

Health Disparities in the Medi-Cal Population

Acknowledgments



AUTHORS

The Department of Health Care Services (DHCS) would like to acknowledge the authors of *Health Disparities in the Medi-Cal Population* for their excellent work in developing these fact sheets and their dedication to improving the health of Californians.

Desiree Backman, DrPH, MS, RD

Chief Prevention Officer
Office of the Medical Director
Department of Health Care Services
Senior Scientist
Institute for Population Health Improvement
University of California Davis Health System

Patricia A. Lee, PhD

Research Scientist III
Office of the Medical Director
Department of Health Care Services

Brian Paciotti, PhD, MS

Quality Scientist
Institute for Population Health Improvement
University of California Davis Health System

CONTRIBUTORS

DHCS would also like to thank the following individuals for their significant contributions to these fact sheets, which could not have been completed without their input and involvement.

Jennifer Kilroy

Research Assistant
Institute for Population Health Improvement
University of California Davis Health System

Adrienne Lowe

Associate Government Program Analyst
Office of the Medical Director
Department of Health Care Services

Leah Northrop, MPA

Quality Specialist
Office of the Medical Director
Department of Health Care Services

Health Disparities in the Medi-Cal Population

Infant Mortality



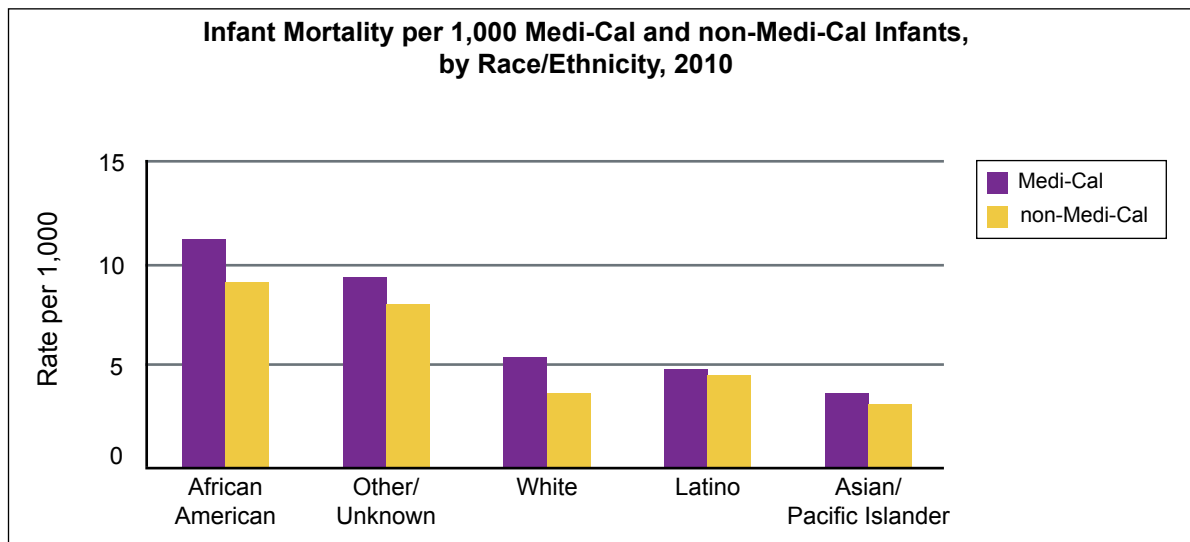
The Centers for Disease Control and Prevention define infant mortality as the death of a baby before his or her first birthday. About 25,000 infants die each year in the United States, and there are significant differences by age, race, and ethnicity. African American infants have twice the infant mortality rate as White infants.¹

Of the 6 babies that die for every 1,000 births, most die as a result of serious birth defects, being born too small or early, Sudden Infant Death Syndrome, maternal complications, or are victims of injuries.¹



In 2010, the infant mortality rate for the state of California was 4.7 per 1,000 births.² The infant mortality rate for Medi-Cal members in 2010 was slightly higher at 5.5 per 1,000.³ Infant mortality rates varied by race/ethnicity with African Americans and people classified as “Other” or “Unknown” having substantially higher rates as compared to Whites, Latinos, and Asians/Pacific Islanders. For all of the racial/ethnic groups, infant mortality rates were higher among Medi-Cal members as compared to the non-Medi-Cal population. The differences, however, were largest among African Americans, Other/Unknown, and Whites.

Figure



Source: Birth Cohort File, California Department of Public Health, 2010.
Note: Rates for Native Americans were not shown due to small numbers. Rates for the groups “Other” and “Unknown” as well as “Asian” and “Pacific Islander” were combined to get more reliable rates.

- Centers for Disease Control and Prevention. “Infant Mortality” <http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/InfantMortality.htm>. Published October 1, 2012. Accessed February 2013.
- California Department of Public Health (CDPH) Birth and Death Records, Vital Statistics Query System 2010; California Birth and Death Statistical Master Files 2000-2010.
- CDPH, Birth Cohort File, 2010.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Childhood Immunizations

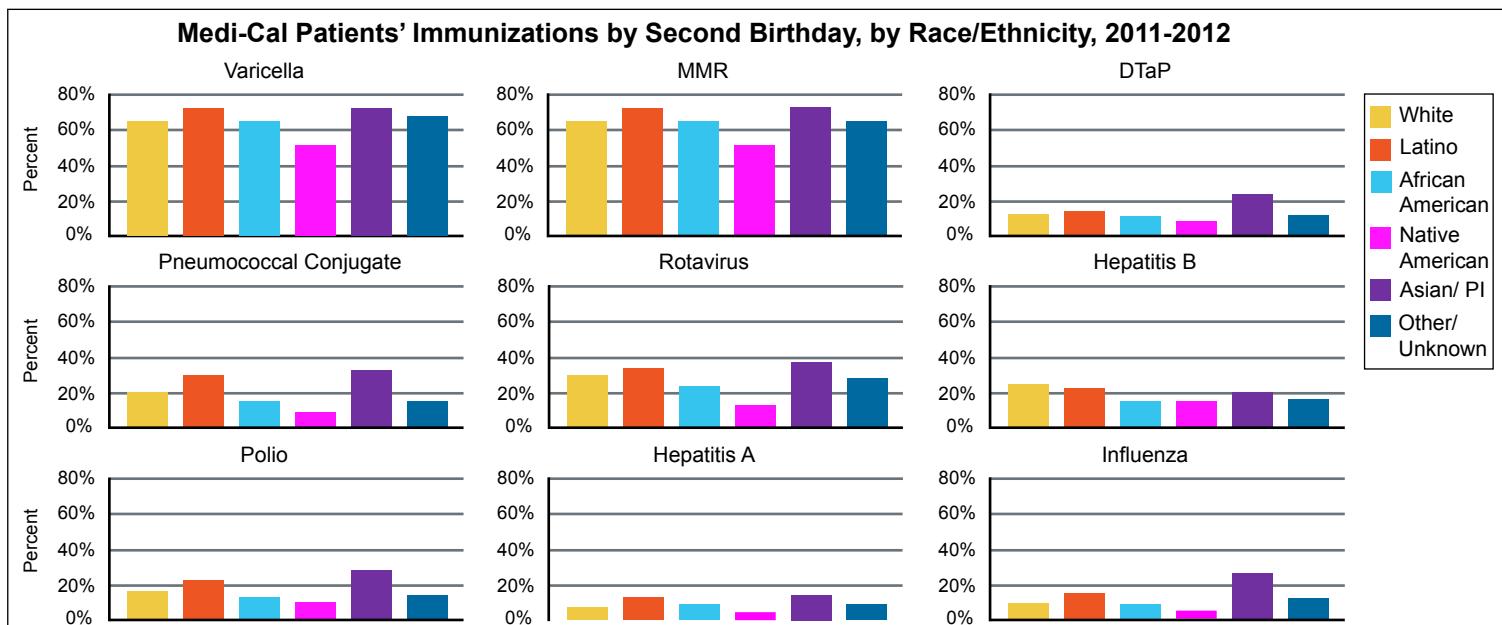


The field of public health can be proud of its successes with vaccines—smallpox has been eradicated and other serious diseases are now much less of a threat. Indeed, vaccines may be our best defense against infectious diseases.¹ The success story of vaccines also has some unintended side effects. With many infectious diseases becoming rare, many people see these as less of a threat and decide not to vaccinate their children.¹ In addition, fears about side effects of vaccines have resulted in public protests about the dangers of vaccination, resulting in a growing number of parents not vaccinating their children.²⁻³

The *Let's Get Healthy California Task Force Final Report* showed that vaccination rates for all doses of recommended vaccines among California children aged 19 to 35 months was about 68%, slightly lower than the national rate of 70%.⁴ Medi-Cal claims and encounter data could not provide a directly comparable measure to the overall California rate, but it was possible to evaluate if racial/ethnic disparities might exist. The Figure shows that Asians/Pacific Islanders and Latinos were slightly more likely to be vaccinated as compared to African Americans and Whites. Although Medi-Cal quality reports have shown relatively low immunization rates among Medi-Cal members,⁵ it is likely that some of the low immunization rates shown in the Figure are at least partially related to incomplete claims and encounter data within this domain.



Figure



Source: Medi-Cal MIS/DSS and Symmetry EBM Groupers, Version 8.0; July 1, 2011 - June 30, 2012.

Note: Members eligible for both Medicare and Medicaid were excluded; Patients 2 years old at the end of the report; PI= Pacific Islander; MMR = Measles, Mumps, and Rubella; DTaP = Diphtheria, Tetanus, and Pertussis.

- Centers for Disease Control and Prevention. History of Vaccine Safety. http://www.cdc.gov/vaccinesafety/vaccine_monitoring/history.html. Published February 8, 2011. Accessed February 2013.
- Mills E, Jadad AR, Ross C, Wilson K. Systematic review of qualitative studies exploring parental beliefs and attitudes toward childhood vaccination identifies common barriers to vaccination. *J Clin Epidemiol*. 2005;58(11):1081-1088.
- Amanna I, Slifka MK. Public fear of vaccination: Separating fact from fiction. *Viral Immunol*. 2005;18(2):307-315.
- Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.
- Medi-Cal Managed Care – Quality Improvement and Performance Measurement Reports. <http://www.dhcs.ca.gov/dataandstats/reports/Pages/MMCDQualPerfMsrRpts.aspx>. Accessed June 2013.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Adverse Childhood Experience



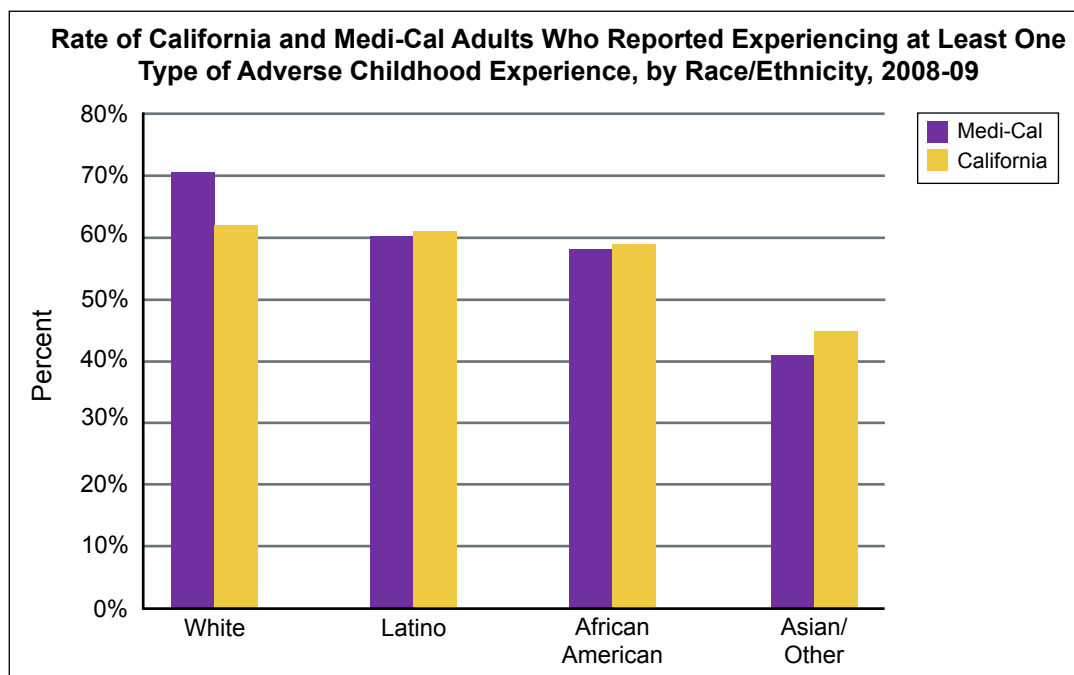
Adverse Childhood Experiences (ACE) include psychological, physical and sexual abuse, neglect, and other family dysfunction experienced before the age of 18. Studies have shown a strong dose-response relationship between ACEs and negative health outcomes, including risky behaviors, mental disorders, physical illness, overall poor quality of life, and early death.¹⁻³ Research has noted that ACEs are widely prevalent among California's general adult population.⁴ It is therefore important to prevent ACEs.

Among adult Californians, Whites and Latinos reported higher rates of experiencing at least one type of ACE and Asians/Others reported the lowest rates (see Figure).

A similar pattern was found in the California adult Medi-Cal population with Whites and Latinos reporting higher rates of experiencing at least one type of ACE than African Americans and Asians/Others. With the exception of Whites, all race/ethnicity rates of ACEs were slightly higher for the statewide California population than in the Medi-Cal population.



Figure



Source: Behavioral Risk Factor Surveillance Survey, 2008-2009 - California Data File.

1. Centers for Disease Control and Prevention. Adverse childhood experiences study. <http://www.cdc.gov/nccdphp/ACE/index.htm>. Accessed April 30, 2013.
2. Schneider R., Baumrind N., Kimerling R. Exposure to child abuse and risk for mental health problems in women. *Violence Vic.* 2001. 22 (5):620-631.
3. Pilowsky, D.J., Keyes, K.M. and Hasin D.S. Adverse childhood events and lifetime alcohol dependence. *Am J Public Health.* 2009. 99:258-263.
4. Induni M, Wirtz S, Edwards V, Davis B. Preliminary findings from California's BRFSS: Adverse childhood experiences and negative health outcomes. Presented at 26th Annual BRFSS Conference, Centers for Disease Control and Prevention, Atlanta, GA, March 16, 2009.

[Link to Data Sources and Methods](#)

Health Disparities in the Medi-Cal Population

Reading Proficiency



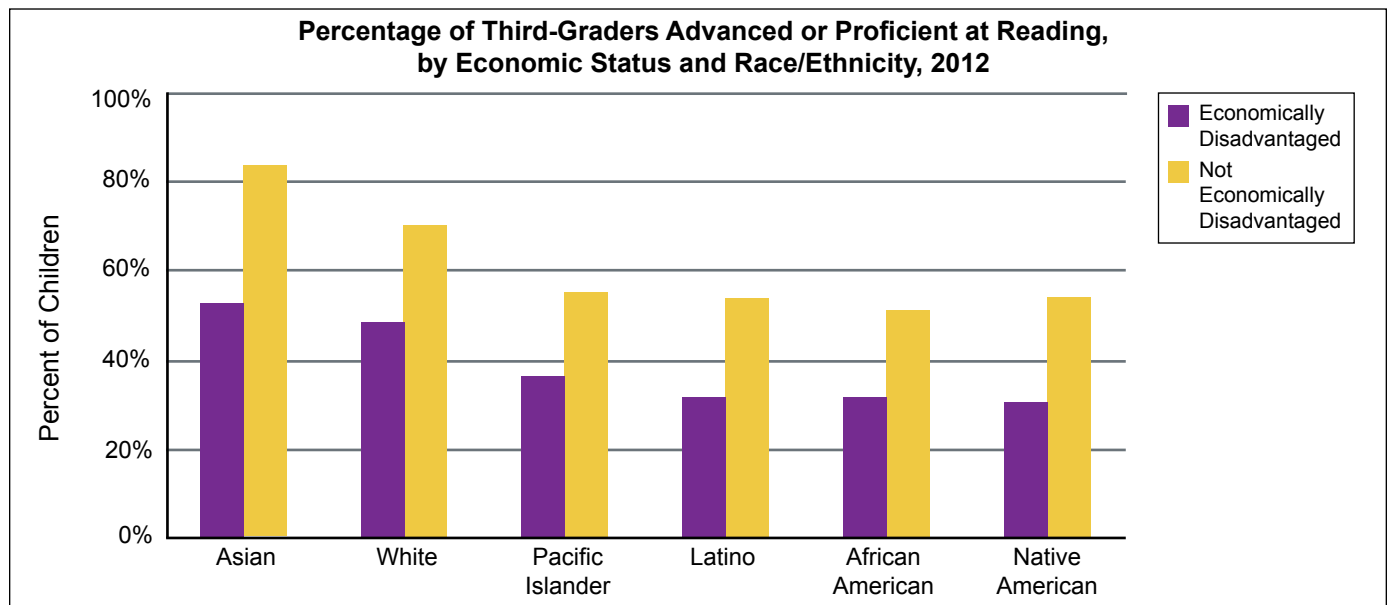
Education in general is likely to be associated with health outcomes later in life. A recent meta-analysis found a clear association between education and health that cannot be explained by income, employment, or family background.¹ Educational achievement in turn may be related to early success with reading. For example, reading proficiency at the end of third grade is associated with high school graduation.²

Third grade may be a transition point when kids start to use reading as a tool for learning, and students with less proficiency may have a difficult time performing well across academic subjects.²

In 2012, 48% of third graders were reading at an advanced or proficient level (boys 45%; girls 50%). Education data were not specific to the Medi-Cal population, but reports from the Standardized Testing and Reporting system were available for “economically disadvantaged” and “not economically disadvantaged” as well as by race/ethnicity.³ The California Department of Education classifies children as economically disadvantaged if they participate in the free or reduced price meal program, or if their parents’ education level was coded as “not high school graduate.” All economically disadvantaged third graders, regardless of race/ethnicity, experienced much lower reading proficiency rates as compared to those who were not economically disadvantaged (see Figure). Asians had the highest proficiency rates, followed by Whites.



Figure



Source: California Department of Education, Standardized Testing and Reporting DataQuest, 2012.

1. Cutler DM, Lleras-Muney A. Education and Health. Policy Brief# 9. National Poverty Center, University of Michigan. 2007.
2. Reading Proficiency in California. Lucile Packard Foundation. <http://www.kidsdata.org/export/pdf?ind=127>. Accessed June 11, 2013.
3. California Department of Education, Standardized Testing and Reporting (STAR), <http://star.cde.ca.gov/> (July 2012). DataQuest.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Childhood Asthma Emergency Department Visits



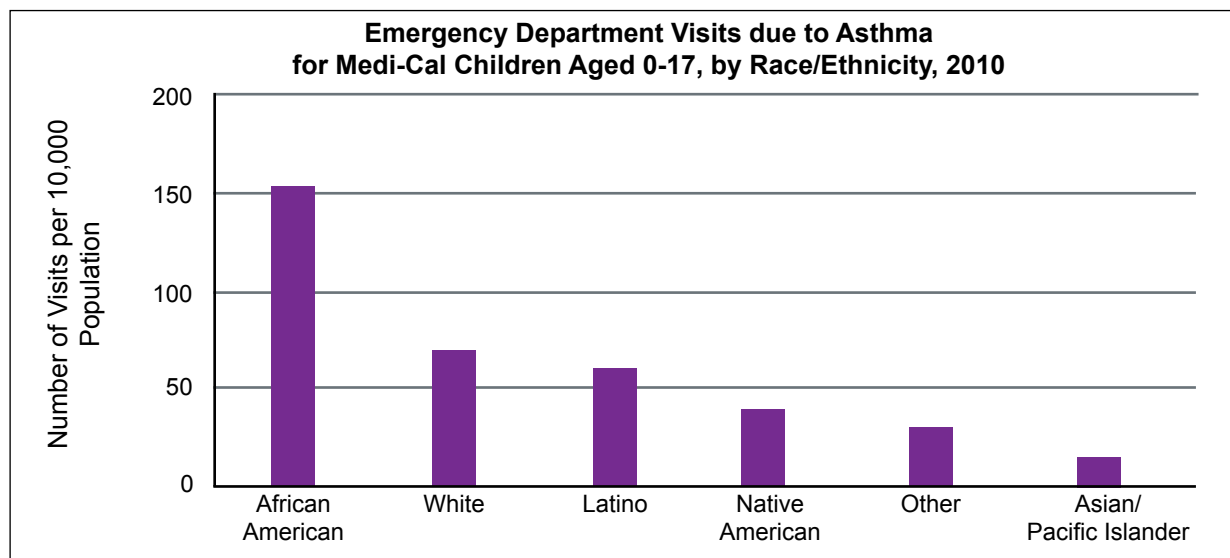
Asthma is the most prevalent condition among infants and children up to age 17.¹⁻² There are nearly 1.5 million children in California that have asthma, and the condition makes it difficult for this group to exercise, play, and attend school.³ The causes of asthma are complex, but there are risk factors such as exposure to air pollution that are at least partially modifiable.⁴

There is evidence that children unable to manage their asthma tend to utilize emergency departments (ED) at increased rates.⁵ As such, better management of this chronic disease is critical to reducing ED visits and improving the quality of life for children with asthma.⁶

The statewide ED visit rate for asthma was 73.0 per 10,000 children aged 0 to 17. This was similar to the rate for the Medi-Cal population of 72.6 per 10,000.⁷ As with Californians overall,³ there were strong racial/ethnic disparities among children in the Medi-Cal program. For example, African Americans were over eight times more likely than Asians/Pacific Islanders to visit the ED for asthma-related complications (see Figure below).



Figure



Source: Numerators: Office of Statewide Health Planning and Development (OSHPD) Patient Discharge Data, 2010; Denominators: Medi-Cal MIS/DSS, 2010.

Note: Members eligible for both Medicare and Medicaid were excluded.

1. Malveaux FJ. The state of childhood asthma: Introduction. *Pediatr.* 2009;123(Supplement 3):S129-S130.
2. Akinbami LJ, Schoendorf KC. Trends in childhood asthma: prevalence, health care utilization, and mortality. *Pediatr.* 2002;110(2):315-322.
3. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.
4. Clark NM. Community-based approaches to controlling childhood asthma. *Annu Rev Public Health.* 2012;33:193-208.
5. Oster A, Bindman AB. Emergency department visits for ambulatory care sensitive conditions: Insights into preventable hospitalizations. *Med Care.* 2003;41(2):198-207.
6. Self TH, Chrisman CR, Jacobs AR, Vo NH, Winton JC. Preventing emergency department visits and hospitalizations for asthma by use of oral corticosteroids at home: Are we adhering to national guidelines? *J Asthma.* 2010;47(10):1123-1127.
7. State of California, California Department of Public Health, California Breathing Program, using Office of Statewide Health Planning and Development (OSHPD) Emergency Department Data, 2010.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Childhood Physical Fitness



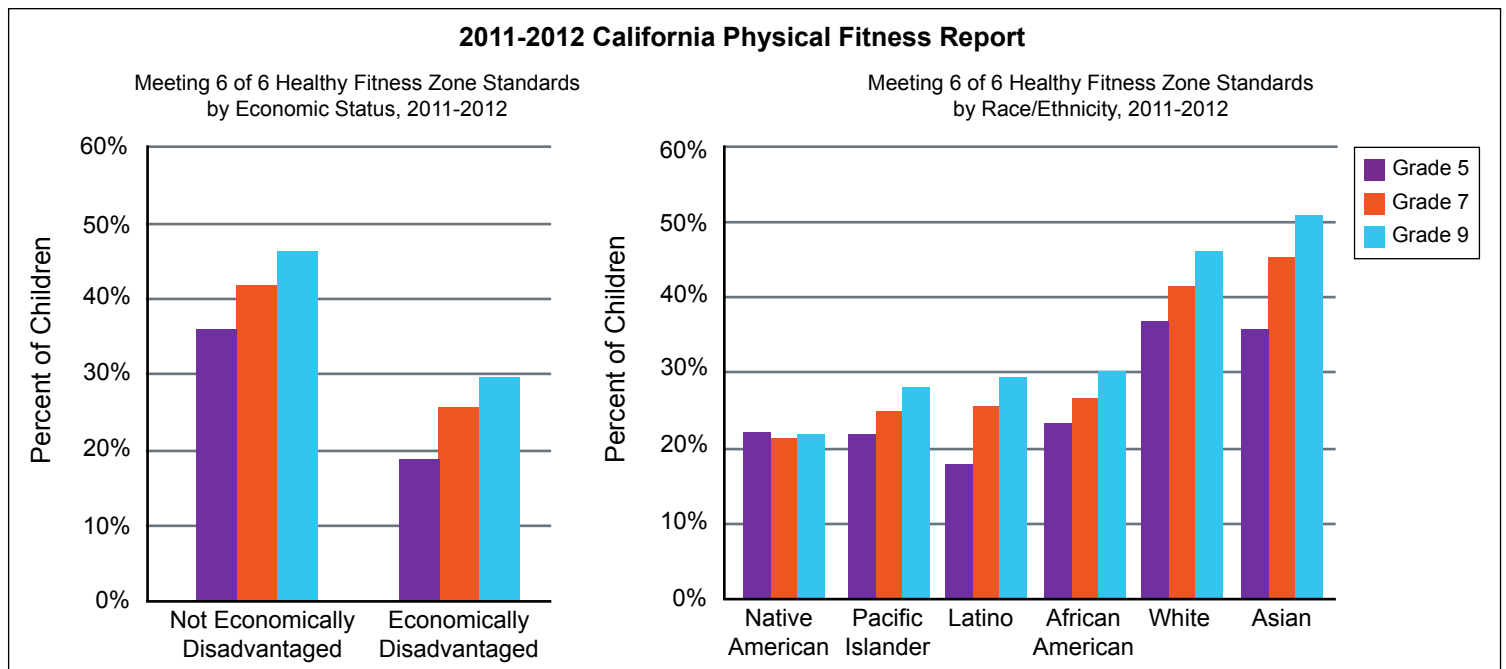
Physical activity is associated with many positive health outcomes.¹ For children, it is important to develop an active lifestyle in the early years of life, since habits from early childhood through adolescence may influence habits in adulthood.² Moreover, the increasing prevalence of childhood obesity suggests that poor diet and physical inactivity need to be improved for immediate health impacts.³

California students in grades five, seven, and nine receive a physical fitness test called the FITNESSGRAM®. The six-part test is used to evaluate levels of fitness that offer protection from diseases associated with inactivity. The test showed that children categorized as “economically disadvantaged” or “not economically disadvantaged” differ in their ability to complete all of the six fitness requirements.⁴ The California Department of Education classifies children as economically disadvantaged if they participate in the free or reduced price meal program, or if their parents’ education level was coded as “not high school graduate.”



As shown in the Figure below, economically disadvantaged children—those more likely to be in the Medi-Cal system—were less likely to complete all six of the fitness requirements. In addition, there were substantial disparities by race/ethnicity. Native Americans, Pacific Islanders, Latinos, and African Americans were less likely to meet all six fitness requirements as compared to Whites and Asians.

Figure



Source: California Department of Education, DataQuest, 2011-2012.

1. Powell KE, Paluch AE, Blair SN. Physical activity for health: What kind? How much? How intense? On top of what? *Annu Rev Public Health*. 2011;32.
2. Anzman S, Rollins B, Birch L. Parental influence on children's early eating environments and obesity risk: implications for prevention. *Int J Obes*. 2010;34(7):1116-1124.
3. Ebbeling CB, Pawlak DB, Ludwig DS. Childhood obesity: Public-health crisis, common sense cure. *The Lancet*. 2002;360(9331):473-482.
4. California Department of Education Dataquest; 2010-2011; California Fitness Report.

[Link to Data Sources and Methods](#)

Health Disparities in the Medi-Cal Population

Adolescent Physical Activity



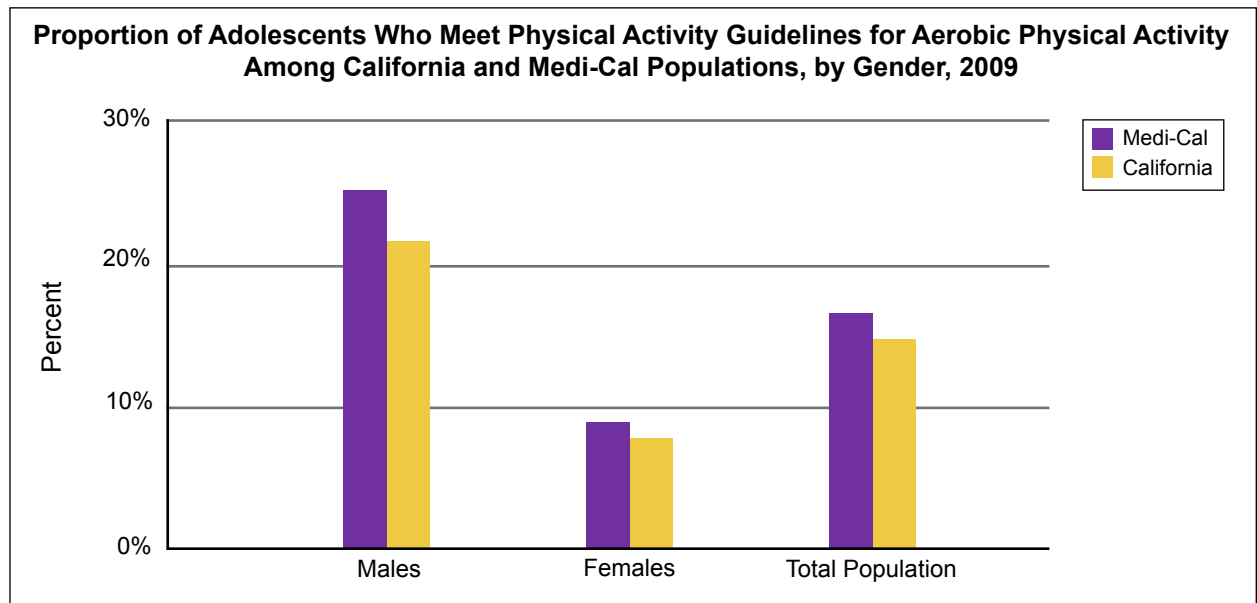
In the *2008 Physical Activity Guidelines for Americans*, the United States Department of Health and Human Services recommended that children and adolescents engage in at least one hour of moderate or vigorous physical activity each day.¹ In fact, there is strong evidence that physical activity reduces the risk of chronic diseases (diabetes, cardiovascular disease, obesity, etc.), depression, and anxiety, and leads to favorable body composition in children and adolescents. Meeting this recommendation can lead to better health outcomes.¹

Among California adolescents, males were more likely to meet the physical activity guidelines for aerobic physical activity of at least one hour of moderate or vigorous physical activity each day compared to females (see Figure).

In the Medi-Cal population, there was a similar pattern with males being more likely to meet the physical activity guidelines for aerobic physical activity compared to females. Regardless of gender, the Medi-Cal population reported higher rates of physical activity than California adolescents as a whole.



Figure



Source: AskCHIS, California Health Interview Survey, 2009.

1. US Department of Health and Human Services. *Physical activity guidelines for Americans*, 2008. Washington, DC: US Department of Health and Human Services; 2008

Health Disparities in the Medi-Cal Population

Adolescent Soda and Sweetened Beverages Consumption



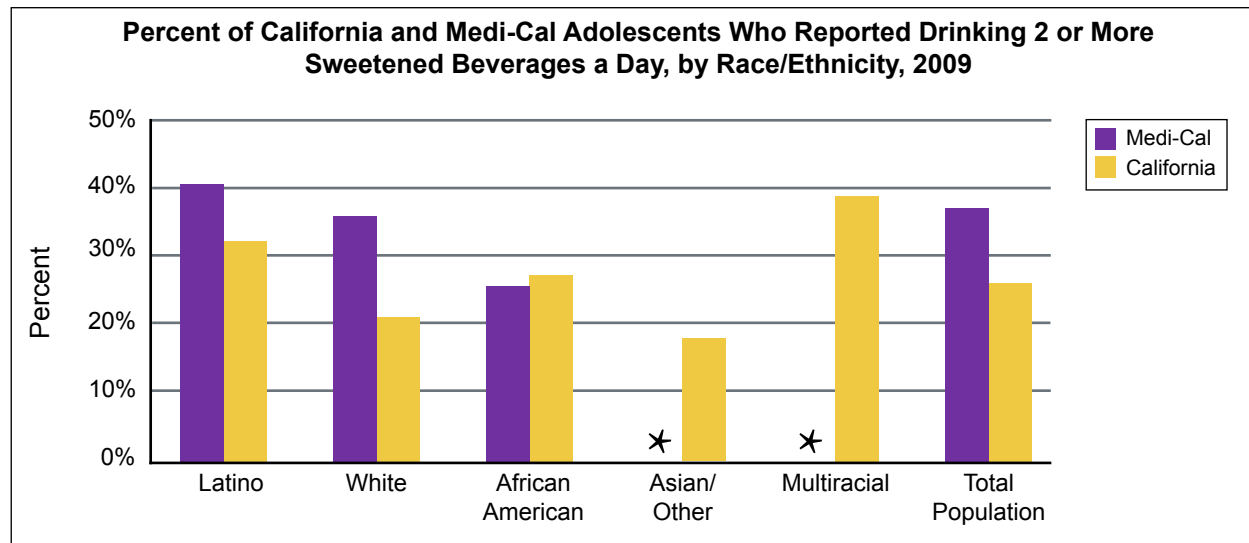
Sugar-sweetened beverages (SSBs), like sodas and energy drinks, are the largest source of added sugar and are associated with increased rates of obesity and other chronic health conditions.¹⁻³ Adolescents consume the most SSBs compared to other age groups.²⁻³ Research has noted that adolescents who drink more SSBs are more likely to eat high-calorie, low-nutrient foods.¹ Some studies have shown that the intake of SSBs among California adolescents has increased in the past decade.⁴⁻⁵

Among California adolescents, the Multiracial group and Latinos were most likely to consume two or more SSBs a day, while Whites and Asians/Others were the least likely (see Figure).

In the California Medi-Cal population, Latino adolescents were most likely to drink two or more SSBs a day as compared to White and African American adolescents. Except for African Americans, Medi-Cal adolescents reported higher rates of SSBs than the general California adolescent population. Due to small sample sizes, however, the percentages for Multiracial and Asian/Other adolescents were statistically unstable and un-reportable.



Figure



Source: AskCHIS, California Health Interview Survey, 2009.
*Statistically unstable

1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2010*. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.
2. Babey SH, Jones M, Yu H, Goldstein H. Bubbling over: Soda consumption and its link to obesity in California. UCLA Center for Health Policy Research and California Center for Public Health Advocacy, 2009.
3. Guthrie JF, Morton JF. Food sources of added sweeteners in the diets of Americans. *J Am Diet Assoc.* 2000;100:43-48,51.
4. Keihner AJ, Linares AM, Rider CD, Sugerman S, Mitchell, PR, Hudes, M. Education, *Diet and Environmental Factors Influence Sugar-Sweetened Beverage Consumption Among California Children, Teens, and Adults*. Sacramento, CA: California Department of Public Health; 2012.
5. Wang YC, Bleich SN, Gortmaker. Increasing caloric contribution from sugar-sweetened beverages and 100% fruit juices among US children and adolescents, 1988-2004. *Pediatr.* 2008;121:6;1604-1614.

Health Disparities in the Medi-Cal Population

Adolescent Fruit and Vegetable Consumption



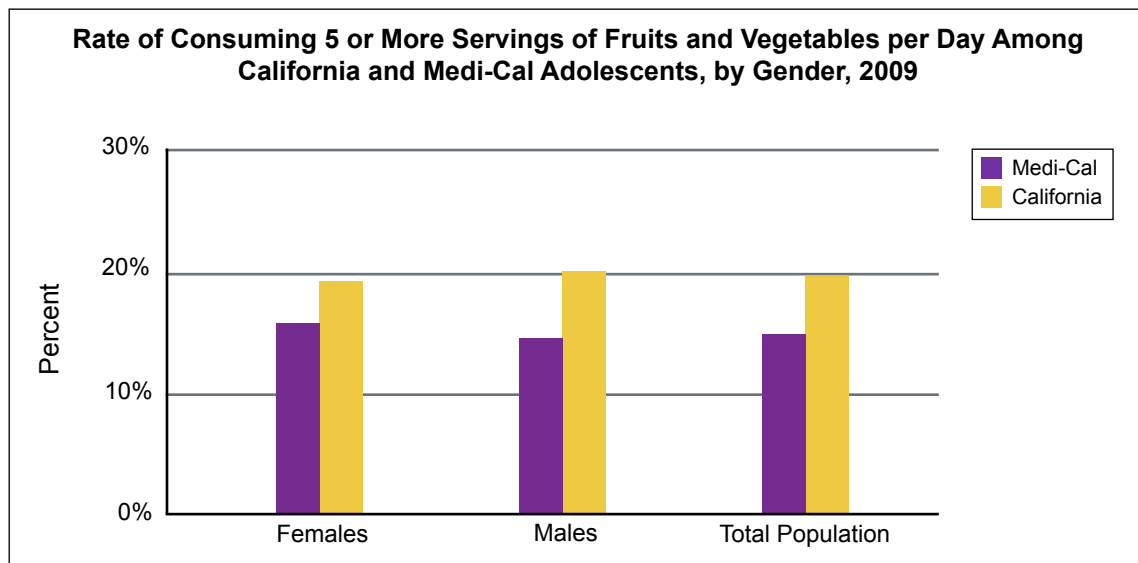
It is recommended that teens eat 3.5 to 6.5 cups of fruits and vegetables each day depending on their age, sex, and physical activity level.¹ Most vegetables and fruits are major contributors of certain nutrients that are under-consumed in the United States, including folate, magnesium, potassium, dietary fiber, and vitamins A, C, and K.² Consumption of vegetables and fruits is also associated with a reduced risk of many chronic diseases, may be protective against certain types of cancer, and may help teens achieve and maintain a healthy weight.¹⁻²

Among Californians, adolescent males were more likely to report eating 5 or more servings of fruits and vegetables a day compared to females (see Figure).

Conversely, in the California Medi-Cal population, adolescent females were more likely to report eating 5 or more servings of fruits and vegetables a day compared to adolescent males. Regardless of gender, the Medi-Cal population reported less daily consumption of fruits and vegetables compared to the general California population.



Figure



Source: AskCHIS, California Health Interview Survey, 2009.

1. Centers for Disease Prevention Control. Nutrition for Everyone: How many fruits and vegetables do you need? <http://www.cdc.gov/nutrition/everyone/fruitsvegetables/howmany.html>. Updated June 28, 2012. Accessed June 24, 2013.
2. Dietary Guidelines Advisory Committee. Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010, to the Secretary of Agriculture and the Secretary of Health and Human Services. Washington, DC: U.S. Department of Agriculture; 2010.

Health Disparities in the Medi-Cal Population

Adolescent Obesity



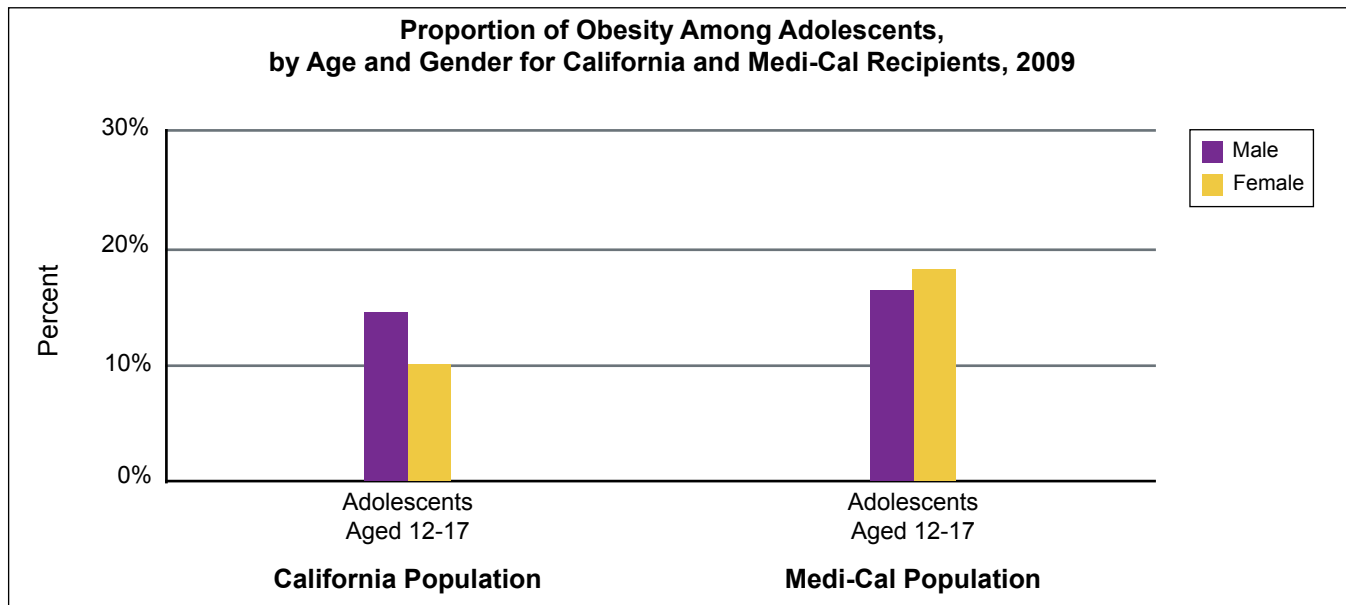
According to a 2012 Institute of Medicine report, obese youth are likely to be obese in adulthood. This report also stated that overweight youth were at greater risk for other health problems, including type 2 diabetes, hypertension, asthma, early maturation, and orthopedic problems.¹ Recently, several chronic diseases which had originally been considered “adult onset” are now appearing at younger ages, including type 2 diabetes and elevated blood pressure.¹⁻² Lastly, research has noted that obesity can vary by gender.³

Body Mass Index (BMI)-for-age charts are recommended to assess weight in relation to stature for children aged 2 to 20. Adolescents aged 12 to 17 were considered obese if they had a BMI equal to or greater than the 95th percentile. Among adolescent Californians, males reported higher rates of being obese than females (see Figure).



Among California Medi-Cal adolescents, females reported higher rates of being obese than males. In addition, the Medi-Cal adolescent population was more likely to be obese than California adolescents in general.

Figure



Source: AskCHIS, California Health Interview Survey, 2009.

1. IOM (Institute of Medicine). 2012. *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*. Washington, DC: The National Academies Press.
2. Quattrin T, Liu E, Shaw N, Shine B, Chiang, E. Obese children who are referred to the pediatric endocrinologist: Characteristics and outcome. *Pediatrics*. 2005. Feb;115(2):348-351.
3. Zhang Q, Wang Y. Trends in the association between obesity and socioeconomic status in US adults: 1971 to 2000. *Obes Res*. 2004 Oct;12(10):1622-1632.

Health Disparities in the Medi-Cal Population

Overall Health Status



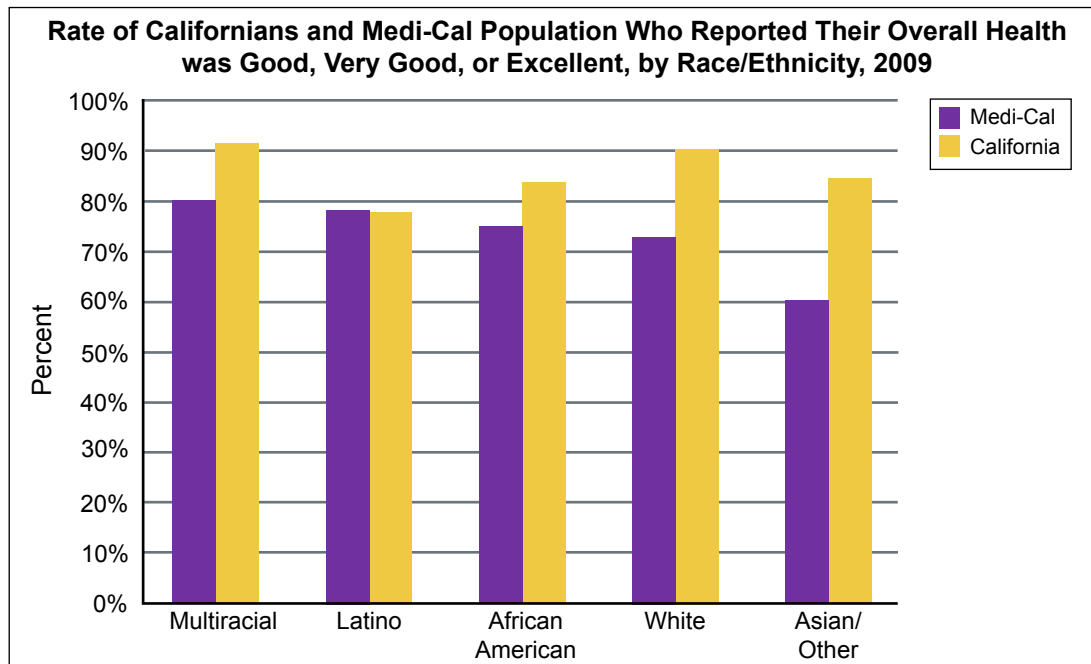
Overall health status is a self-reported measure of a person's perceived health over time. Research has shown that health status is related to chronic diseases (e.g., vascular events, depression, and cancer)¹⁻³ and the risk factors for chronic diseases (e.g., stress and physical activity).⁴⁻⁵ Analysis of health status can identify subgroups with poor perceived health, assist in guiding interventions to improve their situations, and avert more serious consequences.⁶

In California, the Multiracial group was more likely to report that their overall health status was good, very good, or excellent (90.4%), followed by Whites (90.0%), Asians/Others (84.5%), African Americans (83.5%), and Latinos (77.3%) (see Figure).

In the California Medi-Cal population, the Multiracial group again was more likely to report that their overall health status was good, very good, or excellent (80.0%), followed by Latinos (78.6%), African Americans (74.7%), Whites (73.9%), and Asians/Others (60.3%). Regardless of race/ethnicity, the Medi-Cal population reported lower rates of overall health status than the general California population.



Figure



Source: AskCHIS, California Health Interview Survey, 2009.

1. Groll AM, va der Graaf Y, Visseren FL, de Borst GJ, Algra A, Geerlings MI, SMART Study Group. Self-rated health status as a risk factor for future vascular events and mortality in patients with symptomatic and asymptomatic atherosclerotic disease: The SMART study. *J Intern Med.* 2012. Sep;272(3):277-286.
2. Mora PA, Beamon T, Preuitt L, DiBonaventura M, Leventhal EA, Leventhal H. Heterogeneity in depression symptoms and health status among older adults. *J Aging Health.* 2012. Aug;24(5):879-896.
3. Deshpande AD, McQueen A, Coups EJ. Different effects of multiple health status indicators on breast and colorectal cancer screening in a nationally representative US sample. *Cancer Epidemiol.* 2012. Jun;36(3):270-275.
4. Arnold SV, Smolderen KG, Buchanan DM, Li Y, Spertus JA. Perceived stress in myocardial infarction: Long-term mortality and health status outcomes. *J Am Coll Cardiol.* 2012. Oct. 30;60(18):1756-1763.
5. McHugh JE, Lawlor BA. Perceived health status is associated with hours of exercise per week in older adults independent of physical health. *J Phys Act Health.*, In Press.
6. Centers for Disease Control and Prevention (CDC). Health-Related Quality of Life (HRQOL). March 2011. <http://www.cdc.gov/hrqol/concept.htm>. Accessed February 19, 2013.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Adult Physical Activity



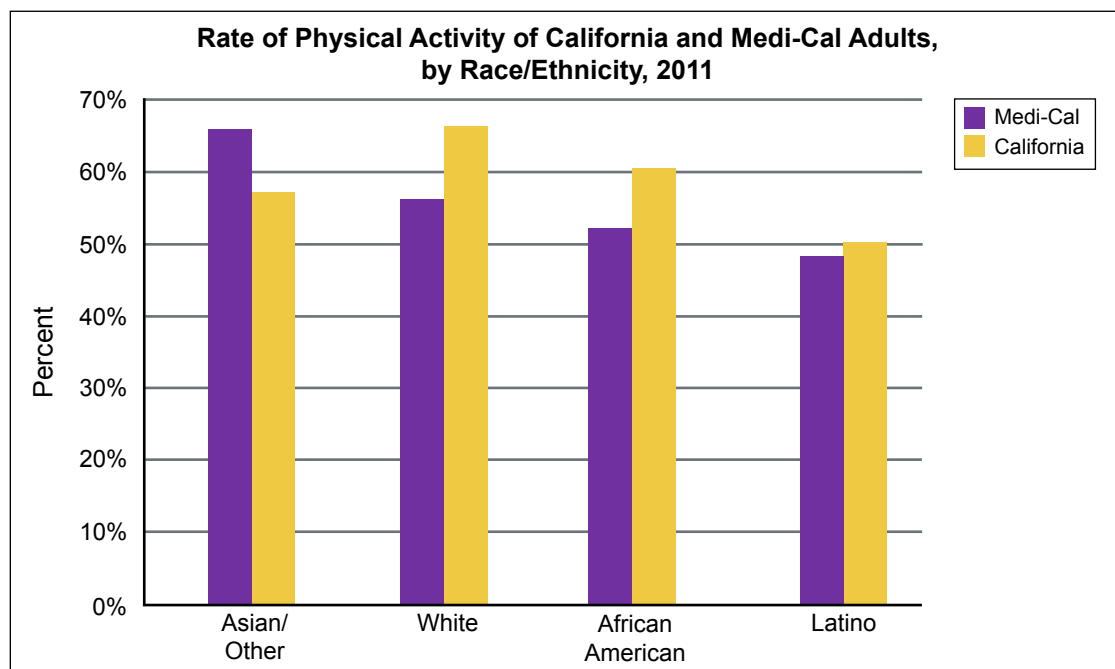
In the 2008 *Physical Activity Guidelines for Americans*, the United States Department of Health and Human Services recommended that adults engage in at least 150 minutes of moderate-intensity physical activity each week or 75 minutes a week of vigorous-intensity aerobics. Research has shown that physical activity can lower the risk of early death, coronary heart disease, stroke, high blood pressure, type 2 diabetes, breast and colon cancer, depression, and cognitive impairment in older adults.¹

Among California adults, Whites were most likely to report 150 or more minutes of physical activity each week, while Latinos were the least likely (see Figure).

In the Medi-Cal adult population, Asians/Others and Whites were more likely to report 150 or more minutes of physical activity each week as compared to African Americans and Latinos. For all race/ethnicity groups except Asian/Other, the Medi-Cal population reported lower rates of physical activity than the general California adult population.



Figure



Source: Behavioral Risk Factor Surveillance Survey, 2011 - California Data File.

1. US Department of Health and Human Services. Physical activity guidelines for Americans, 2008. Washington, DC: US Department of Health and Human Services; 2008.

Health Disparities in the Medi-Cal Population

Adult Soda and Sweetened Beverages Consumption



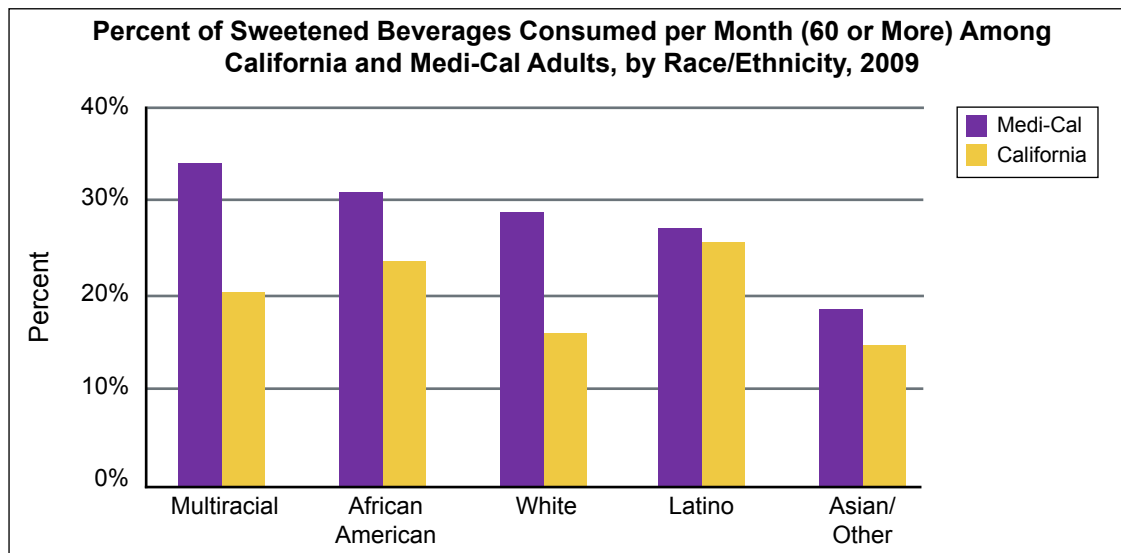
Sugar-sweetened beverages (SSBs), like sodas and energy drinks, are the largest source of added sugar and are associated with increased rates of obesity and other chronic health conditions such as high blood pressure.¹⁻⁴ It has been noted that SSBs are associated with consumption of salty foods and fast foods.⁵ Lastly, research has shown a higher intake of SSBs in low-income populations than high-income populations.⁶



Among California adults, Latinos and African Americans were the most likely to consume an estimated two or more SSBs a day, while Whites and Asians/Others were the least likely (see Figure).

In the California Medi-Cal population, Multiracial adults were most likely to drink an estimated two or more SSBs a day as compared to African American, White, Latino, and Asian/Other adults. Regardless of race/ethnicity, the Medi-Cal population reported higher rates of SSBs than the California population, in general.

Figure



Source: AskCHIS, California Health Interview Survey, 2009.

1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2010*. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.
2. Babey SH, Jones M, Yu H, Goldstein H. Bubbling over: Soda consumption and its link to obesity in California. UCLA Center for Health Policy Research and California Center for Public Health Advocacy, 2009.
3. Guthrie JF, Morton JF. Food sources of added sweeteners in the diets of Americans. *J Am Diet Assoc.* 2000;100:43-48,51.
4. Chen L, Caballero B, Loria C, Lin P, Champagne CM, Elmer PJ, Ard JD, Batch BC, Anderson CAM, Appel LJ. Reducing consumption of sugar-sweetened beverages is associated with reduced blood pressure: A prospective study among United States adults. *Circ.* 2010;121:2398-2406.
5. Caprio S. Calories from soft drinks—do they matter? *N. Engl JN Med.* 2012; Oct 11;367(15):1462-1463.
6. Han E, Powell LM. Consumption patterns of sugar-sweetened beverages in the United States. *J Acad Nutr Diet.* 2013 Jan;113(1):43-53.

Health Disparities in the Medi-Cal Population

Hypertension Management

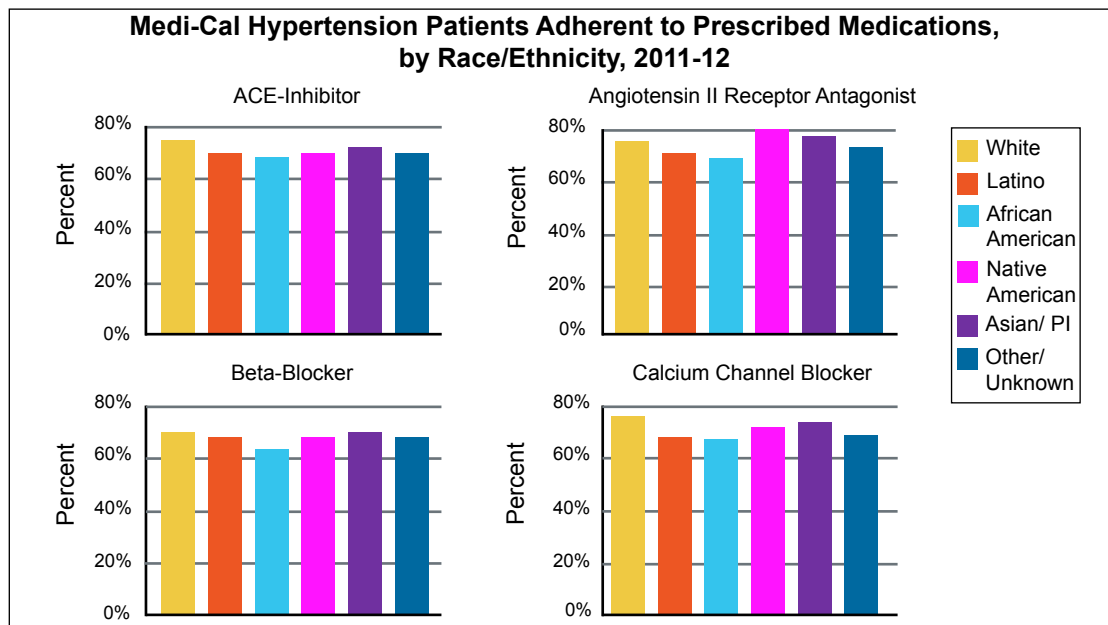


High blood pressure (hypertension) is a common condition that increases the risk of diseases such as heart disease and stroke.¹⁻² In addition, recent research has shown that hypertension may be linked to some types of dementia.³ Risk factors for hypertension include smoking, obesity, heavy alcohol consumption, and genetics.⁴ Fortunately, many of the risk factors are modifiable, and thus people can improve their blood pressure with lifestyle changes.⁵⁻⁶ Medications are also very effective at controlling high blood pressure.⁷ The *Let's Get Healthy California Task Force Final Report* showed that between 50% to 79% of people with high blood pressure control it successfully.⁸



Medi-Cal claims and encounter data suggested that about 7.23% of all members had an episode of care related to hypertension between July 1, 2011 and June 30, 2012. To identify possible disparities by race/ethnicity, the Figure below shows the percent of hypertensive Medi-Cal members adherent to four types of prescribed medications used to manage hypertension. Whites and Asians/Pacific Islanders were slightly more likely to adhere to ACE-Inhibitors, Beta-Blockers, and Calcium Channel Blockers, while Native Americans and Asians/Pacific Islanders were slightly more likely to adhere to Angiotensin II Receptor Antagonists.

Figure



Source: Medi-Cal MIS/DSS and Symmetry EBM Groupers, Version 8.0; July 1, 2011 - June 30, 2012.

Note: Members eligible for both Medicare and Medicaid were excluded; ACE = angiotensin-converting enzyme; PI = Pacific Islander.

1. Lloyd-Jones D, Adams RJ, Brown TM, et al. Heart disease and stroke statistics—2010 update. *Circ*. 2010;121(7):e46-e215.
2. Collins R, Peto R, MacMahon S, et al. Blood pressure, stroke, and coronary heart disease: Part 2, short-term reductions in blood pressure: overview of randomised drug trials in their epidemiological context. *The Lancet*. 1990;335(8693):827-838.
3. Nagai M, Hoshida S, Kario K. Hypertension and dementia. *Am J Hypertens*. 2009;23(2):116-124.
4. Stamler J. Blood pressure and high blood pressure. Aspects of risk. *Hypertens*. 1991;18(3 Suppl):195.
5. Lawes C, Hoorn SV, Rodgers A. Global burden of blood-pressure-related disease, 2001. *The Lancet* (London, England). 2008;371(9623):1513-1518.
6. Goetzel RZ, Pei X, Tabrizi MJ, et al. Ten modifiable health risk factors are linked to more than one-fifth of employer-employee health care spending. *Health Aff*. 2012;31(11):2474-2484.
7. Johnson T. Pharmacologic Management of Blood Pressure. *Critical Care Pharmacotherapeutics*. 2012:151.
8. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Adult Obesity



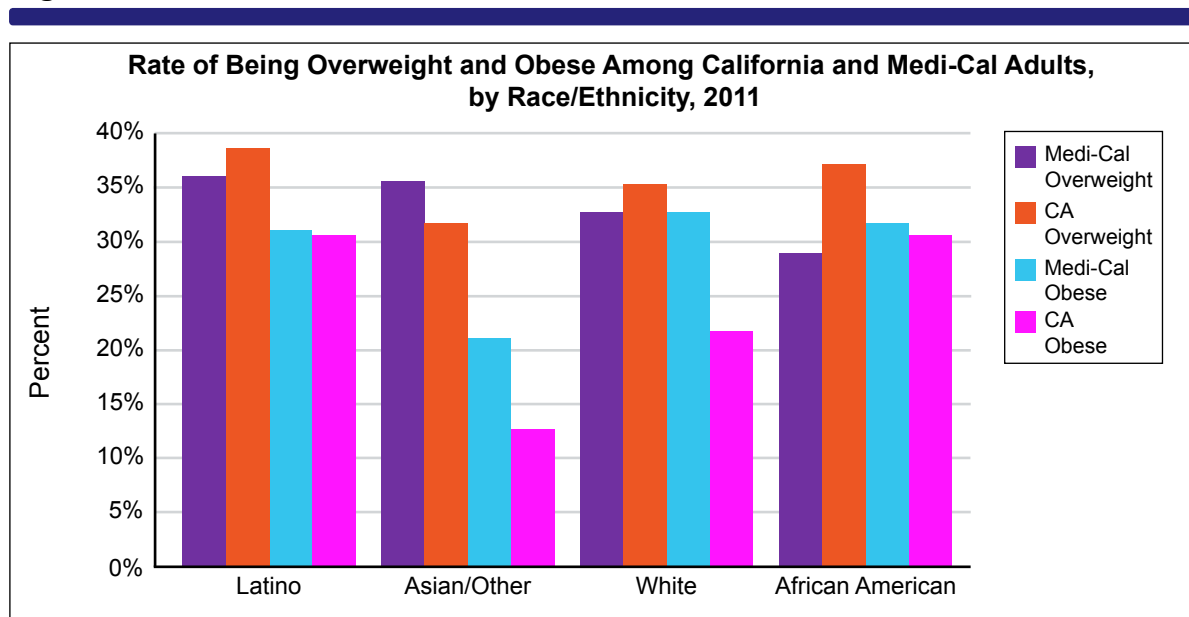
According to a 2012 Institute of Medicine report, two-thirds of adults in the United States are overweight or obese and the proportion of those who are obese has more than doubled since 1976-1980. Some of the health consequences of obesity include high blood pressure, high cholesterol, cardiovascular disease, and diabetes.¹ Many of the health care costs of these chronic diseases are paid for with public dollars. It has been estimated that total Medicare and Medicaid spending reductions would be 8.5% and 11.8%, respectively, in the absence of obesity.²

Adults with a Body Mass Index (BMI) of 25 to 29.9 are defined as overweight and those with a BMI of 30 and above are classified as obese. Among adult Californians, Latinos and African Americans reported higher rates of being overweight and obese than Whites and Asians/Others (see Figure).

In the adult Medi-Cal population, Latinos and Asians/Others reported higher rates of being overweight than Whites and African Americans. The highest rates for obesity were among Whites and African Americans and the lowest was among Asians/Others. Medi-Cal adults were more likely to report being overweight than California adults only in the Asian/Other population. Regardless of race/ethnicity, however, Medi-Cal adults were more likely to report being obese compared to California adults. Due to the small number of Asian/Other adults in the sample, results for this group should be interpreted with caution.



Figure



Source: Behavioral Risk Factor Surveillance Survey, 2011 - California Data File.

1. IOM (Institute of Medicine). 2012. *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*. Washington, DC: The National Academies Press.
2. Finkelstein EA, TrogonJG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: Payer- and service-specific estimates. *Health Affairs*. 2009;28(5):w822-w831.

[Link to Data Sources and Methods](#)

Health Disparities in the Medi-Cal Population

Adolescent Depression



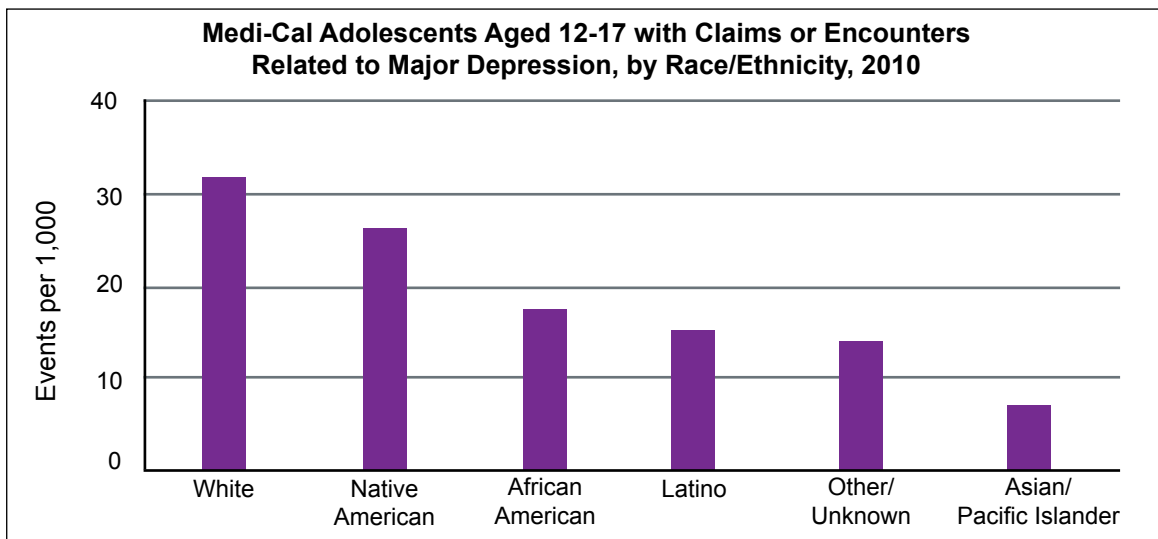
Depression involves five or more symptoms such as sad mood or diminished interest that are continuously present for at least two weeks.¹ Depression among adolescents is influenced by stressful events and changes associated with maturing, sex hormones, and interpersonal conflicts.² Research has shown that adolescent girls are twice as likely as boys to experience depression.³

The *Let's Get Healthy California Task Force Final Report* provided survey data that suggested about one-third of 7th, 9th, and 11th graders experienced sad or hopeless feelings in the past 12 months.⁴ In a national survey, 8.0% of 12 to 17 year olds reported a "major depressive episode."⁵ Unfortunately, one report suggested that only 38.9% of adolescents who experienced at least one major depressive event in the last year received treatment for major depression.⁶



Medi-Cal claims and encounter data suggested that about 1.7% of adolescents between the age of 12 and 17 received medical treatment for depression. Although possibly related to data quality problems such as incomplete reporting of managed care encounter data, there were racial/ethnic disparities associated with treatment of depression (see Figure). Native Americans and Whites were more likely than other groups to receive treatment for a major depression event. The rate for Asians and Pacific Islanders was substantially lower.

Figure



Source: Medi-Cal MIS/DSS and Symmetry ETG Groupers, 2010 Ver. 8.0.
Note: Members eligible for both Medicare and Medicaid were excluded.

1. Centers for Disease Control and Prevention. Depression. <http://www.cdc.gov/mentalhealth/basics/mental-illness/depression.htm>. Published December 16, 2011. Accessed May 2013.
2. Rudolph KD, Gotlib I, Hammen C. Adolescent depression. *Handbook of depression*. 2009:444-466.
3. Naninck E, Lucassen P, Bakker J. Sex differences in adolescent depression: Do sex hormones determine vulnerability? *J Neuroendocrinology*. 2011;23(5):383-392.
4. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.
5. National Survey on Drug Use and Health, Substance Abuse and Mental Health Services Administration.
6. Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (May 11, 2009). The NSDUH Report: Major Depressive Episode and Treatment among Adolescents. Rockville, MD.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Adult Depression

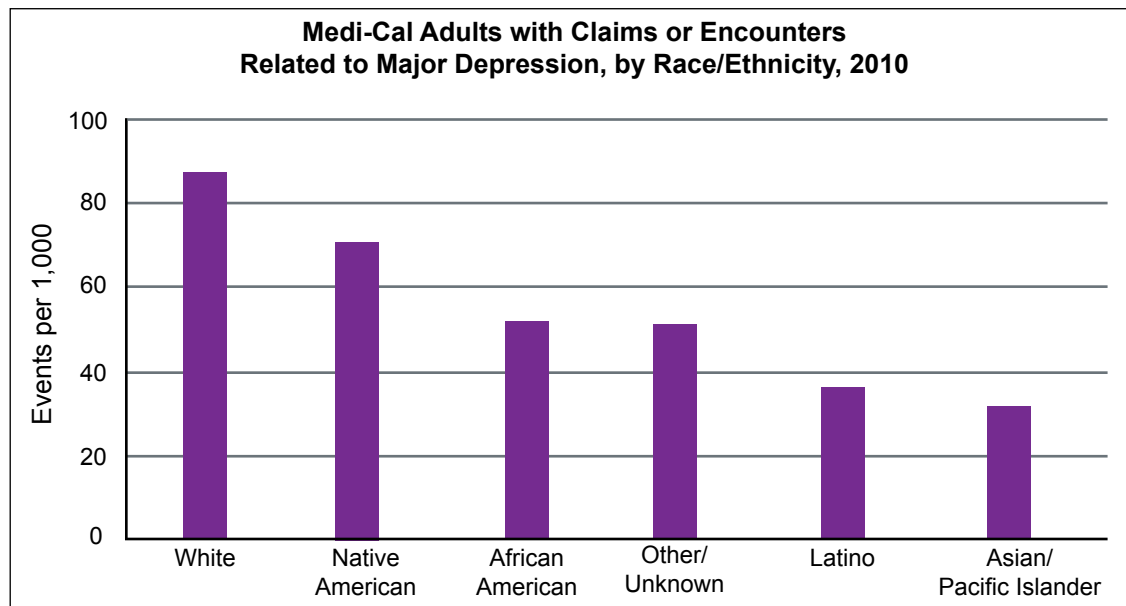


Depression involves five or more symptoms such as sad mood or diminished interest that are continuously present for at least two weeks.¹ Major depression affects between 5% and 10% of patients in primary care settings, and often goes undiagnosed and untreated.² Depression has negative impacts on interpersonal relationships and one's ability to perform in the workplace. In addition, depression is associated with suicide and other adverse health behaviors such as smoking, alcohol consumption, physical inactivity, and sleep disturbance.¹

The *Let's Get Healthy California Task Force Final Report* reported that 6% of California adults have experienced a Major Depressive Episode.³ Medi-Cal claims and encounter data suggested that about 4.9% of adults (aged 18-64) received some type of medical treatment for depression. Although possibly related to data quality problems such as incomplete reporting of managed care encounter records, there were racial/ethnic disparities associated with treatment of depression (see Figure). Whites and Native Americans were more likely than other groups to receive treatment for a major depression event. The rate for Asians and Pacific Islanders was substantially lower.



Figure



Source: Medi-Cal MIS/DSS and Symmetry ETG Groupers, 2010 Ver. 8.0.
Note: Members eligible for both Medicare and Medicaid were excluded.

1. Centers for Disease Control and Prevention. Depression. <http://www.cdc.gov/mentalhealth/basics/mental-illness/depression.htm>. Published December 16, 2011. Accessed May 2013.
2. Gilbody S, Richards D, Brealey S, Hewitt C. Screening for depression in medical settings with the Patient Health Questionnaire (PHQ): A diagnostic meta-analysis. *J Gen Intern Med.* 2007;22(11):1596-1602.
3. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013. The report acknowledges that this measure of depression is a placeholder until better measures are developed.

Health Disparities in the Medi-Cal Population

Colorectal Cancer Screening



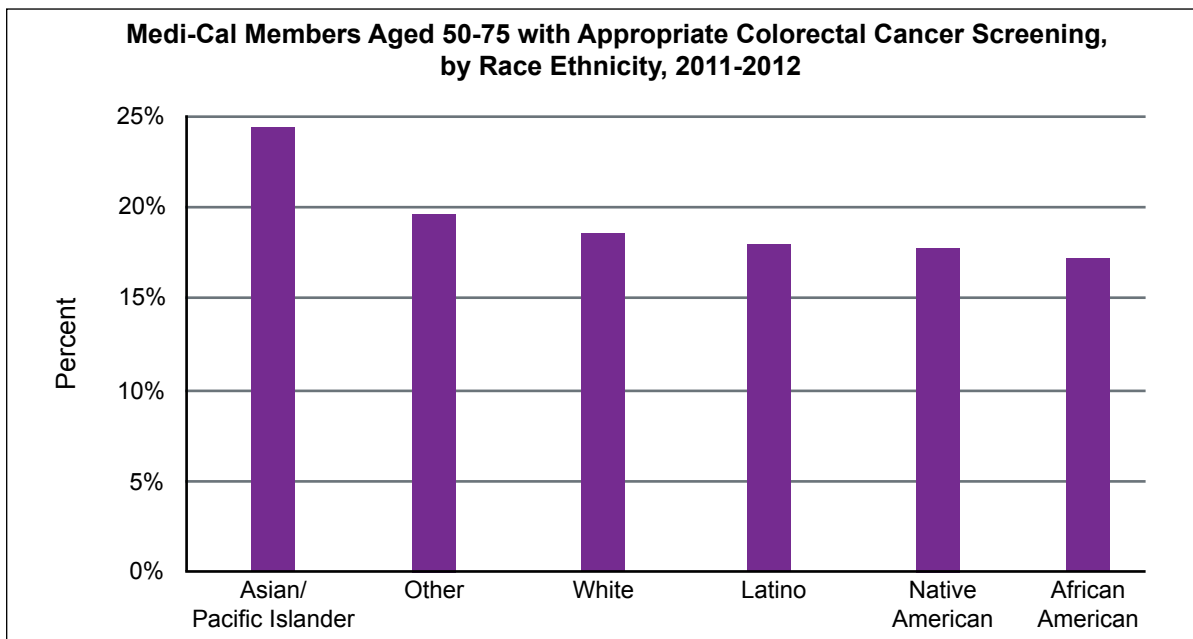
Colorectal cancer involves abnormal cell growth in the colon or rectum. Following lung cancer, colorectal cancer is the second leading cause of cancer death in the United States. Risk factors include age, presence of polyps, personal/family history, diet, exercise, and smoking.¹

Colorectal cancer screening includes sigmoidoscopy, colonoscopy, and fecal occult blood testing to detect problems before symptoms emerge.² There is evidence that colorectal cancer screening saves lives.^{1,3} Given this evidence, the U.S. Preventive Services Task Force recommends colorectal cancer screening for men and women aged 50 to 75.¹



Claims and encounter data from the Medi-Cal data warehouse were used to create a Healthcare Effectiveness Data and Information Set (HEDIS) quality indicator to measure patients 50 to 75 years of age that received appropriate screening for colorectal cancer (see Figure). Screening rates were substantially higher for Asians/Pacific Islanders as compared to the other racial/ethnic categories.

Figure



Source: Medi-Cal MIS/DSS and Symmetry EBM Groupers, Version 8.0; July 1, 2011 - June 30, 2012.
Note: Members eligible for both Medicare and Medicaid were excluded.

1. Centers for Disease Control and Prevention. Colorectal (Colon) Cancer. http://www.cdc.gov/cancer/colorectal/basic_info/index.htm. Published February 26, 2013. Accessed February 2013.
2. Burt RW, Barthel JS, Dunn KB, et al. Colorectal cancer screening. *J Natl Compr Canc Netw*. 2010;8(1):8-61.
3. Pignone M, Saha S, Hoerger T, Mandelblatt J. Cost-effectiveness analyses of colorectal cancer screening: A systematic review for the US Preventive Services Task Force. *Annu Intern Med*. 2002;137(2):96-104.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Palliative Care

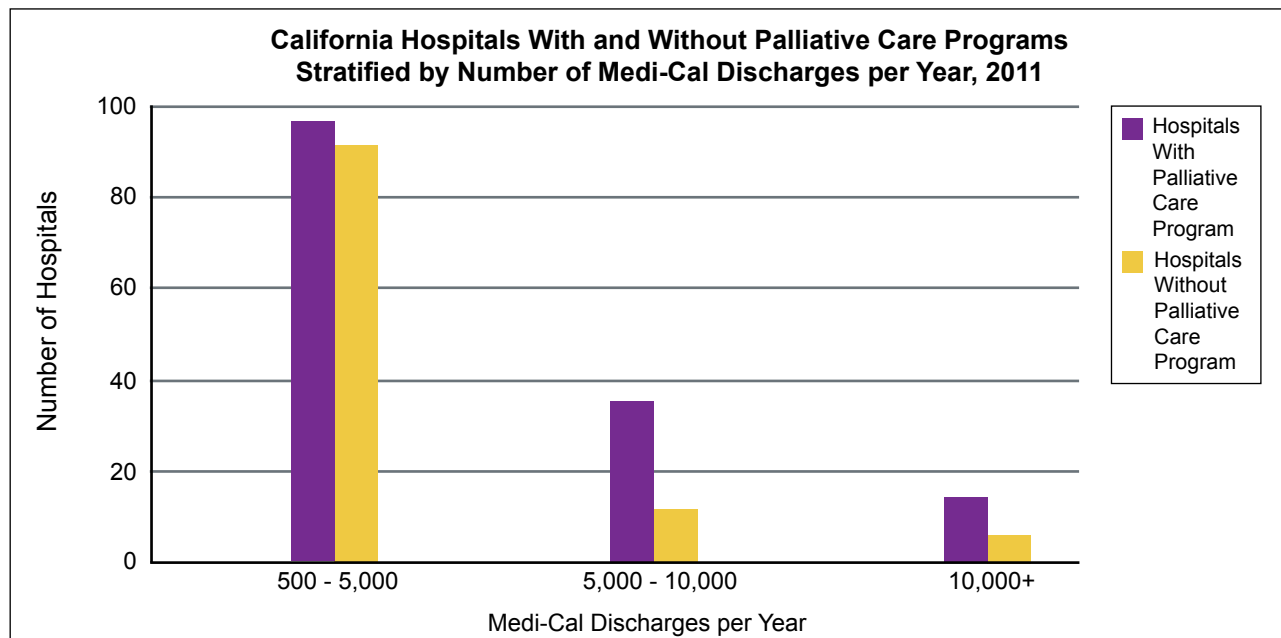


Palliative care programs help people and their families manage the pain and stress of serious diseases rather than to treat or seek a cure. As a specialized type of medical care, palliative care can increase patients' quality of life and in some instances extend life. It can also provide options about how and where to manage terminal illnesses.¹ Studies showed that palliative care programs can reduce costs.¹⁻³ Based on surveys of California hospitals, between 2007 and 2011, pediatric palliative care increased by 128% and adult palliative care increased by 24%. In 2011, 53% of California hospitals had some type of palliative care program.¹

It is important to understand the degree to which Medi-Cal members have access to palliative care. One important initiative has led to a 3-fold increase in palliative care programs in California public hospitals (from 4 to 12).⁴ The Figure below shows the number of hospitals in three groups categorized by the number of Medi-Cal hospital discharges per year. The Figure then shows the proportion of the hospitals with palliative care programs.⁵ For example, there were 185 hospitals with between 500 and 5,000 Medi-Cal discharges per year, and within this group, 96 (52%) of the hospitals had a palliative care program. Hospitals that treat a large number of Medi-Cal members each year generally have palliative care programs.



Figure



Source: UCSF Palliative Care Survey of California Hospitals; Office of Statewide Health Planning and Development (OSHPD) facility reports, 2011.

1. California Healthcare Foundation. When compassion is the cure: Progress and promise in hospital-based palliative care. 2012 Foundation, conducted by UCSF
2. Morrison RS, Dietrich J, Ladwig S, et al. Palliative care consultation teams cut hospital costs for Medicaid beneficiaries. *Health Aff.* 2011;30(3):454-463.
3. Morrison RS, Penrod JD, Cassel JB, et al. Cost savings associated with US hospital palliative care consultation programs. *Arch Intern Med.* 2008;168(16):1783.
4. Brousseau RT, Jameson W, Kalanj B, Kerr K, O'Malley K, Pantilat S. A multifaceted approach to spreading palliative care consultation services in California public hospital systems. *J Qual Assur.* 2012;34(2):77-85.
5. Pantilat SZ, Kerr KM, Billings JA, Bruno KA, O'Riordan DL. Palliative care services in California hospitals: Program prevalence and hospital characteristics. *J Pain Symptom Manage.* 2012;43(1):39-46.

Health Disparities in the Medi-Cal Population

Preventable Hospitalizations



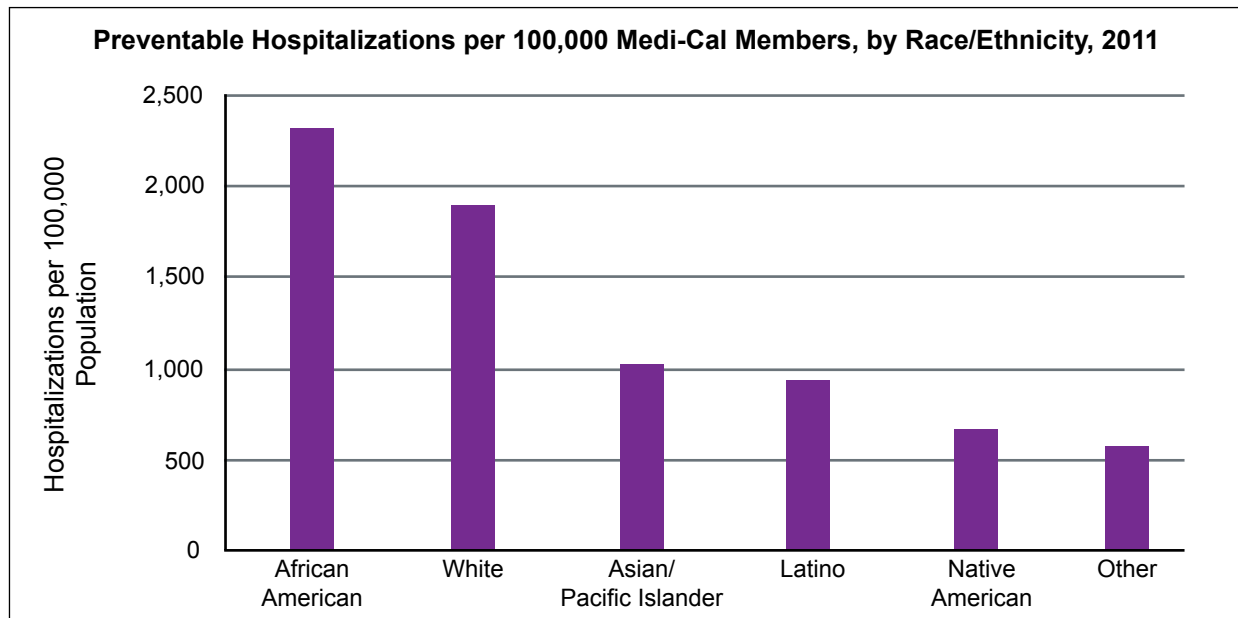
When conditions like diabetes, congestive heart failure, and asthma are managed properly in ambulatory care settings, fewer people experience acute complications that require inpatient hospitalization.¹ Thus, many hospitalizations are preventable as a result of better access to high-quality outpatient care.²

The *Let's Get Healthy California Task Force Final Report* provided an overall California rate of 1,243 preventable hospitalizations per 100,000 people (age-sex adjusted).³ For the Medi-Cal population, however, the unadjusted preventable hospitalization rate was slightly higher at 1,290 per 100,000.⁴



Preventable hospitalizations for the Medi-Cal population are presented by race/ethnicity in the Figure below. African Americans had the highest rates, followed by Whites, Asians/Pacific Islanders, Latinos, Native Americans, and Others.

Figure



Source: Numerators: Office of Statewide Health Planning and Development (OSHPD) Patient Discharge Data, 2011; Denominators: Medi-Cal MIS/DSS, 2011.

Note: Rates produced from the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators Composite, Version 4.4. Members eligible for both Medicare and Medicaid were excluded.

1. Oster A, Bindman AB. Emergency department visits for ambulatory care sensitive conditions: Insights into preventable hospitalizations. *Med Care*. 2003;41(2):198-207.
2. Caminal J, Starfield B, Sánchez E, Casanova C, Morales M. The role of primary care in preventing ambulatory care sensitive conditions. *Eur J Public Health*. 2004;14(3):246-251.
3. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.
4. Office of Statewide Health Planning and Development (OSHPD), Patient Discharge Data, 2011.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Hospital Readmissions



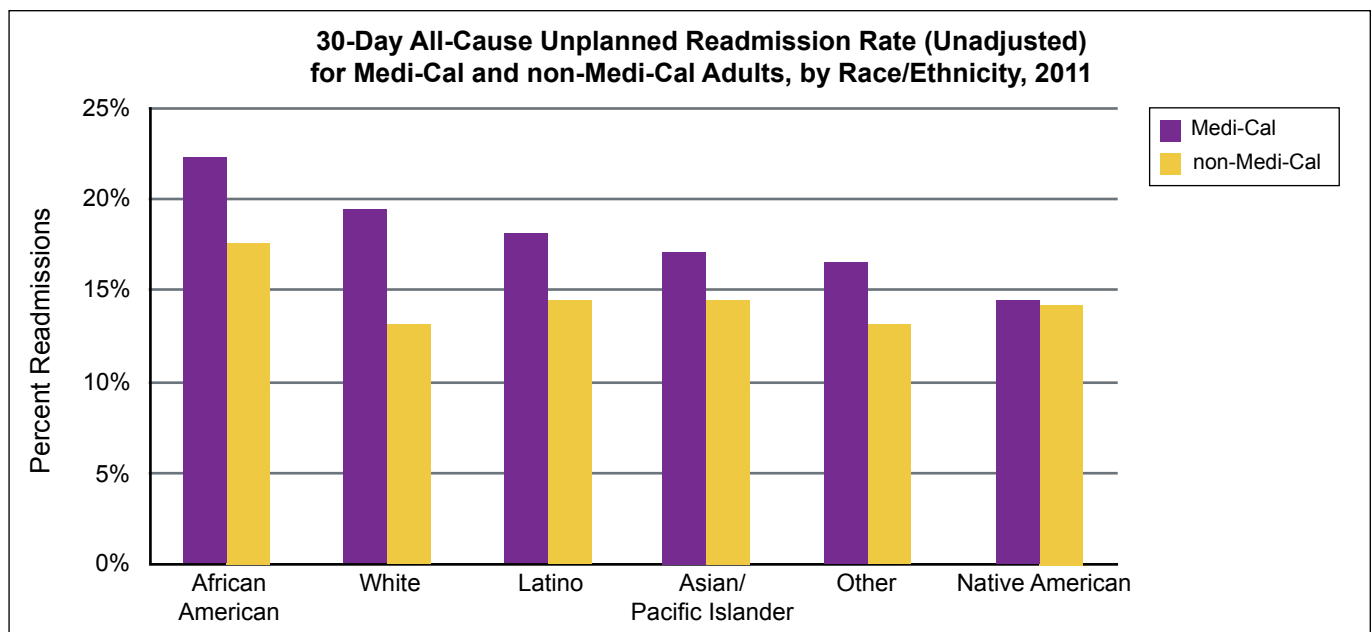
A large proportion of hospital readmissions are attributed to people with chronic diseases such as congestive heart failure and diabetes.¹ Research suggests that hospital readmissions are both costly and potentially dangerous to patients.² Fortunately, there is evidence that hospital readmissions can be reduced through better coordination of care.³ For example, clear discharge instructions and post-discharge communication may help patients better manage their own health and prevent acute episodes that require re-hospitalization.⁴ Evidence is leading to policy changes. Medicare is reducing payment for specific readmissions and Medi-Cal has started a Statewide collaborative to reduce All-Cause Readmissions using quality improvement projects.⁵

The *Let's Get Healthy California Task Force Final Report* provided an overall California readmission rate of 14.1%.⁶ The hospital readmission rate for the Medi-Cal population was higher at 18.7%.⁷



Readmission rates vary by race/ethnicity, yet the differences were the most striking for the Medi-Cal population. For example, although there was only a small difference between the Medi-Cal and non-Medi-Cal population among Native Americans, the readmission rates were substantially different for Whites. African Americans, Latinos, Asians/Pacific Islanders, and Others also had higher rates among the Medi-Cal population, yet the relative difference was not as extreme as among Whites.⁶

Figure



Source: Office of Statewide Health Planning and Development (OSHPD) Discharge Data, 2011.

1. Kelly MD. Self-management of chronic disease and hospital readmission: A care transition strategy. *J Nurs Health Chronic Illn.* 2011;3(1):4-11.
2. Kocher RP, Adashi EY. Hospital readmissions and the Affordable Care Act: Paying for coordinated quality care. *JAMA.* 2011;306(16):1794-1795.
3. Benbassat J, Taragin MI. The effect of clinical interventions on hospital readmissions: A meta-review of published meta-analyses. *Israel J. of Health Policy Res.* 2013;2(1):1-15.
4. Jack BW, Chetty VK, Anthony D, et al. A reengineered hospital discharge program to decrease rehospitalization: A randomized trial. *Annu Intern Med.* 2009;150(3):178.
5. Statewide Collaborative Quality Improvement Project All-Cause Readmissions Interim Report June 2011 – May 2013. http://www.dhcs.ca.gov/dataandstats/reports/Documents/MMCD_Qual_Rpts/EQRO_QIPs/CA2012-13_QIP_Coll_ACR_Interim_Report_F2.pdf. Accessed September 30, 2013.
6. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.
7. Office of Statewide Health Planning and Development (OSHPD), Patient Discharge Data, 2011.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Hospital-Acquired Conditions



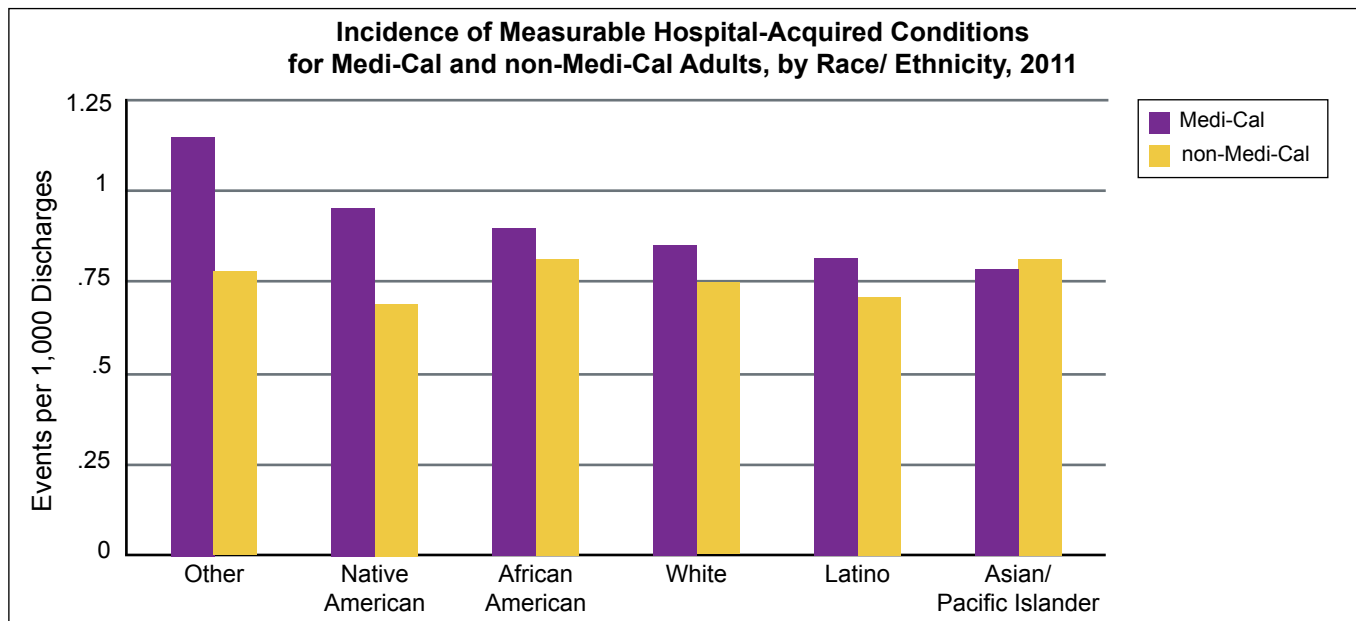
Hospital care offers people many opportunities for improved health. However, hospital care can be potentially dangerous with a possible 98,000 or more people dying each year in the United States from hospital-acquired conditions.¹ Hospital-acquired infections—one important category of hospital-acquired conditions—are expensive with an estimated national cost between \$38 and \$45 billion dollars each year.²

Numerous initiatives at the state and federal levels are striving to reduce hospital-acquired infections, and quality improvement programs have shown great potential to reduce hospital-acquired conditions.³

Hospital-acquired conditions averaged 0.75 per 1,000 hospital discharges for the California non-Medi-Cal population and 0.84 per 1,000 discharges for Medi-Cal members.⁴ The rates among racial/ethnic groups for the non-Medi-Cal populations are relatively similar. Within the Medi-Cal population, however, there are larger differences between racial/ethnic groups. The racial/ethnic category Other, and to a lesser extent Native Americans, have relatively higher rates as compared to African Americans, Whites, Latinos, and Asians/Pacific Islanders.



Figure



Source: Office of Statewide Health Planning and Development (OSHPD), Patient Discharge Data, 2011.

Note: Rates produced from the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicator (PSI) Composite, Version 4.4.

1. Kohn LT, Corrigan J, Donaldson MS. To err is human: Building a safer health system. Vol 6: Joseph Henry Press; 2000.
2. Let's Get Healthy California Task Force Final Report. <http://www.chhs.ca.gov/Documents/Let%27s%20Get%20Healthy%20California%20Task%20Force%20Final%20Report.pdf>. Published December 19, 2013. Accessed February 25, 2013.
3. Leape LI, BDM. Five years after to err is human: What have we learned? *JAMA*. 2005;293(19):2384-2390.
4. Office of Statewide Health Planning and Development (OSHPD), Patient Discharge Data, 2011.

Link to Data Sources and Methods

Health Disparities in the Medi-Cal Population

Walking, Biking, and Skating to School



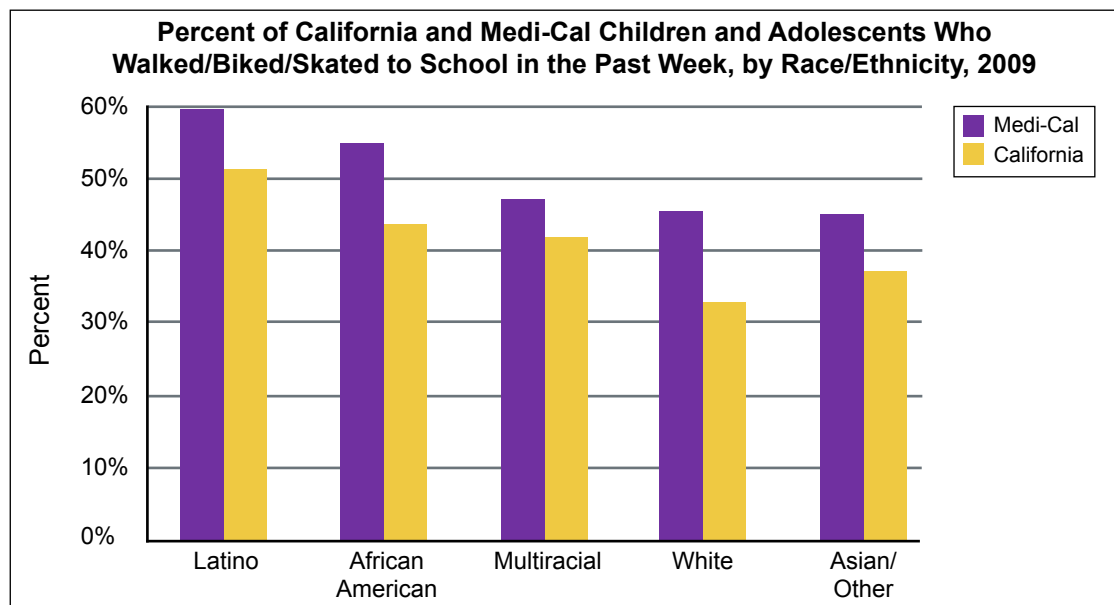
In the 2008 *Physical Activity Guidelines for Americans*, the United States Department of Health and Human Services recommended that children and adolescents engage in at least one hour of moderate or vigorous physical activity each day. Decreased physical activity and an increased sedentary lifestyle have led to increased obesity and chronic diseases (e.g., diabetes and hypertension) among youth. Walking and biking to and from school is one way for children and adolescents to meet this recommendation, and if followed, can lead to better health outcomes.¹

Among California youth, Latinos and African Americans were most likely to walk, bike, or skate to and from school in the past week, while Whites and Asians/Others were the least likely (see Figure).

In the Medi-Cal population, there was a similar pattern with Latino and African American youth being most likely to walk, bike, or skate to and from school in the past week as compared to Multiracial, White, and Asian/Other youth. Regardless of race/ethnicity, the Medi-Cal population reported higher rates of physical activity than the California youth population.



Figure



Source: AskCHIS, California Health Interview Survey, 2009.

1. US Department of Health and Human Services. *Physical activity guidelines for Americans*, 2008. Washington, DC: US Department of Health and Human Services; 2008.

Health Disparities in the Medi-Cal Population

Neighborhood Safety



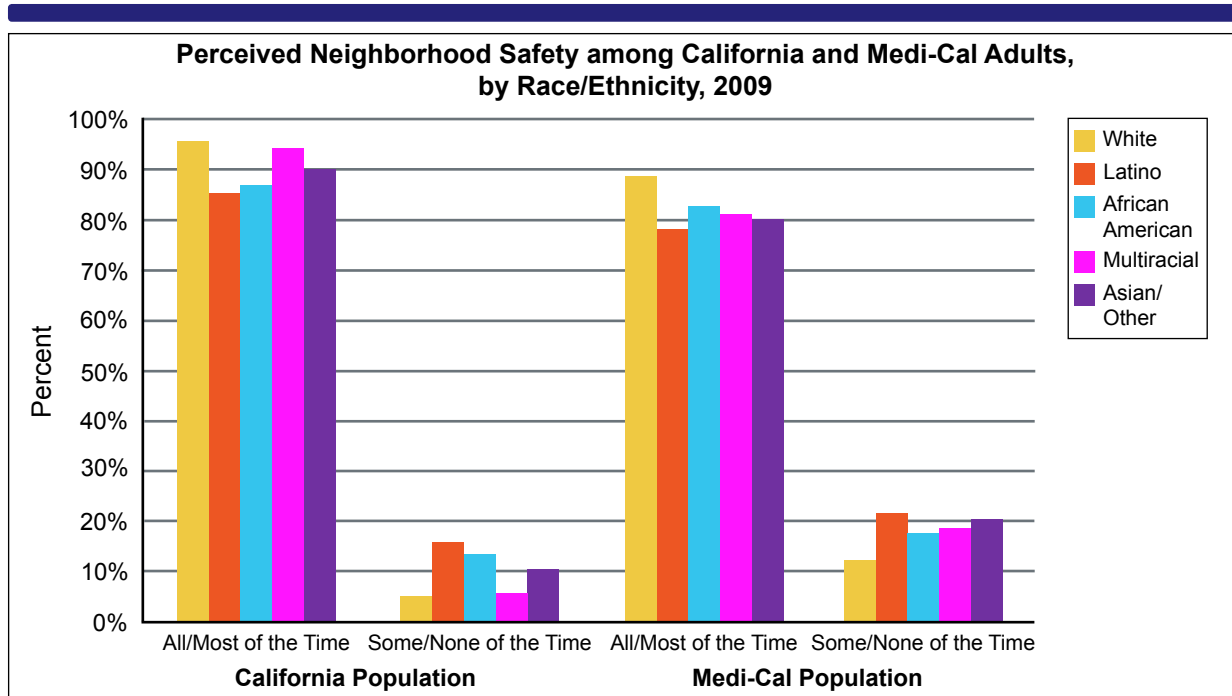
Poor neighborhood safety has been associated with poor health outcomes in adults.¹ Research has shown that a lack of neighborhood safety is associated with obesity, low physical activity,²⁻³ increased tobacco use in pregnant women,⁴ depression in Korean adults,⁵ and decreased adherence to diabetes self-management among adult type 2 diabetics.⁶ Overall, adults who perceive their neighborhoods to be unsafe may be less able to participate in low-cost activities (i.e., walking) and may experience increased stress. These factors may in turn lead to maladaptive coping⁴ and an inability to manage their health.⁶

In California, White adults were more likely to report feeling safe in their neighborhood all or most of the time (95.5%), followed by the Multiracial group (94.1%), Asians/Others (89.9%), African Americans (86.3%), and Latinos (84.9%) (see Figure).

In the California Medi-Cal population, White adults were more likely to report feeling safe in their neighborhood all or most of the time (88.4%), followed by African Americans (81.2%), the Multiracial group (80.4%), Asians/Others (79.9%), and Latinos (78.3%). Regardless of race/ethnicity, the Medi-Cal population reported lower rates of feeling safe in their neighborhood as compared to the general California population.



Figure



Source: California Health Interview Survey, 2009.

1. Fish JS, Ettner S, Ang A, Brown AF. Association of perceived neighborhood safety with [corrected] body mass index. *Am J Public Health*. 2010. Nov;100(11):2296-2303.
2. Kerr J, Norman GJ, Adams MA, Ryan S, Frank L, Sallis JF, Calfas KJ, Patrick K.. Do neighborhood environments moderate the effect of physical activity lifestyle interventions in adults: Health implications. *Health Place*. 2010. Sept;16(5):903-908.
3. Tucker-Seeley RD, Subramanian SV, Li Y, Sorensen G. Neighborhood safety, socioeconomic status, and physical activity in older adults. *Am J Prev Med*. 2009. Sept;37(3):207-213.
4. Patterson F, Seravalli L, Hanlon A, Nelson DB. Neighborhood safety as a correlate of tobacco use in a sample of urban pregnant women. *Addict Behav*. 2012. Oct;37(10):1132-1137.
5. Roh S, Jang Y, Chiriboga DA, Kwag KH, Cho S, Bernstien K. Perceived neighborhood environment affecting physical and mental health: A study with Korean American older adults in New York City. *J Immigr Minor Health*. 2011. Dec;13(6):1005-1012.
6. Billimek J, Sorkin DH. Self-reported neighborhood safety and nonadherence to treatment regimens among patients with type 2 diabetes. *J Gen Intern Med*. 2012. Mar;27(3):292-296.

[Link to Data Sources and Methods](#)