cal and non-Medi-Cal population.

Defining Race/Ethnicity Categories

Although attempts were made to standardize terms and nomenclature, some variability was unavoidable due to the nature of the different data sources. For example, the OSHPD Patient Discharge Data and Emergency Department data have an ethnicity field for Hispanic and Non-Hispanic and a race field that includes White, African American, Native American, Asian/Pacific Islander, Other, and Unknown. The Hispanic field was re-labeled "Latino" and in some instances was used in conjunction with race to form an "Other/Non-Latino" category. The eligibility data from the (MIS/DSS) data warehouse have detailed racial/ethnic breakdowns (e.g., Hmong, Vietnamese). As a challenge, Medi-Cal programs do not follow federal conventions for race, ethnicity and language definitions, which are based on U.S. Census standards used in the Decennial Censuses of 2000 and 2010 and the American Community Survey. For example, race and ethnicity have been structured as a single question in MIS/DSS compared to the federal standard of two separate questions. In the future, race and ethnicity will be separate questions. Also the process for completing Medi-Cal eligibility forms is not standardized. For instance, sometimes forms are completed by the participants and other times by staff members. To maintain consistency with other fact sheets, Asian categories were aggregated and included with Pacific Islanders. However, in the Adult Medicaid Quality grant fact sheets there is a link to a more detailed race/ethnicity graph. Finally, the MIS/DSS has missing data for about 10% of the eligible members. The vital statistics from CDPH included similar ethnic/racial categories. The fact sheet using these data also created an "Other/Unknown" category. The survey data sources have similar, yet slightly different categories. In most of the fact sheets using CHIS data, race/ethnicity categories were reported for Latino, African American, White, Asian/Other, and Multiracial. However, some fact sheets with 2017 and 2018 data disaggregate the Asian/Other category into Asian, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander. This was made possible by pooling the 2017 and 2018 data in order to prevent statistically unstable values. BRFSS only allowed race/ethnicity categories for four groups (Latino, African American, White, and Asian/Other). The MIHA obtained race/ethnicity from the mother's birth certificate; however, the graphs only allowed for the race/ethnicity categories of White, Latino, African American, and Asian/Other. In some instances, the survey sample size for the Medi-Cal population was too small to analyze race/ethnicity differences; therefore, in these cases, gender differences were examined.

Statistically Unstable Values

For categories where the data was statistically unstable, an asterisk was used on the figures in place of a value (i.e., percentage, rate, etc.). For those measures using CHIS data statistically unstable means the value for that response category are not stable estimates and cannot be interpreted as such. This means the value has not met the criteria for a minimum number of respondents needed and/or has exceeded an acceptable value for coefficient of variance. Therefore, for this report the unstable value has been replaced with an asterisk in the figure. For measures based on CMS specifications, when the denominator was less than 30, an asterisk was placed on the figure to indicate statistically unstable for those categories. In this instance, this means that the denominator was too small to report a valid rate.

1. Let's Get Healthy California Task Force Final Report. http://www.chhs.ca.gov/Documents/ Let%27s%20Get%20Healthy%20California%20Task%20Force%20 Final%20Report.pdf. Published December 19, 2013. Accessed February 25, 2013.
2. California Behavioral Risk Factor Survey SAS Dataset Documentation and Technical Report, Survey Research Group, California Department of Health Services, 2006.