

CALIFORNIA HEALTH CARE ALMANAC



Quality of Care: Steps in the Right Direction

OCTOBER 2013

Introduction

From birth to death, the quality of health care being delivered in California has improved on a number of important measures in recent years. But significant racial and ethnic disparities persist, particularly for infant and maternal mortality as well as for care of patients with heart disease, diabetes, or asthma.

Quality of Care: Steps in the Right Direction looks at the quality of care in California on a variety of measures, including childbirth, children's health, and management of patients with common chronic conditions. It also provides data on patient safety, nursing homes, home health, and end-of-life care.

KEY FINDINGS INCLUDE:

- After a 2005–2007 spike in deaths among African American women giving birth, their mortality rate has declined in recent years, but is still significantly higher than for all other racial groups.
- The percentage of California children receiving recommended vaccines increased 13% from 2010 to 2011. The state performed better than the US in 2011.
- African Americans fare worse than other races for potentially preventable ED visits for pediatric asthma and hospital admissions for diabetes and heart failure.
- California hospitals have markedly improved in the timely and effective delivery of care for heart attack, heart failure, and surgery patients. Deaths from common heart conditions and procedures have declined significantly.
- Nursing homes in California performed well on a number of measures compared to the US, including preventing falls, weight loss, and depression. However, California nursing home patients were more likely to be physically restrained than others in the US.
- Compared to the nation as a whole, California Medicare beneficiaries at the end of life were more likely to die in a hospital and more likely to have an ICU admission in the days preceding death, even though surveys report that most terminally ill patients want to die at home.

Quality of Care

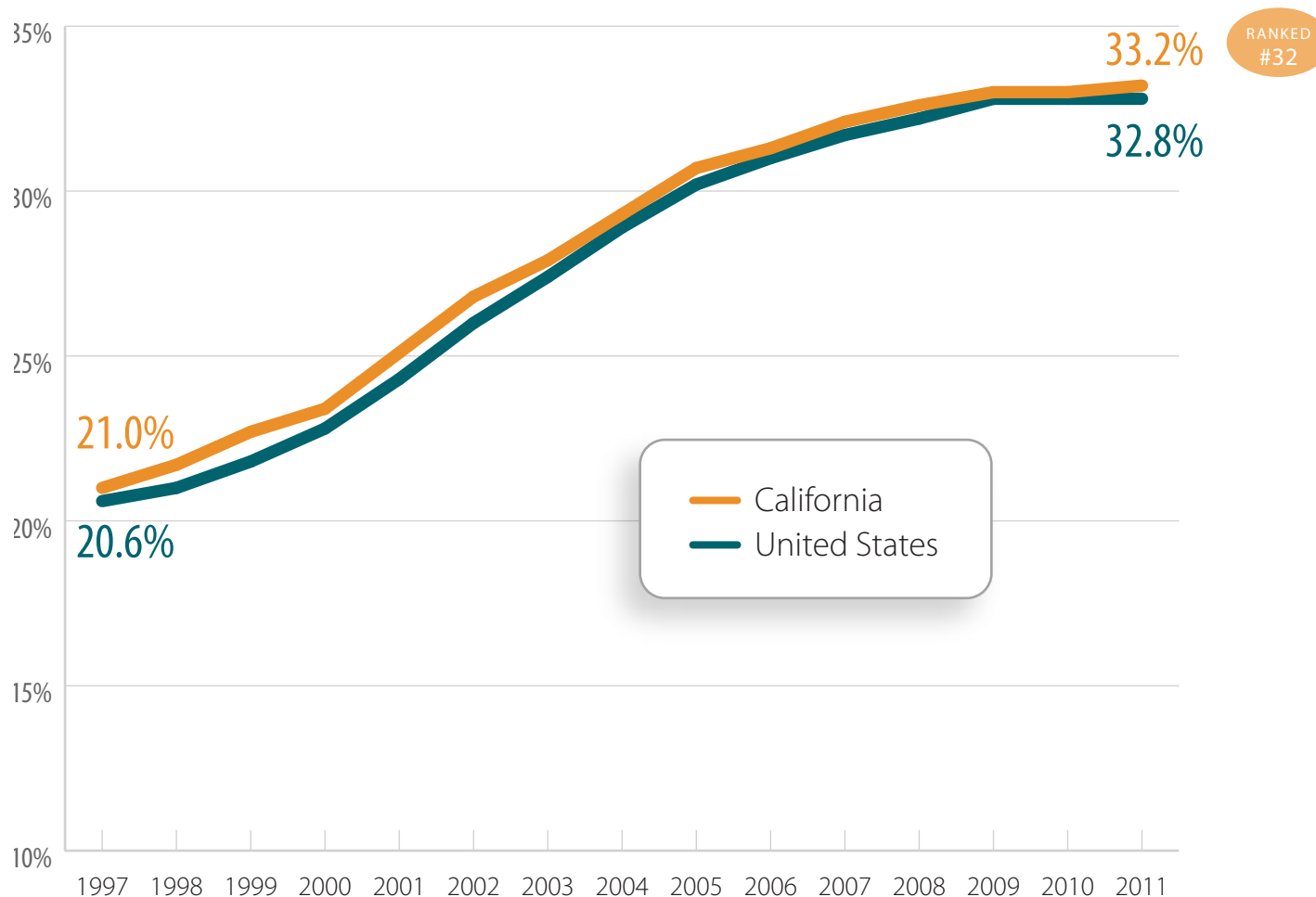
CONTENTS

Maternal Health and Childbirth	3
Children's Health.....	12
Chronic Conditions	16
Diabetes.....	17
Cancer	21
Heart Health.....	25
Respiratory Health.....	29
Patient Safety.....	31
Nursing Homes.....	37
Home Health.....	39
End of Life.....	41
Data Resources.....	43
Appendices	44

Cesarean Deliveries

California vs. United States, 1997 to 2011

PERCENTAGE OF LIVE BIRTHS BY CESAREAN DELIVERY



Sources: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, *Births: Final Data for 2011*, National Vital Statistics Reports, vol. 62, no. 1 (June 28, 2013). CDC, VitalStats, www.cdc.gov, accessed July 16, 2013. CDC, National Center for Health Statistics, "Recent Trends in Cesarean Delivery in the United States," NCHS Data Brief #35, March 2010. California Department of Public Health, "California Grant Application and Annual Report for the Maternal and Child Health Services Title V Block Grant Program," October 1, 2013–September 30, 2014, www.cdph.ca.gov.

Quality of Care

Maternal Health and Childbirth

Rates of cesarean delivery have increased in both the US and California for more than a decade, from one in five births in 1997 to one in three in 2009. Rates have remained stable, at around 33%, since 2009. C-sections are associated with increases in maternal rehospitalizations and complications for infants. In California, in each of the last five years, one in four low-risk women giving birth for the first time had a C-section (not shown).

Birth-Related Trauma

California vs. United States, 2004 and 2009

PER 1,000 LIVE BIRTHS

	CALIFORNIA			UNITED STATES	
	2004	2009	2009 Rank	2004	2009
Injury to Newborn	2.2	1.9	7	2.7	2.2
Obstetric Trauma					
Vaginal Deliveries Without Instrument Assistance	27.8	20.9	8	30.0	22.2
Vaginal Deliveries with Instrument Assistance	144.6	118.1	5	171.7	143.7

Notes: Rates are observed. Rank is out of 39 states. Rates of injury to newborn exclude newborns weighing less than 2,000 grams and those with injury to brachial plexus or with osteogenesis imperfecta (genetic disorder in which the bones are fragile and likely to break). "Obstetric trauma" to mother involves 3rd- or 4th-degree lacerations, and rates are adjusted by age.

Source: Agency for Healthcare Research and Quality (AHRQ), *National Healthcare Quality Report, 2012*, Data Tables Appendix.

Quality of Care

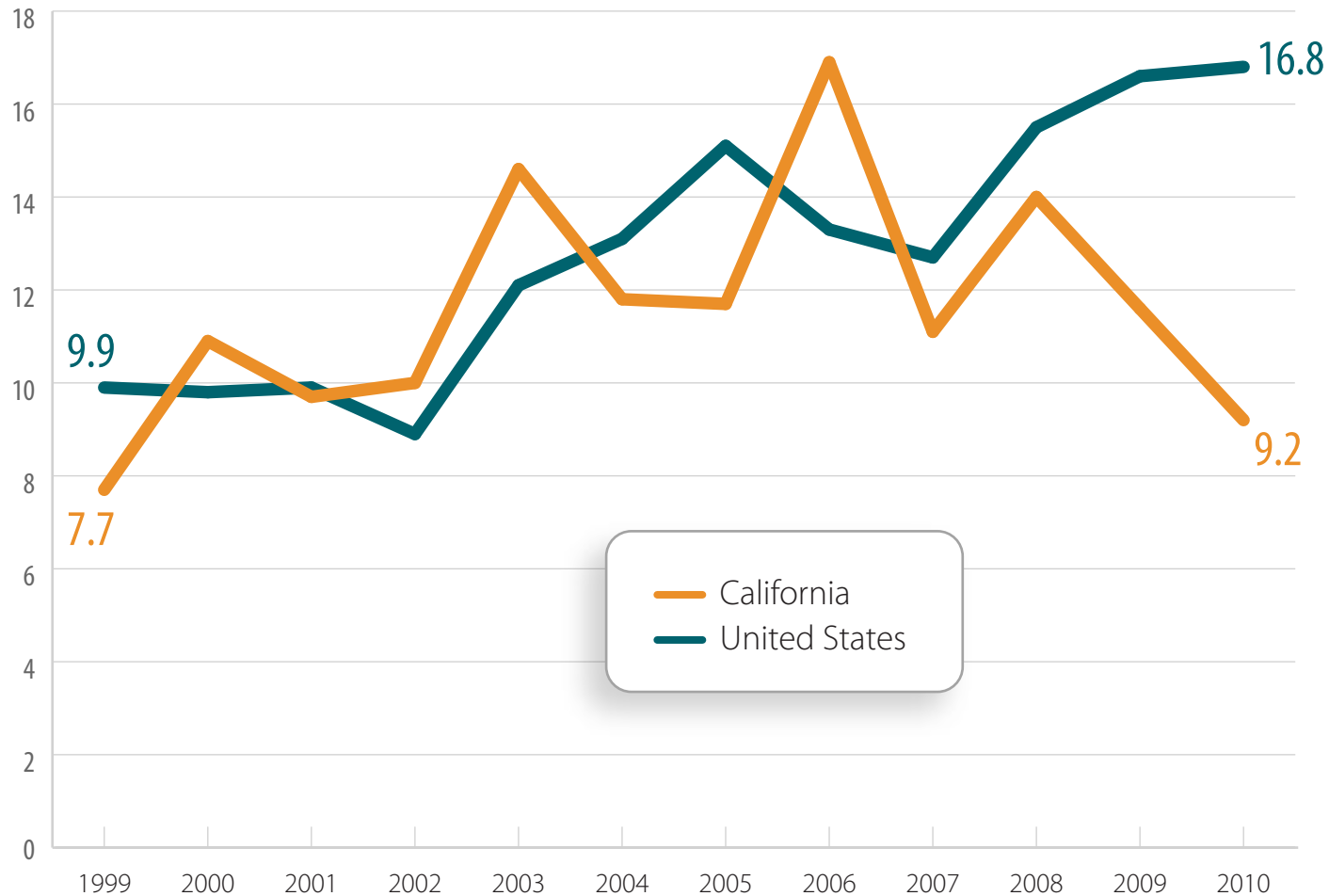
Maternal Health and Childbirth

From 2004 to 2009, California improved its performance on three measures concerning injury to newborns and mothers during childbirth. In 2009, California performed better than the national average and was ranked in the top 10 states on all three measures.

Maternal Mortality Trend

California vs. United States, 1999 to 2010

DEATHS PER 100,000 LIVE BIRTHS



Note: Maternal mortality refers to deaths 42 days or less postpartum.

Source: California Department of Public Health, Maternal, Child, and Adolescent Health Program, *Maternal Mortality Rate*, www.cdph.ca.gov, accessed May 13, 2013.

Quality of Care

Maternal Health and Childbirth

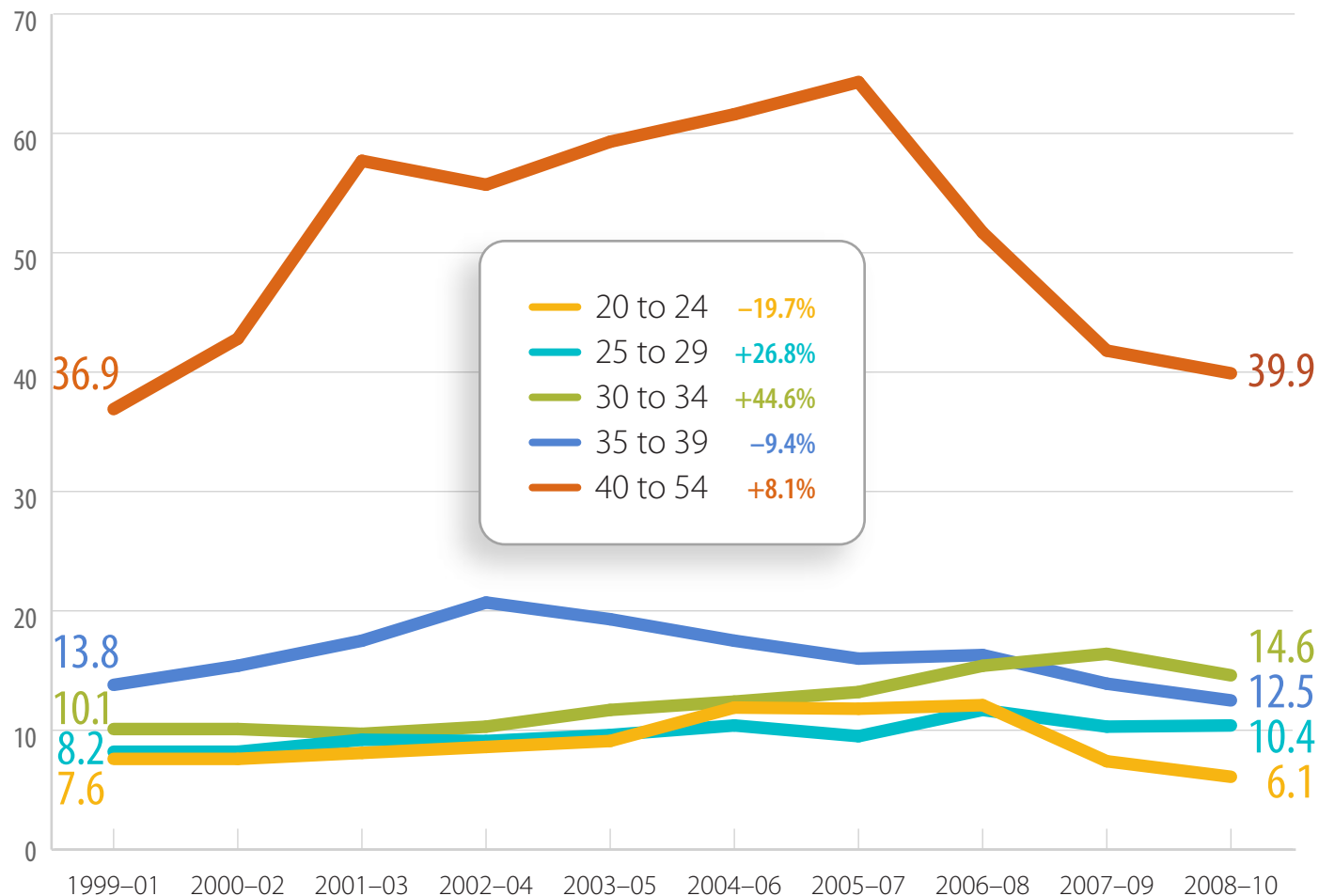
The maternal mortality rate in the US rose dramatically from 1999 to 2010. In California, the rate more than doubled from 1999 to 2006. However, since 2008, the state's maternal mortality rate has declined, and its 2010 rate of 9.2 deaths per 100,000 live births is below the US Healthy People 2020* objective of 11.4.

*The US government's Healthy People 2020 establishes science-based 10-year national objectives for improving the health of all Americans, www.healthypeople.gov.

Maternal Mortality Rates, by Age of Mother

California, 1999 to 2010, Selected Years

DEATHS PER 100,000 LIVE BIRTHS



Notes: Maternal mortality refers to deaths 42 days or less postpartum. A three-year moving average is used. Percentage change represents 11-year period shown.

Sources: California Department of Public Health, Maternal, Child, and Adolescent Health Program, *Maternal Mortality Rate*, www.cdph.ca.gov, accessed May 13, 2013. Personal communication with California Department of Public Health, January 24, 2013.

Quality of Care

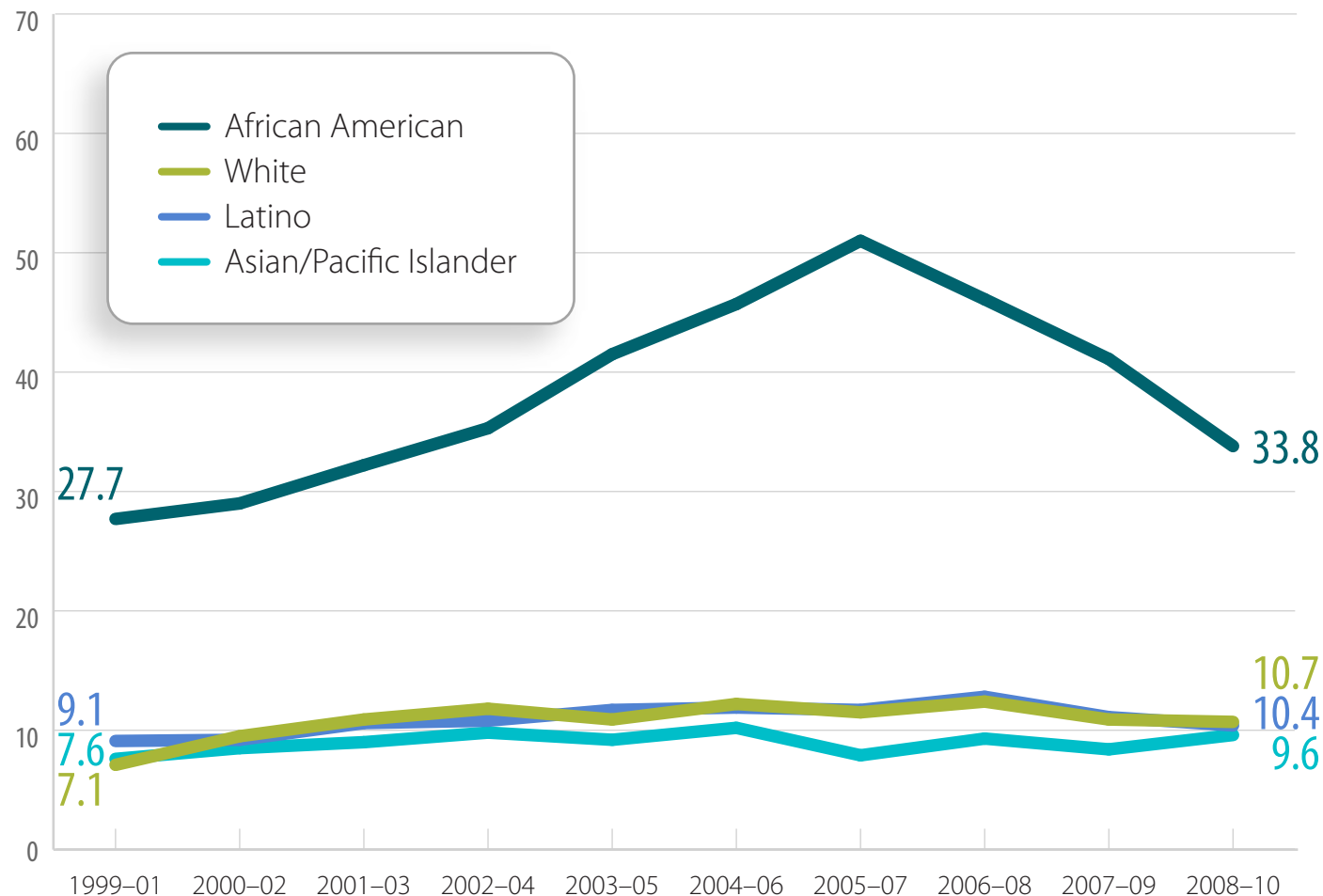
Maternal Health and Childbirth

Mothers age 40 and older have had a significantly higher mortality rate than other age groups in California. The rate for this age group increased substantially from 1999–2001 to 2005–2007, before declining nearly as dramatically. In contrast, the mortality rate for mothers between 25 and 34 had the largest increase over the decade, while the rates for those age 35 to 39 and 20 to 24 have declined slightly.

Maternal Mortality Rates, by Race/Ethnicity

California, 1999 to 2010, Selected Years

DEATHS PER 100,000 LIVE BIRTHS



Notes: Maternal mortality refers to deaths 42 days or less postpartum. A three-year moving average is used.

Source: California Department of Public Health, Maternal, Child, and Adolescent Health Program, www.cdph.ca.gov, accessed May 13, 2013.

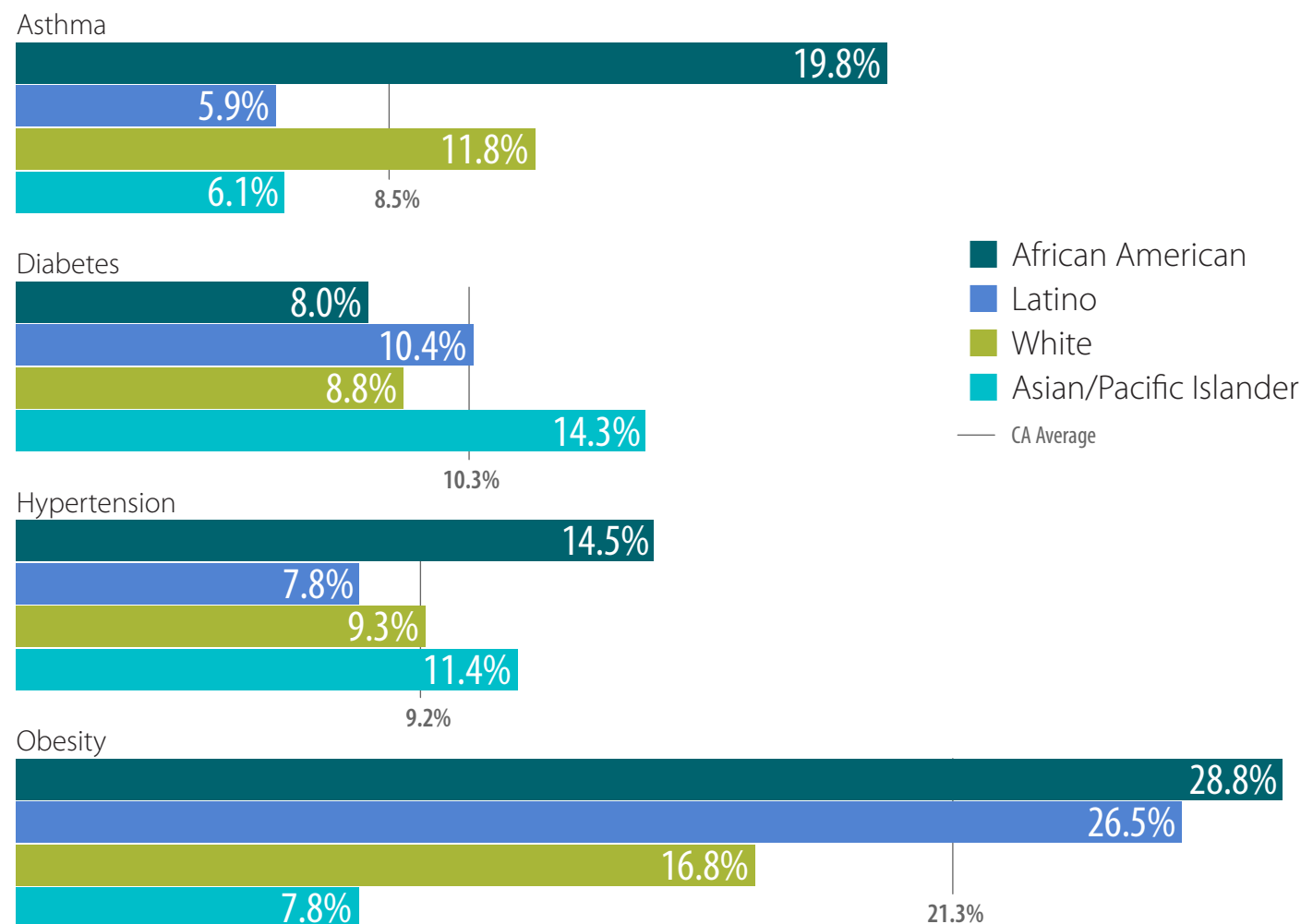
Quality of Care

Maternal Health and Childbirth

African American mothers were three times more likely to die from pregnancy-related causes than other racial and ethnic groups in 2008–2010. However, their mortality rate decreased 34% between 2005–2007 and 2008–2010.

Selected Chronic Conditions Before or During Pregnancy

by Race/Ethnicity, California, 2011



Notes: Data from a survey of 6,853 California resident women with a live birth in 2011. Diabetes includes gestational diabetes. Hypertension includes preeclampsia and eclampsia. Obesity rates are before pregnancy only. Weight classifications based upon body mass index (BMI). BMI calculated only for women with height within 48 to 83 inches and weight within 75 to 399 pounds and excludes BMI values outside the 13 to 69.99 range. Obesity is 30 and higher.

Sources: California Department of Public Health, Maternal, Child, and Adolescent Health Program, Maternal and Infant Health Assessment Survey, 2011. Obesity data from California Department of Public Health, Maternal, Child, and Adolescent Health Program, California Birth Statistical Master File, 2011.

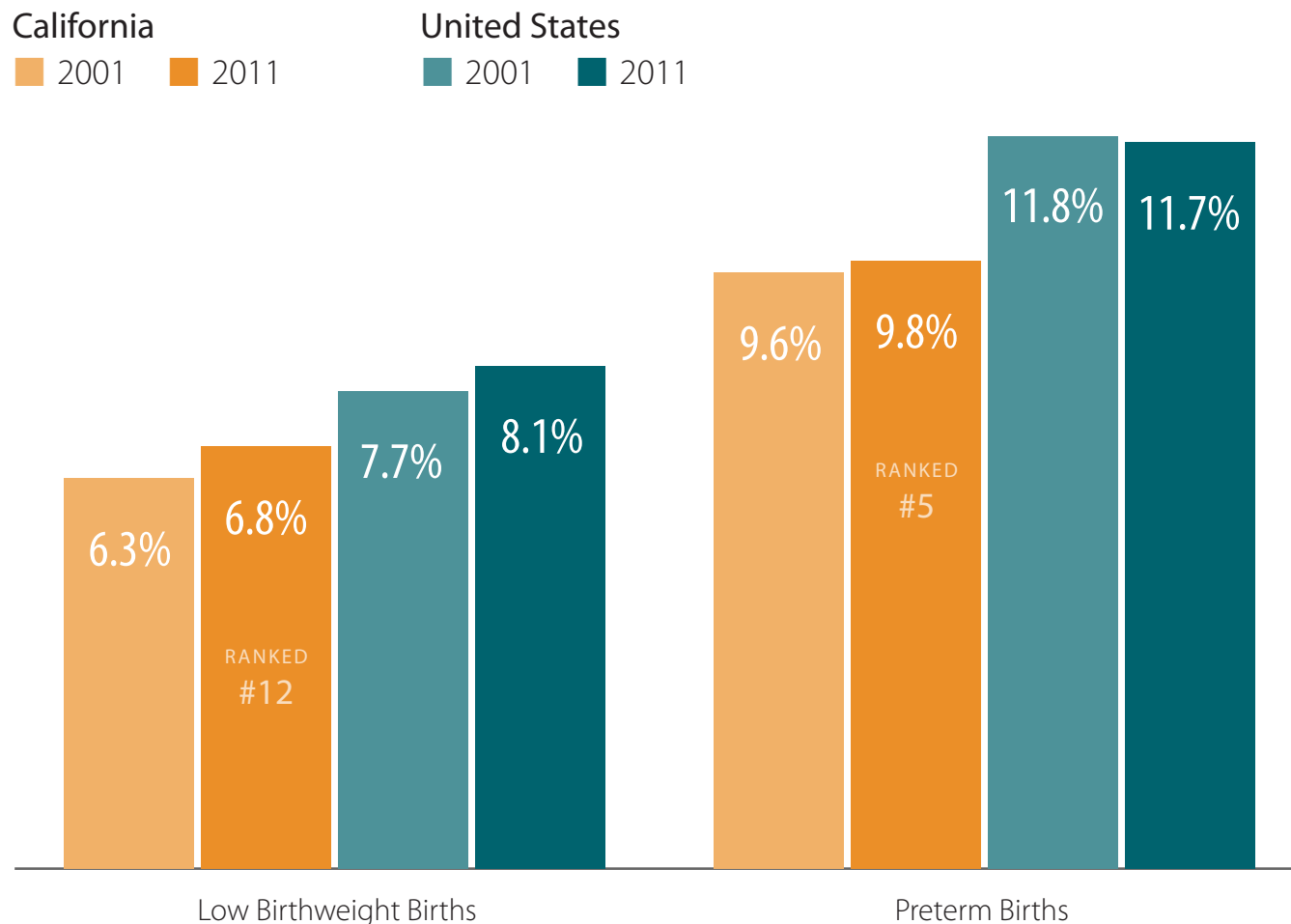
Quality of Care

Maternal Health and Childbirth

Four chronic conditions affect high percentages of California women before or during pregnancy. In 2011, racial and ethnic disparities existed for all four conditions. African American women had the highest rates of obesity (29%), hypertension (15%), and asthma (20%), while Asian/Pacific Islander women had the highest rate of diabetes (14%).

Childbirth-Related Measures

California vs. United States, 2001 and 2011



Note: Low birth weight is less than 2,500 grams. Preterm is less than 37 completed weeks of gestation. Data for 2011 are preliminary. Rank is out of 50 states and the District of Columbia. For preterm birth rate, California was tied with one other state.

Sources: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, *Births: Final Data for 2011*, National Vital Statistics Reports, vol. 62 no. 1 (June 28, 2013). CDC, VitalStat, www.cdc.gov, accessed May 13, 2013.

Quality of Care

Maternal Health and Childbirth

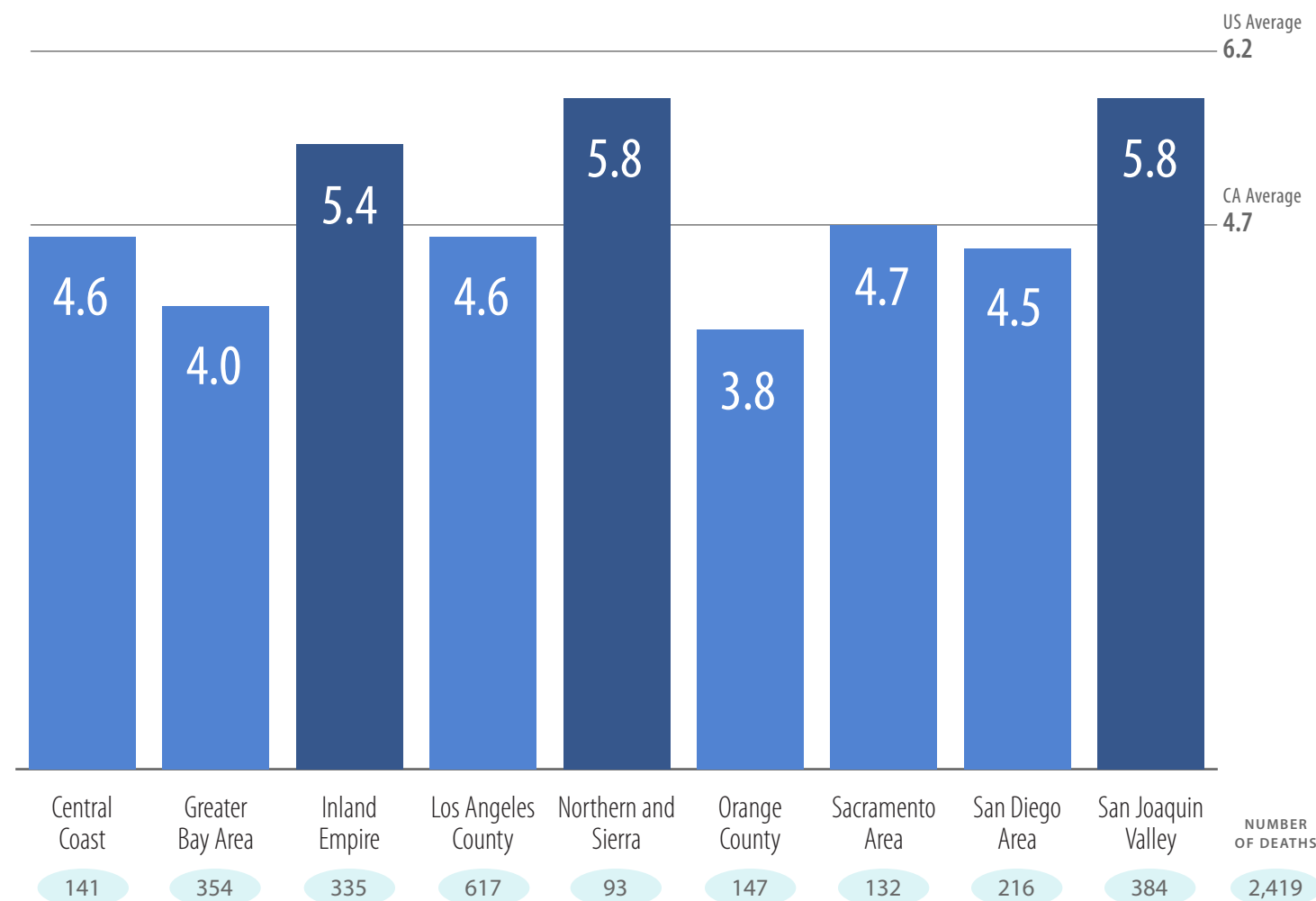
California's rates of low birthweight and preterm births from 2001 to 2011 were lower than the national average. California rates for both measures were also below the Healthy People 2020* targets of 7.8% for low birthweight and 11.4% for preterm births.

*The US government's Healthy People 2020 establishes science-based 10-year national objectives for improving the health of all Americans, www.healthypeople.gov.

Infant Mortality and Deaths, by Region

California, 2010

DEATHS PER 1,000 LIVE BIRTHS



Note: Infant is under 1 year.

Source: Author analysis using California Department of Public Health, Maternal, Child, and Adolescent Health Program, *Infant Mortality*, www.cdph.ca.gov (May 22, 2012).

Quality of Care

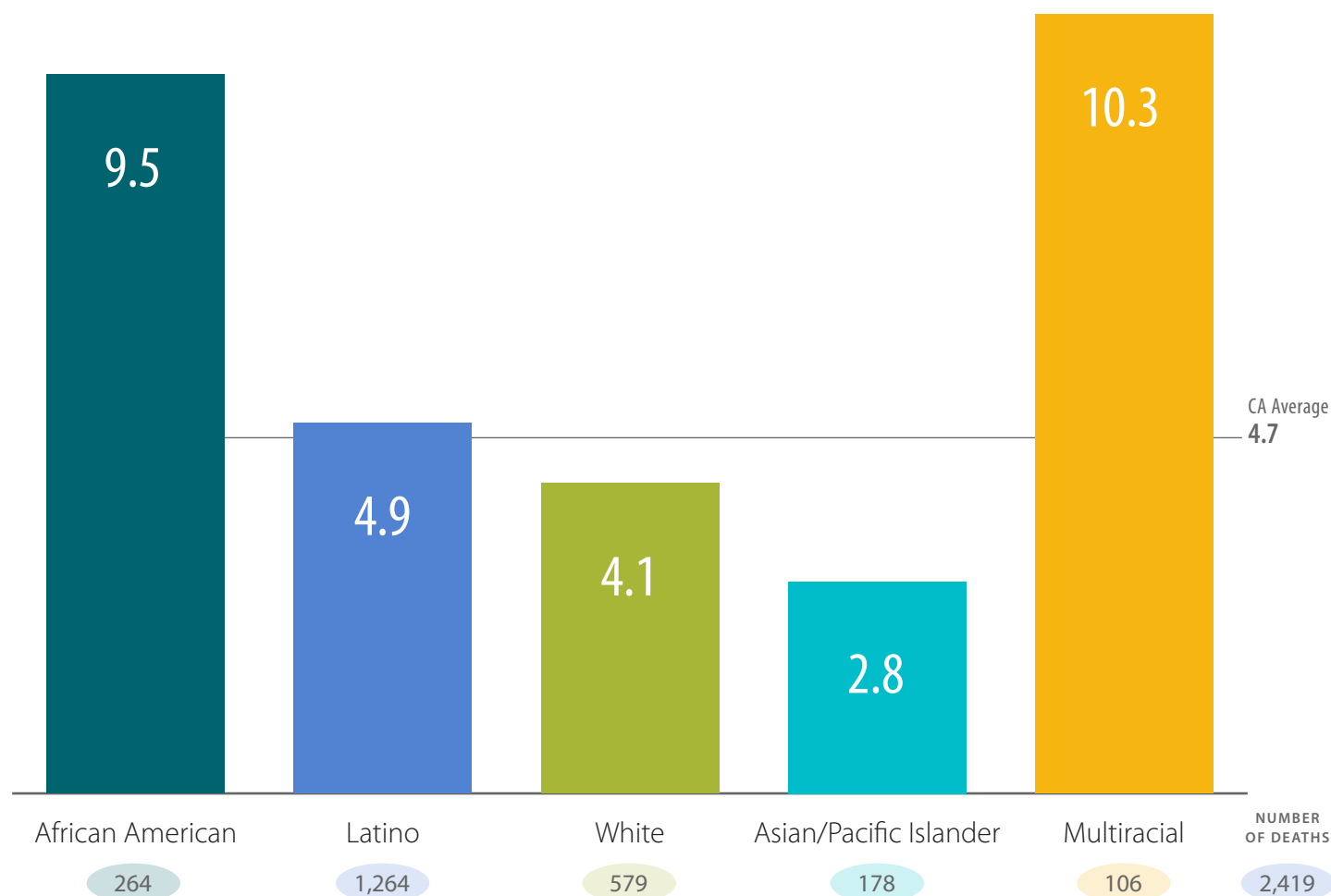
Maternal Health and Childbirth

Infant mortality rates varied across California, with higher-than-average rates in the Inland Empire, Northern and Sierra counties, and the San Joaquin Valley in 2010. Orange County and the Greater Bay Area had the lowest mortality rates in the state.

Infant Mortality, by Race/Ethnicity

California, 2010

DEATHS PER 1,000 LIVE BIRTHS



Notes: Infant is under 1 year. Multiracial is two or more races.

Source: Author analysis using California Department of Public Health, Birth Statistical and Infant Death Statistical Tables, accessed June 28, 2013.

Quality of Care

Maternal Health and Childbirth

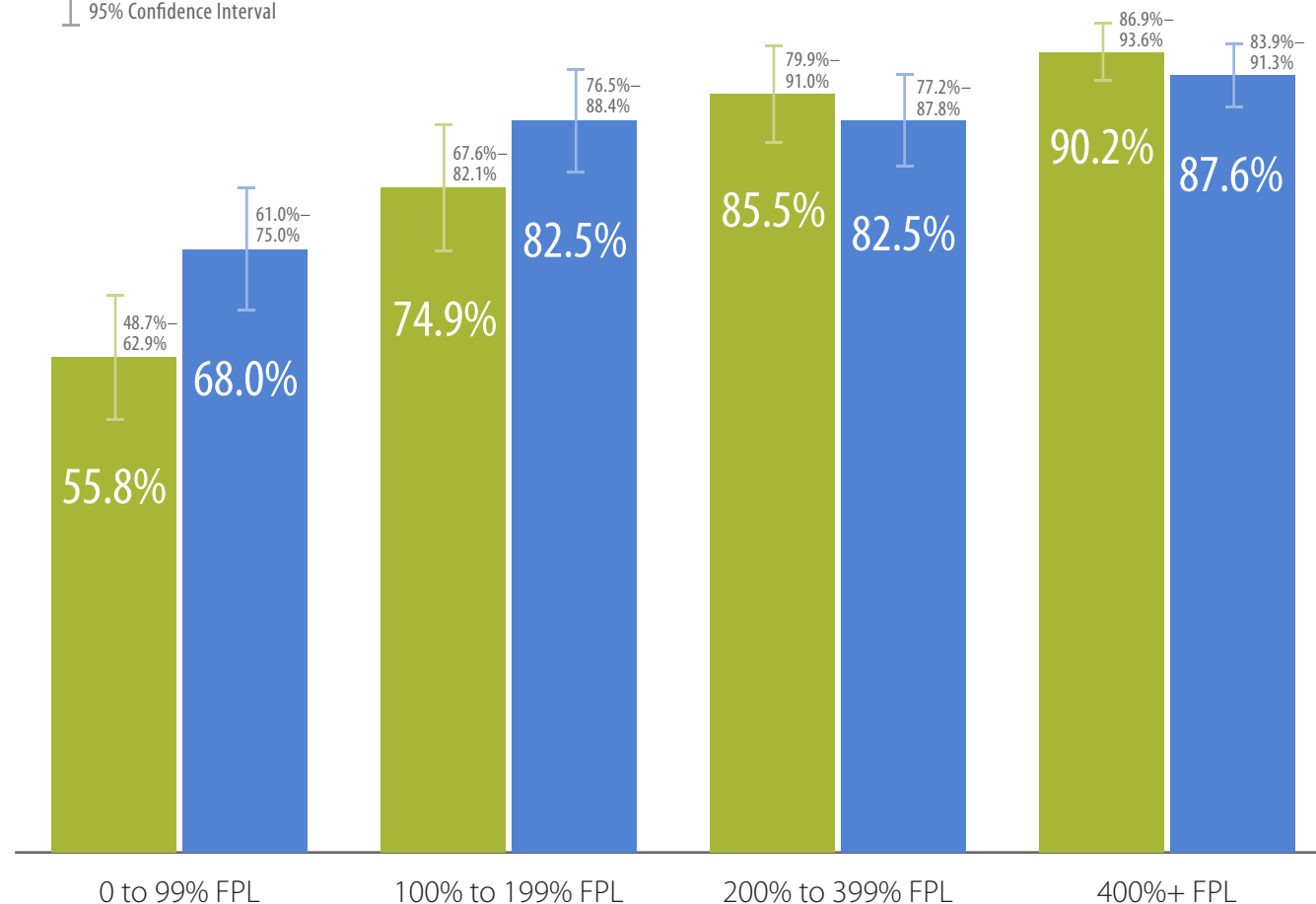
Significant racial and ethnic disparities exist for infant mortality, with mortality rates of African Americans nearly two times higher than for other single-race groups in 2010. Latinos accounted for half of the state's infant deaths.

Child Preventive Health Visits and Health Status

by Household Income, California, 2011

■ Child's overall health status excellent or very good ■ Preventive medical visit* in past year

┌ 95% Confidence Interval



*One or more visits.

Notes: Children 0 to 17 years. Percentages are weighted to population characteristics. FPL is federal poverty level; 100% of FPL was defined in 2011 as an annual income of \$22,350 for a family of four.

Source: Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health, National Survey of Children's Health, www.childhealthdata.org, accessed June 3, 2013.

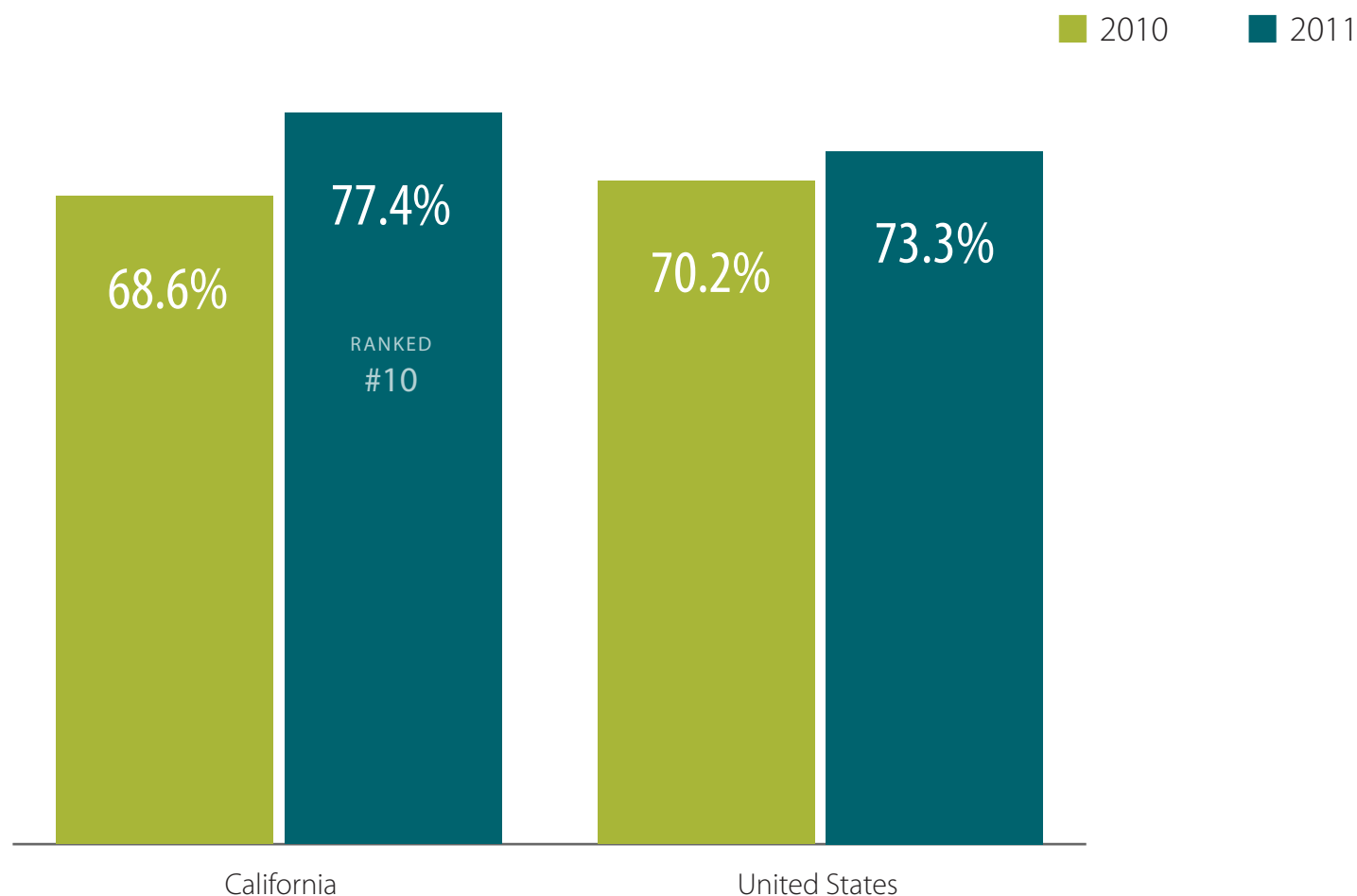
Quality of Care

Children's Health

In California, household income is strongly associated with parents' rating of children's health and with their children having received a preventive medical visit in the last year. Over 90% of parents with incomes over 400% of the federal poverty level rated their children's health as excellent or very good, compared to only 56% of parents with incomes under 100% FPL.

Children Receiving Recommended Immunizations

Ages 19 to 35 Months, California vs. United States, 2010 and 2011



Notes: The recommended vaccine series consists of four doses of diphtheria, tetanus, and pertussis vaccine (DTaP); three doses of polio vaccine, one or more doses of measles, mumps, and rubella vaccine (MMR); three doses of Haemophilus influenzae type b vaccine (Hib); three doses of hepatitis B vaccine; one or more doses of varicella or chickenpox vaccine; and four or more doses of pneumococcal conjugate vaccine (PCV). Rank is out of 50 states and District of Columbia. Cell phones were added to the survey methodology in 2011. Increase from 2010 to 2011 is statistically significant at 0.05 level for both California and the US.

Sources: Centers for Disease Control and Prevention, National Immunization Survey-Children, www.cdc.gov, accessed June 24, 2013. Let's Get Healthy California Task Force Report, www.chhs.ca.gov.

Quality of Care

Children's Health

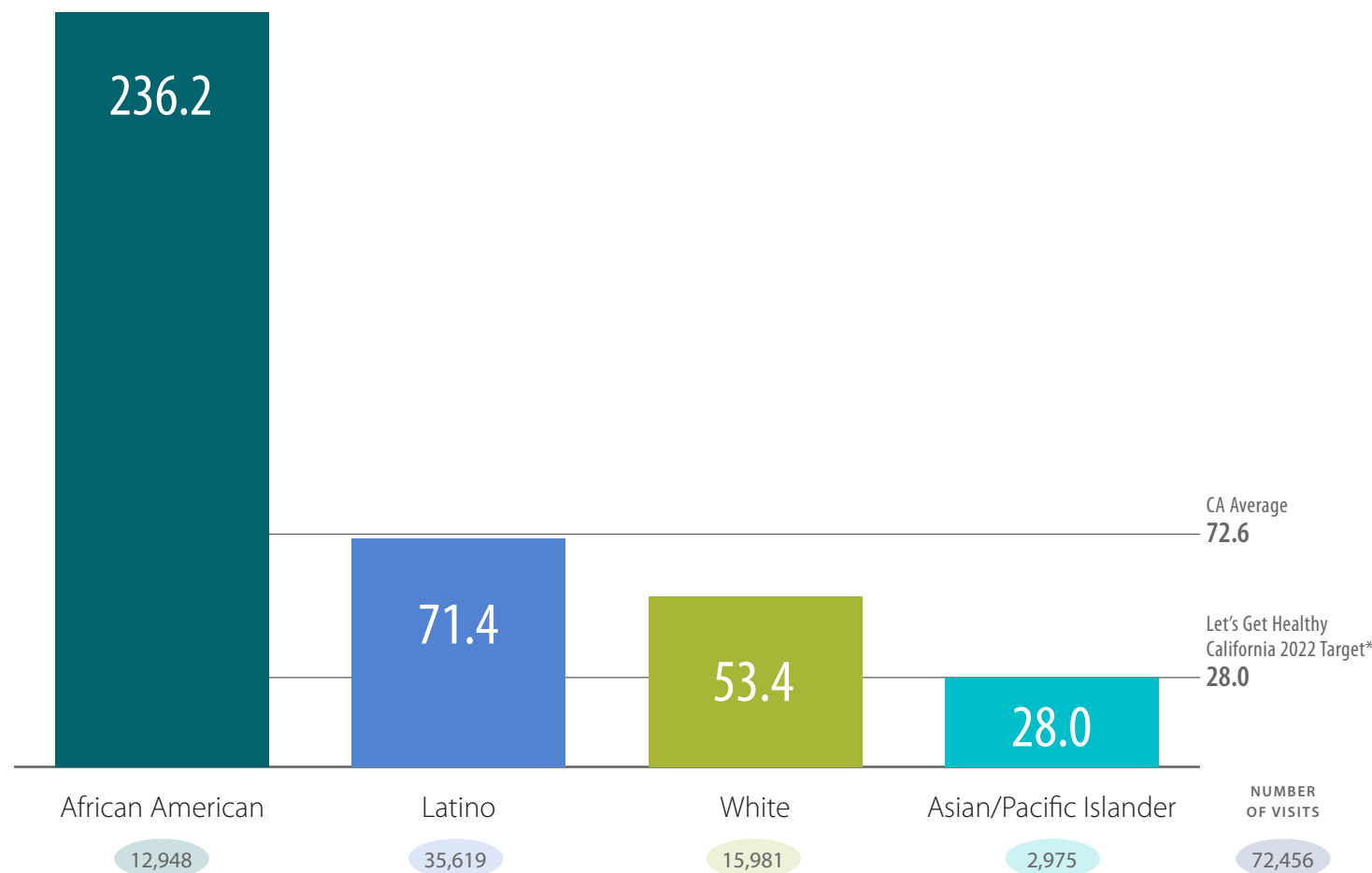
In one year, from 2010 to 2011, the percentage of California children receiving recommended vaccines increased 13%. In 2011, the state performed better than the US and moved closer to the Let's Get Healthy California 2022* target of 80% for this measure.

*Established by Governor Brown, the Let's Get Healthy California task force developed a blueprint to achieve the triple aim of better health, better care, and lower costs. The task force established 10-year improvement targets for 39 health care indicators.

Pediatric Asthma ED Visits, by Race/Ethnicity

California, 2010

ED VISITS PER 10,000 POPULATION



*Established by Governor Brown, the Let's Get Healthy California task force developed a blueprint to achieve the triple aim of better health, better care, and lower costs. The task force established 10-year improvement targets for 39 health care indicators.

Notes: Data for children age 0 to 17. Rates are adjusted for age.

Sources: Milet M, Lutzker L, Flattery J, *Asthma in California: A Surveillance Report* (Richmond, CA: California Department of Public Health, May 2013). Let's Get Healthy California Task Force Report, www.chhs.ca.gov.

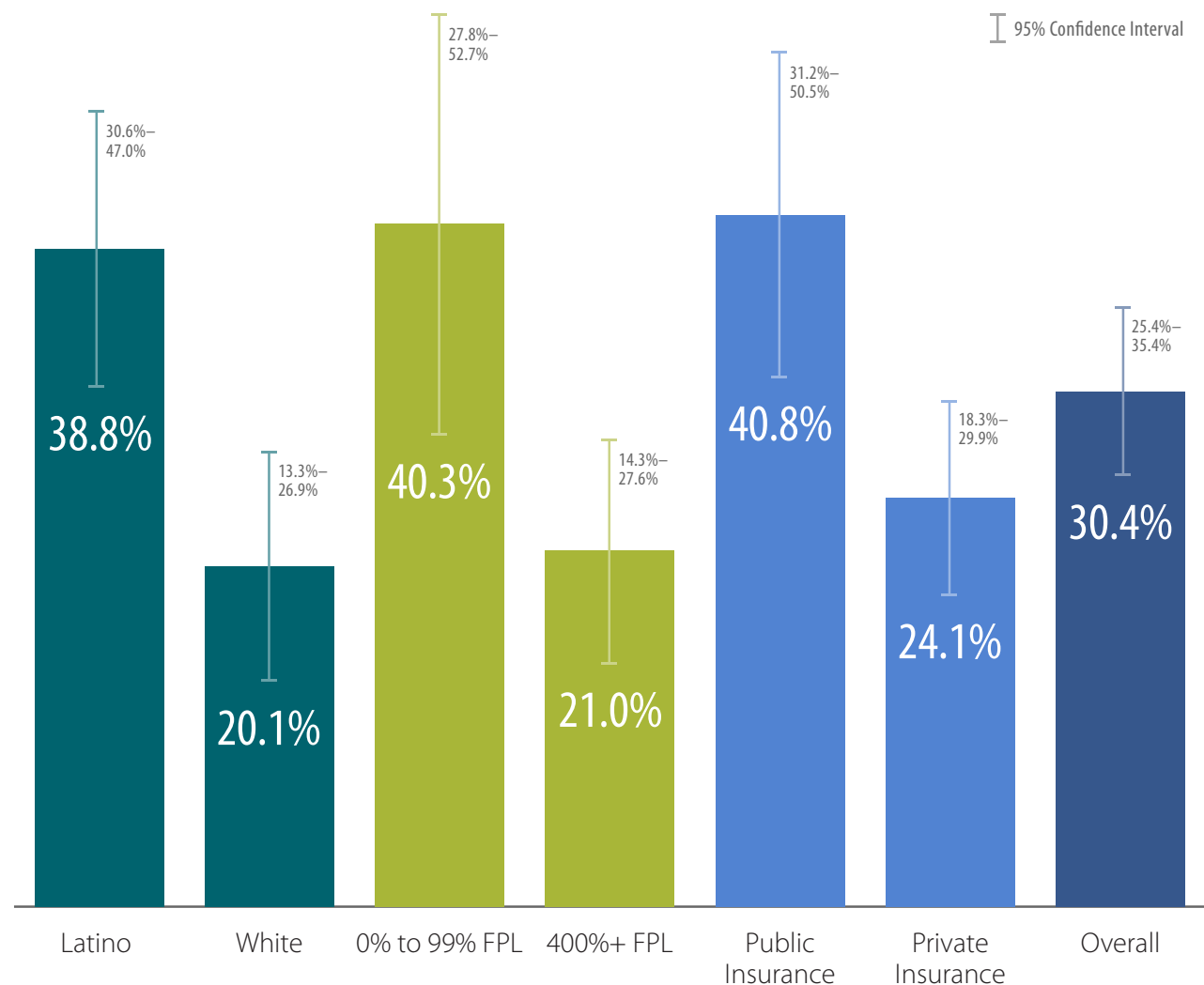
Quality of Care

Children's Health

African American children are much more likely to visit the emergency department for asthma than are other racial or ethnic groups in California. African American children are also more likely to have asthma, with 15.2% current prevalence among this group compared to 9.4% among White children and 7.3% among Latino children.

Prevalence of Overweight and Obese Children

Select Groups, California, 2012



Notes: Children age 10 to 17. Children with a BMI at or above the 85th percentile based on height and weight were classified as overweight or obese. FPL is federal poverty level; 100% of FPL was defined in 2011 as an annual income of \$22,350 for a family of four. Percentages are weighted to population characteristics.

Source: Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health, National Survey of Children's Health, www.childhealthdata.org, accessed June 4, 2013.

Quality of Care

Children's Health

Prevalence of overweight and obese children varies widely among different groups of 10- to 17-year-olds in California. Over 40% with public insurance or income less than the federal poverty line were overweight or obese in 2012. Nearly 40% of Latino children were overweight or obese compared to slightly over 20% of White children in that year.

Adults with Chronic Conditions

California vs. United States, 2012

High Blood Pressure*



Obesity



Arthritis



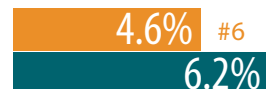
Asthma



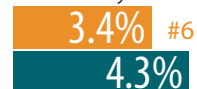
Diabetes



Chronic Obstructive Pulmonary Disease (COPD)



Coronary Heart Disease



*2011 data.

Notes: These conditions were selected because they are common chronic conditions for which good incidence data exist. Adults with a BMI of 30 or higher were classified as obese. Rank is out of the 50 states and the District of Columbia. For asthma and diabetes, California was tied with one other state.

Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System Survey Data, accessed August 5, 2013.

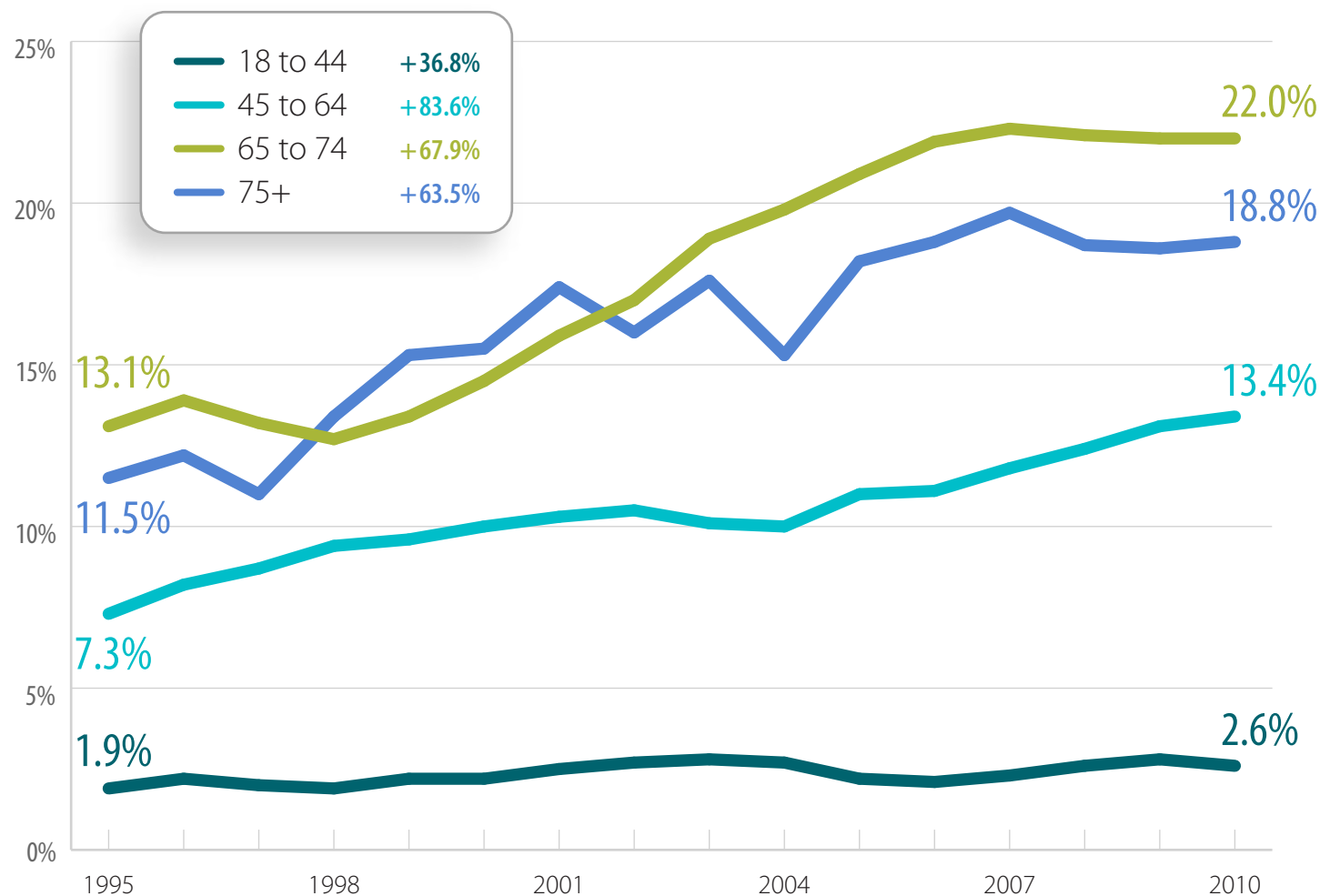
Quality of Care

Chronic Conditions

A smaller percentage of Californians were obese compared to the national average in 2012. California also had a lower prevalence of some chronic conditions such as arthritis, COPD, and coronary heart disease; however, California had a higher rate of adults with asthma and a similar rate of adults with diabetes as the nation.

Adults with Diagnosed Diabetes, by Age Group

California, 1995 to 2010



Quality of Care

Diabetes

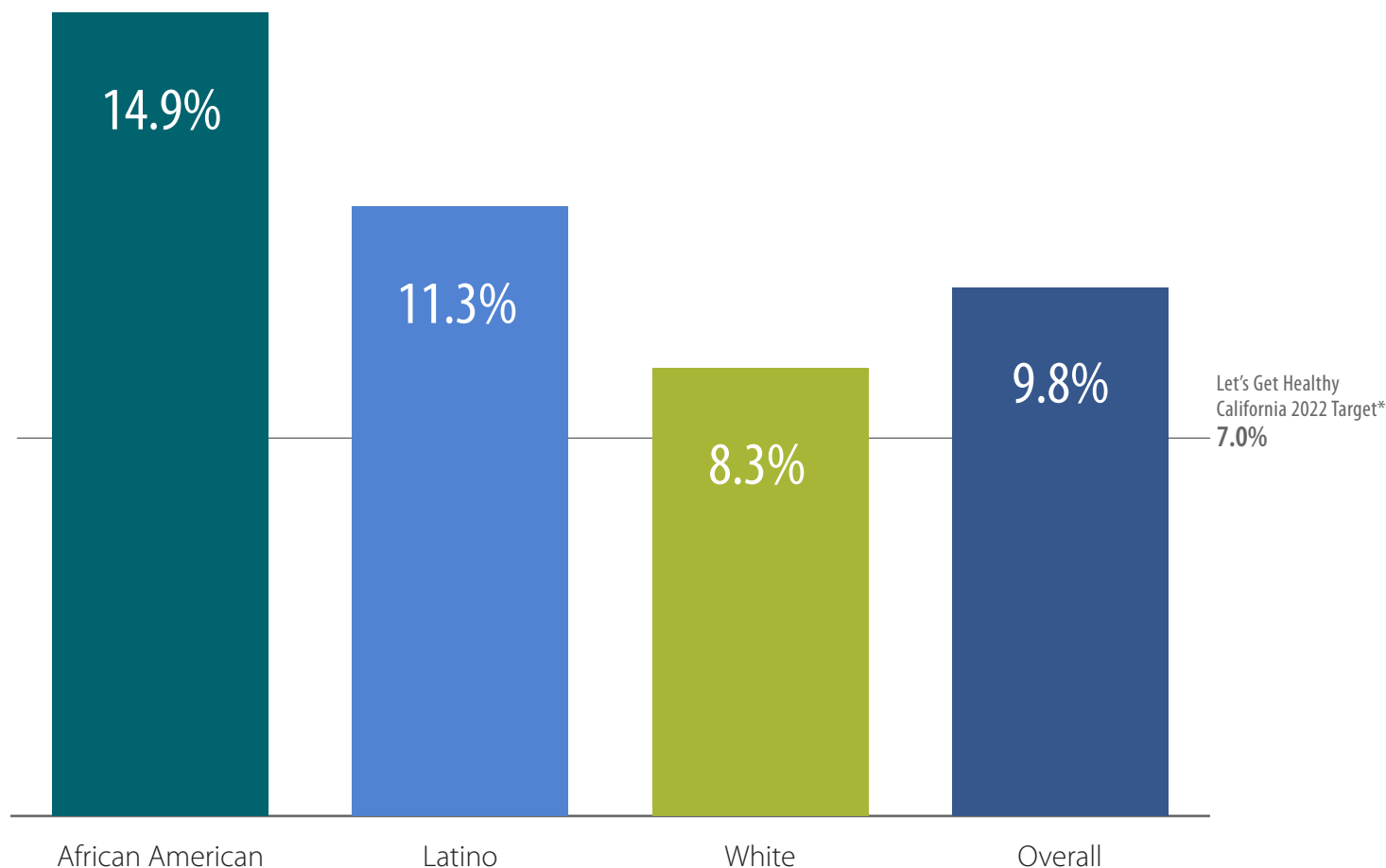
Since 1995 the prevalence of diabetes in California has increased in all adult age groups. However, the rates remained relatively flat from 2009 to 2010.

Notes: Data based on three-year averages. Two-year averages were used when three years of data were not available. Percentage growth figures represent 15-year period shown.

Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, www.cdc.gov, accessed March 27, 2012.

Adults with Diagnosed Diabetes, by Race/Ethnicity

California, 2012



Quality of Care

Diabetes

Almost 15% of African Americans in California had diabetes in 2012, higher than any other racial or ethnic group.

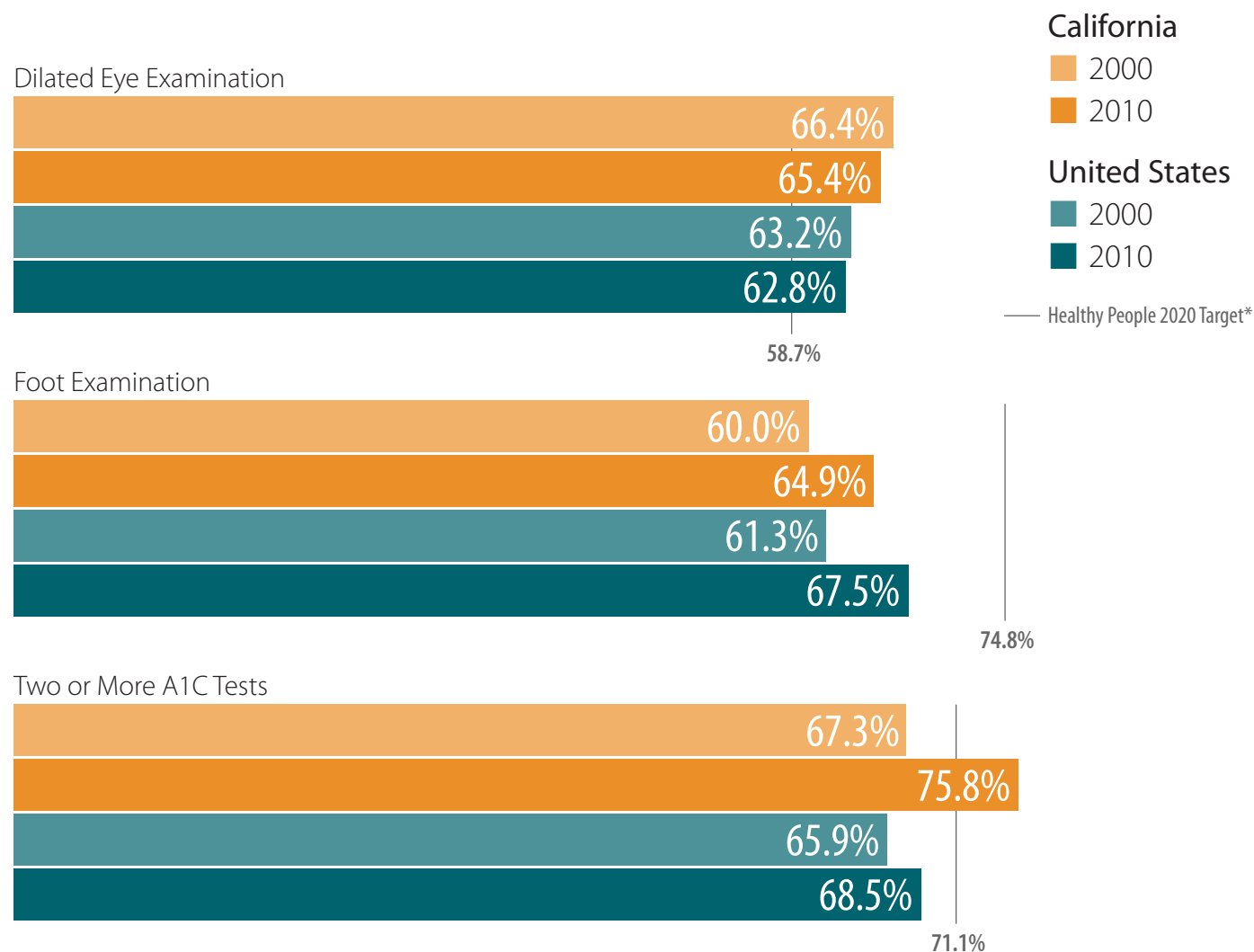
*Established by Governor Brown, the Let's Get Healthy California task force developed a blueprint to achieve the triple aim of better health, better care, and lower costs. The task force established 10-year improvement targets for 39 health care indicators.

Notes: Percentages are weighted to population characteristics. Multiracial category is not included due to small sample size.

Sources: Centers for Disease Control and Prevention (CDC), BRFSS, accessed August 5, 2013. CDC, "Increasing Prevalence of Diagnosed Diabetes — United States and Puerto Rico, 1995–2010," *MMWR* 61, no. 45 (November 16, 2012), www.cdc.gov. Let's Get Healthy California Task Force Report, www.chhs.ca.gov.

Preventive Care Practices, Adults with Diabetes

California vs. United States, 2000 and 2010



Quality of Care

Diabetes

From 2000 to 2010, rates improved on two of three preventive care practices for California adults with diabetes, most notably an increase in the percentage of patients receiving two or more blood glucose tests to over 75% of diabetics. These practices help prevent complications in diabetic patients.

*The US government's Healthy People 2020 establishes science-based 10-year national objectives for improving the health of all Americans, www.healthypeople.gov.

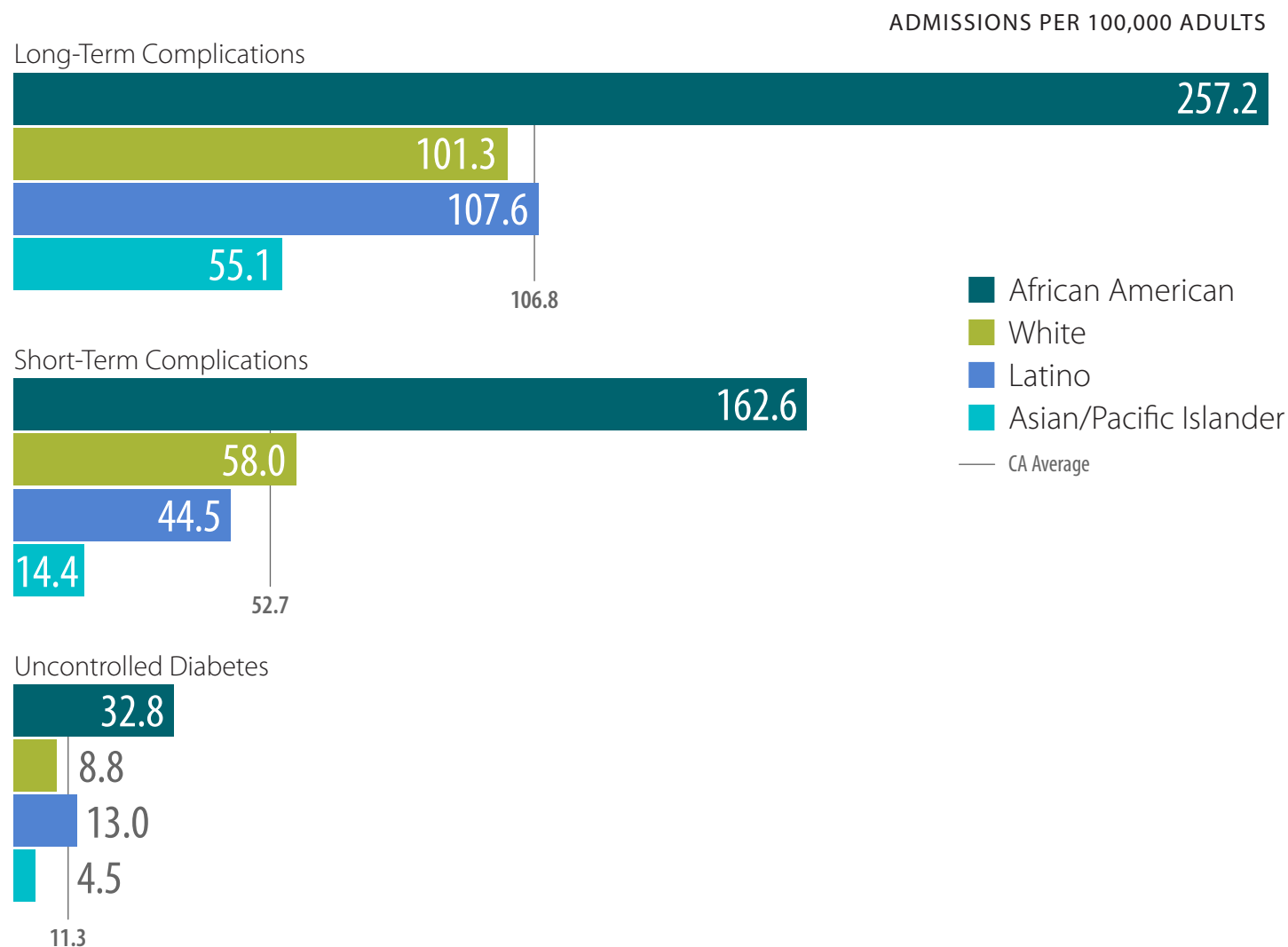
Notes: Data are age-adjusted and based on three-year averages. Two-year averages were used when three years of data were not available.

A1C tests measure the percentage of hemoglobin coated with sugar (glycated) and provide average blood sugar levels for the past two to three months.

Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, apps.nccd.cdc.gov, accessed March 27, 2012.

Diabetes Admission Rates, by Race/Ethnicity

California, 2011



Note: Rates are observed and are for adults age 18 and older.

Source: State of California, Office of Statewide Health Planning and Development, special data request, June 11, 2013.

Quality of Care

Diabetes

Significant racial and ethnic disparities exist for three measures of preventable hospitalizations for diabetes patients in California. African Americans were admitted to the hospital at much higher rates than all other races and ethnicities for all three measures.

Cancer Screening Tests

California vs. United States, 2012

Cervical: Pap Smear in Past 3 Years (women age 18 and older)



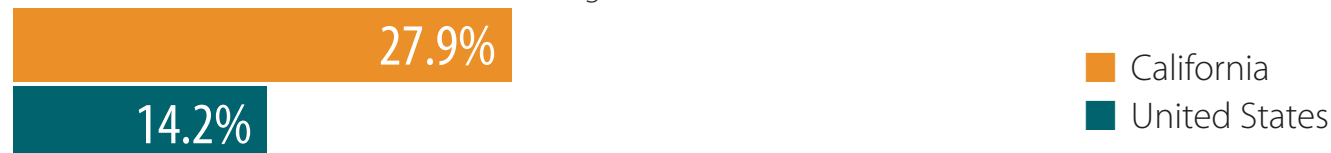
Breast: Mammogram in Past 2 Years (women age 40 and older)



Colorectal: Sigmoidoscopy or Colonoscopy Ever (age 50 and older)



Colorectal: Blood Stool Test in Past 2 Years (age 50 and older)



California
United States

Quality of Care

Cancer

California performs as well as or better than the nation on screening women for cervical and breast cancer. Data on testing for colorectal cancer indicate that a higher percentage of Californians received blood stool tests than the national average, while a lower percentage have had a sigmoidoscopy or colonoscopy.

Note: United States is median rate for 50 states and the District of Columbia.

Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System Survey Data, accessed August 5, 2013.

Selected Cancer Incidence and Mortality Rates

California vs. United States, 2009

RATE PER 100,000 POPULATION

	CANCER INCIDENCE		CANCER MORTALITY	
	California	United States	California	United States
All Cancer Sites	434.0	459.0	159.0	173.1
Prostate (males)	130.9	137.7	22.5	22.0
Breast (females)	123.2	123.1	22.4	22.2
Lung	50.6	64.3	38.0	48.5
Colorectal	41.4	42.5	14.6	15.7
Cervical (females)	7.8	7.9	2.3	2.3

Quality of Care

Cancer

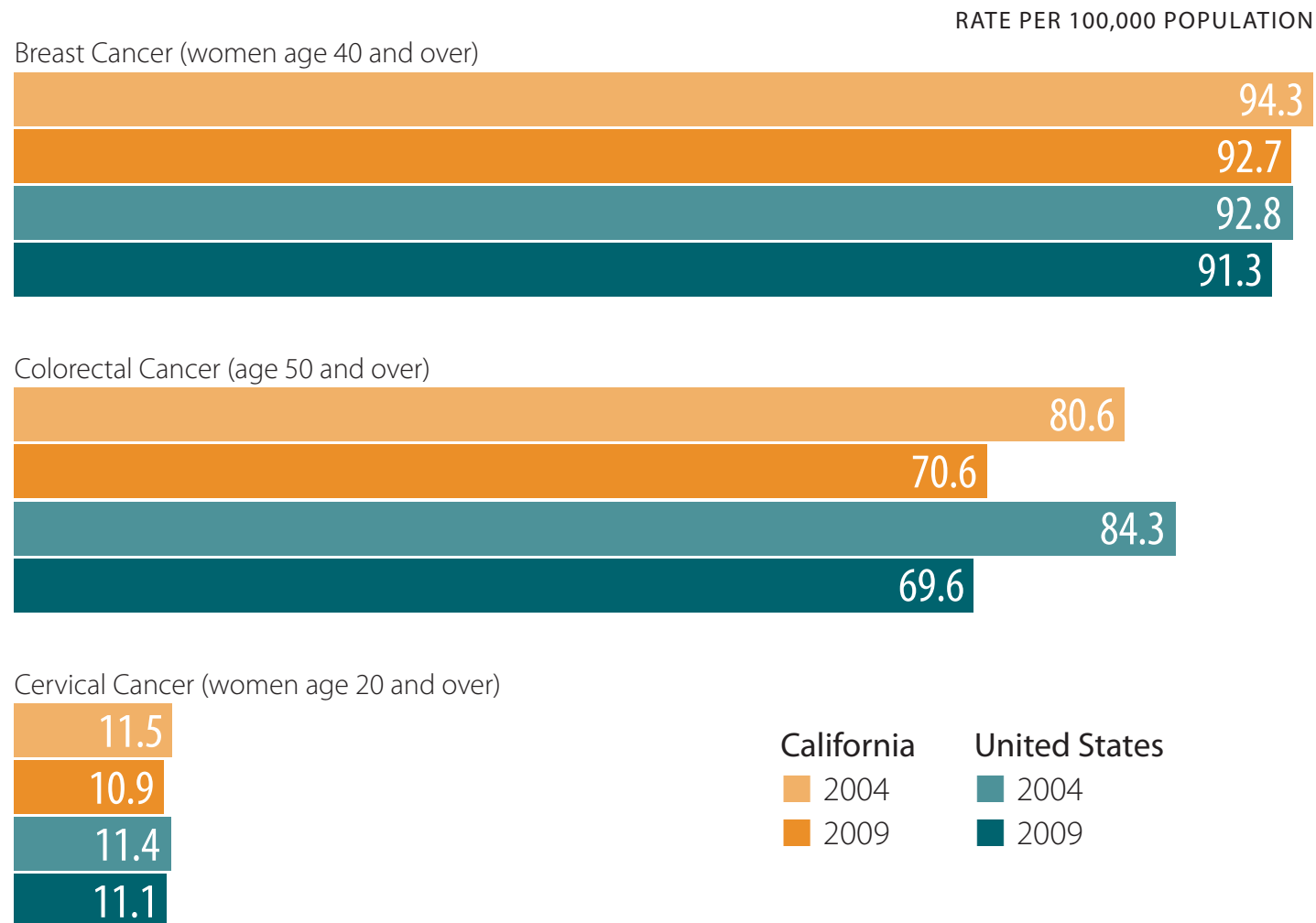
In 2009, California had lower incidence and mortality rates than the US for lung and colorectal cancer as well as for cancer overall. Breast and cervical cancer incidence and mortality rates were similar in California and the nation.

Notes: Rates are age-adjusted. Incidence rates exclude in situ cancers, except bladder.

Source: US Cancer Statistics Working Group, *United States Cancer Statistics: 1999–2009 Incidence and Mortality Web-Based Report* (Atlanta, GA: Centers for Disease Control and Prevention and National Cancer Institute, 2013), www.cdc.gov/uscs, accessed March 28, 2013.

Cancer Diagnosed at Advanced Stage

California vs. United States, 2004 and 2009



Notes: Rates are age-adjusted. Advanced stage refers to regional and distant Surveillance, Epidemiology, and End Results (SEER) summary stage, except cervical cancer, which includes all invasive tumors.

Sources: Agency for Healthcare Research and Quality (AHRQ), *National Healthcare Quality Report, 2012*, Data Tables Appendix. Private correspondence.

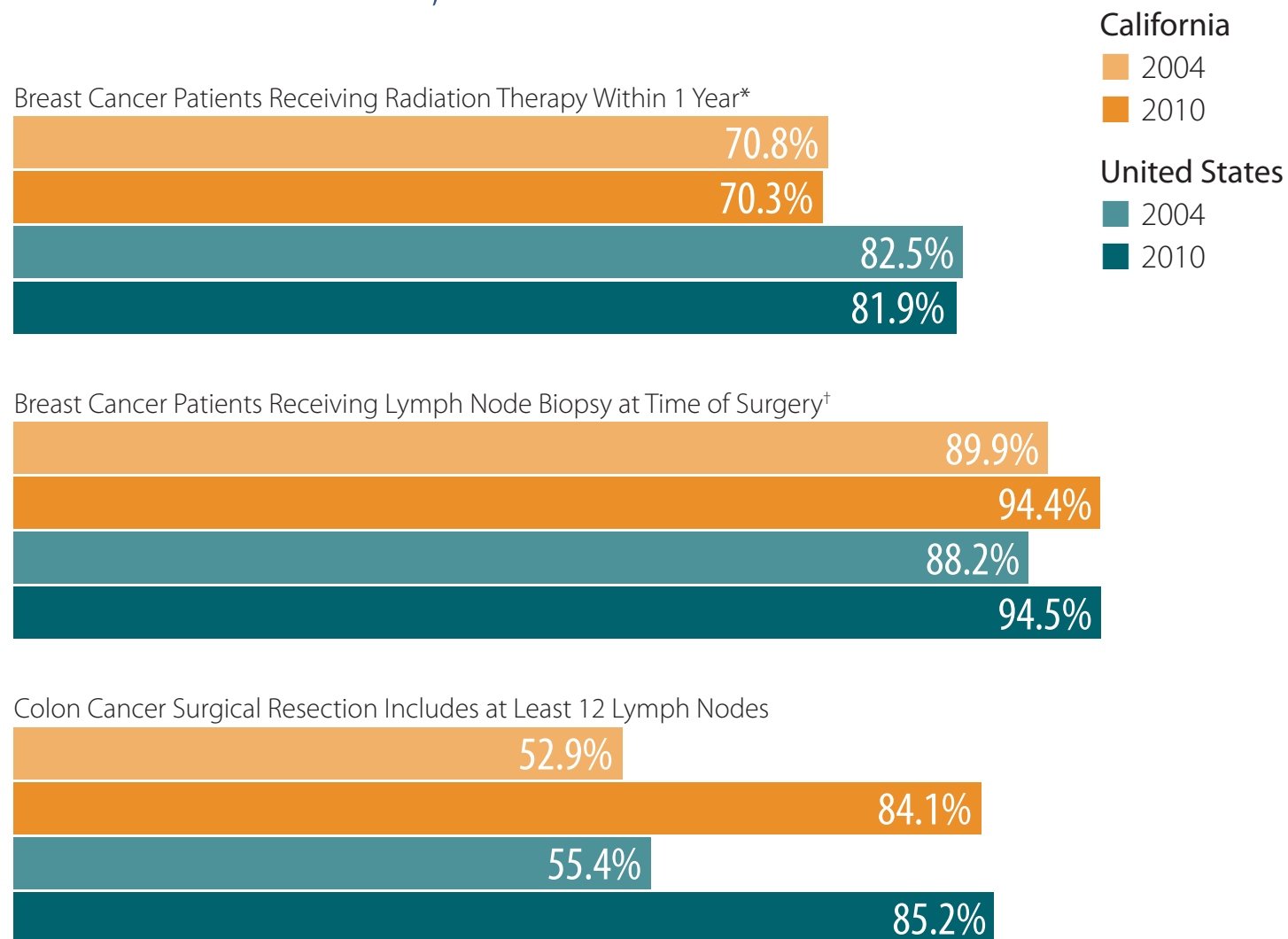
Quality of Care

Cancer

Rates of three common cancers diagnosed at an advanced stage decreased from 2004 to 2009 in California and the United States. Although the rate of late diagnosis of colorectal cancer was reduced in California during that period, it was slightly higher than the national average in 2009.

Process-of-Care Measures, Breast and Colon Cancer

California vs. United States, 2004 and 2010



*Women under age 70 with breast conserving surgery. 2010 data are based on cancer cases diagnosed within the first 6 months of the year.

†Stage I-IIb breast cancer patients receiving axillary node dissection or sentinel lymph node biopsy.

Notes: Data based on hospitals participating in the Commission on Cancer accreditation program. US data includes data from US territories.

Sources: Agency for Healthcare Research and Quality (AHRQ), *National Healthcare Quality Report, 2012*, Data Tables Appendix. Private correspondence.

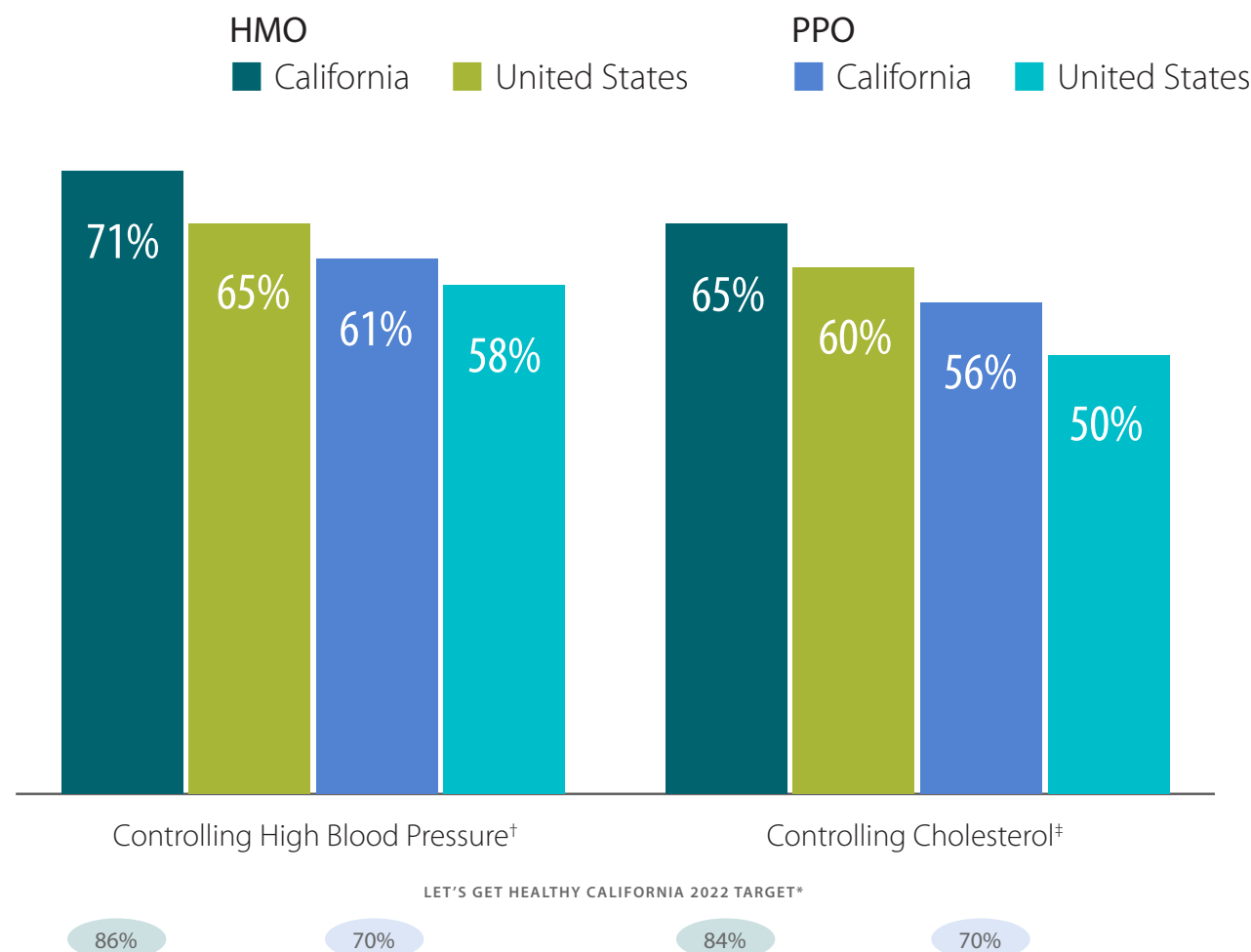
Quality of Care

Cancer

From 2004 to 2010, hospitals in California and the nation significantly improved their use of a recommended practice related to colon cancer surgery. More modest gains were achieved for breast cancer patients receiving lymph node biopsy at the time of surgery.

Management of Heart Conditions, by Health Plan Type

California vs. United States, 2010



*Established by Governor Brown, the Let's Get Healthy California task force developed a blueprint to achieve the triple aim of better health, better care, and lower costs.

The task force established 10-year improvement targets for 39 health care indicators.

[†]Based on plan members with high blood pressure whose blood pressure is brought below 140/90.

[‡]Based on plan members with heart disease whose LDL cholesterol level is less than 100.

Note: These data include the 10 largest HMOs in the state, which cover 9 million Californians, and the 6 largest PPOs, which cover 7 million residents.

Sources: State of California Office of the Patient Advocate, OPA Report Cards, accessed June 5, 2013. Let's Get Healthy California Task Force Report, www.chhs.ca.gov.

Quality of Care

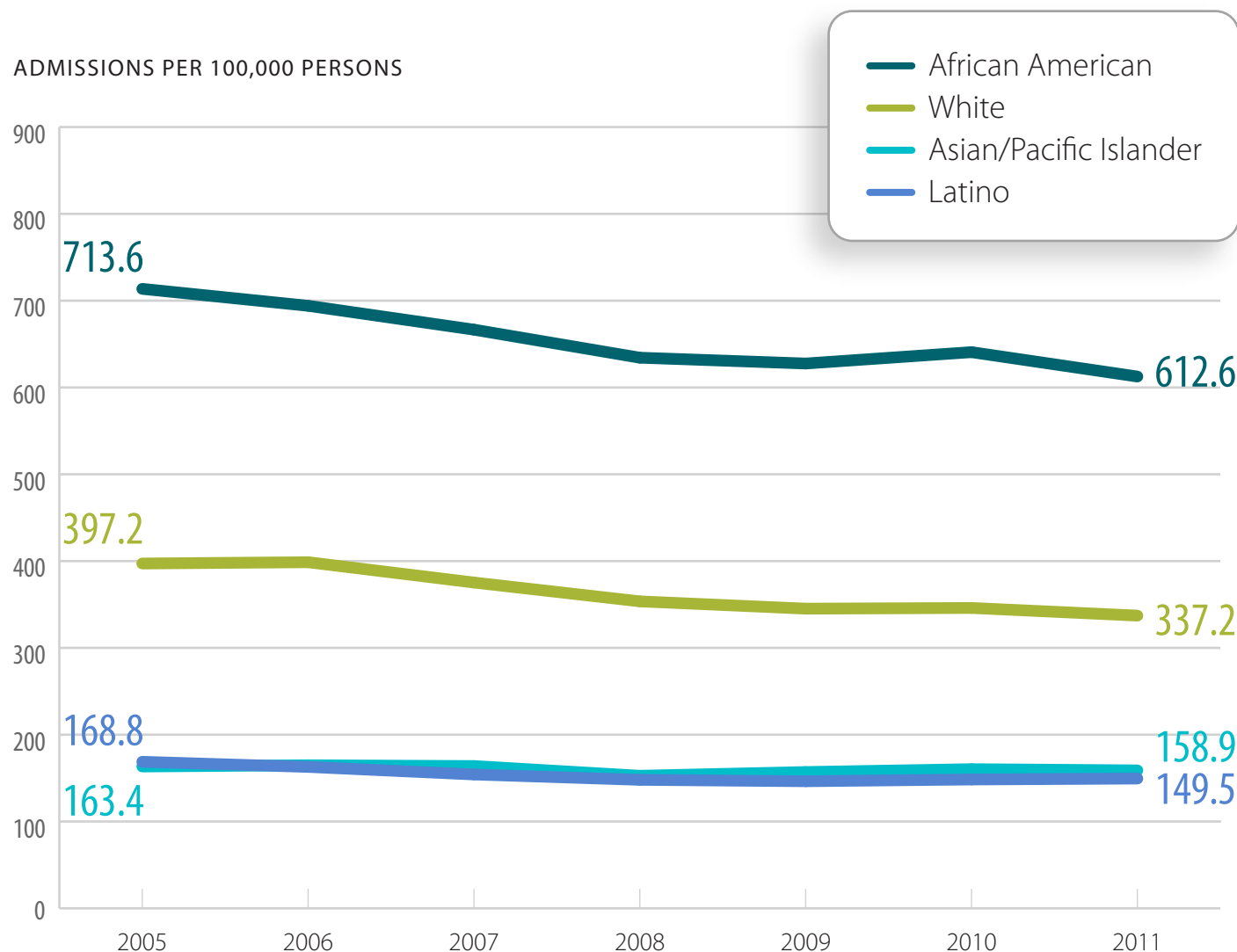
Heart Health

On average, California HMOs and PPOs do a better job of managing their enrollees' high blood pressure and cholesterol levels than health plans nationwide. For both measures, HMOs in California perform better than PPOs.

Heart Failure Admission Rate, by Race/Ethnicity

California, 2005 to 2011

ADMISSIONS PER 100,000 PERSONS



Note: Rates are observed and are for adults age 18 and older.

Source: State of California, Office of Statewide Health Planning and Development, special data request, June 11, 2013.

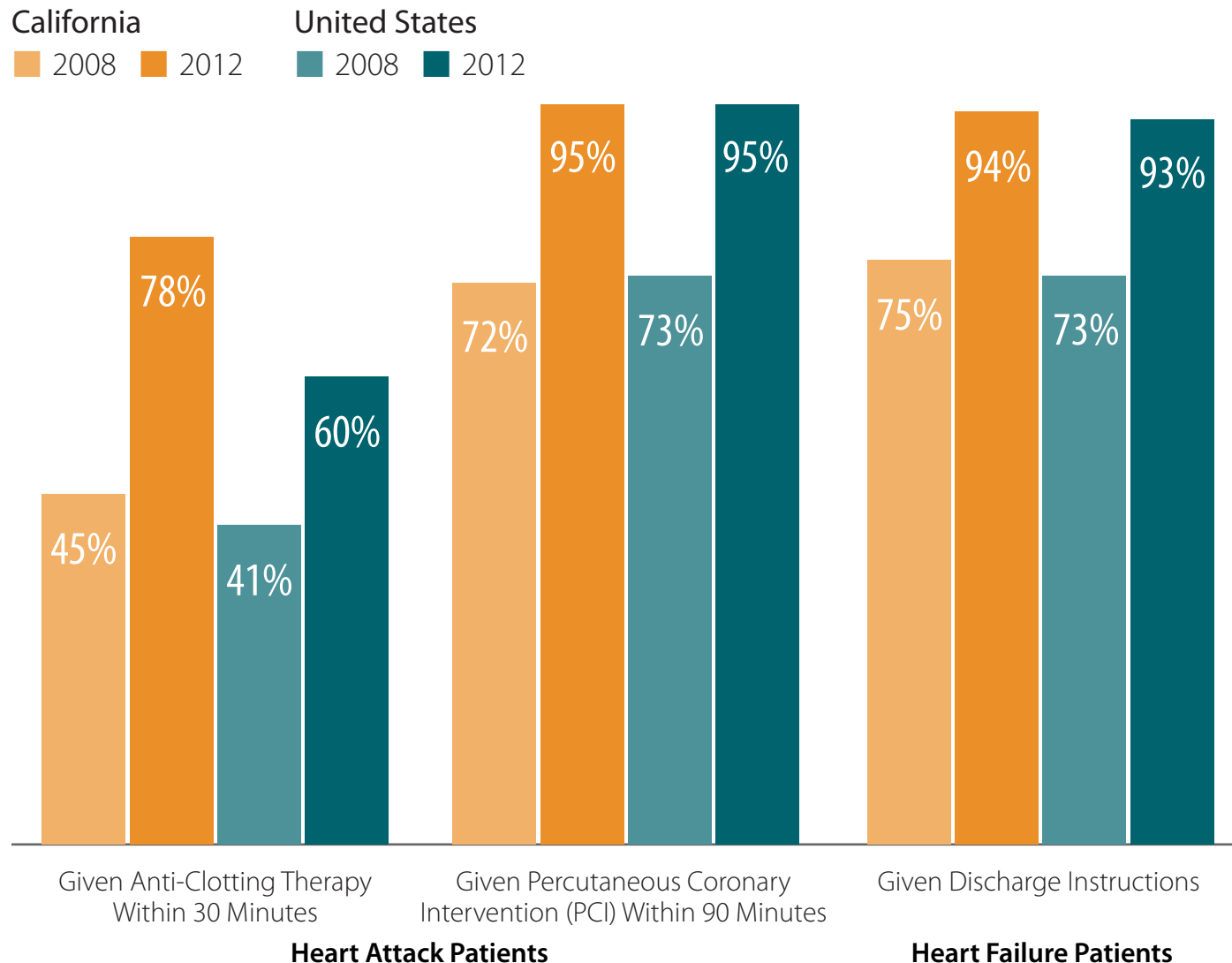
Quality of Care

Heart Health

The admission rate for heart failure varied widely by race/ethnicity, with African American admissions significantly higher than for other groups. Heart failure admissions declined for African Americans, Whites, and Latinos from 2005 to 2011, while remaining relatively stable for Asians/Pacific Islanders.

Process-of-Care Measures, Heart Patients

California vs. United States, 2008 and 2012



Quality of Care

Heart Health

California hospitals perform as well as or better than the nation on 11 process-of-care measures for heart attack and heart failure inpatients. The measures are used by Medicare to adjust hospital payments. Since 2008, California has improved on the three measures shown here. Although California and the US have achieved 95% compliance on the PCI measure, the Healthy People 2020* target for this measure is 97.5%.

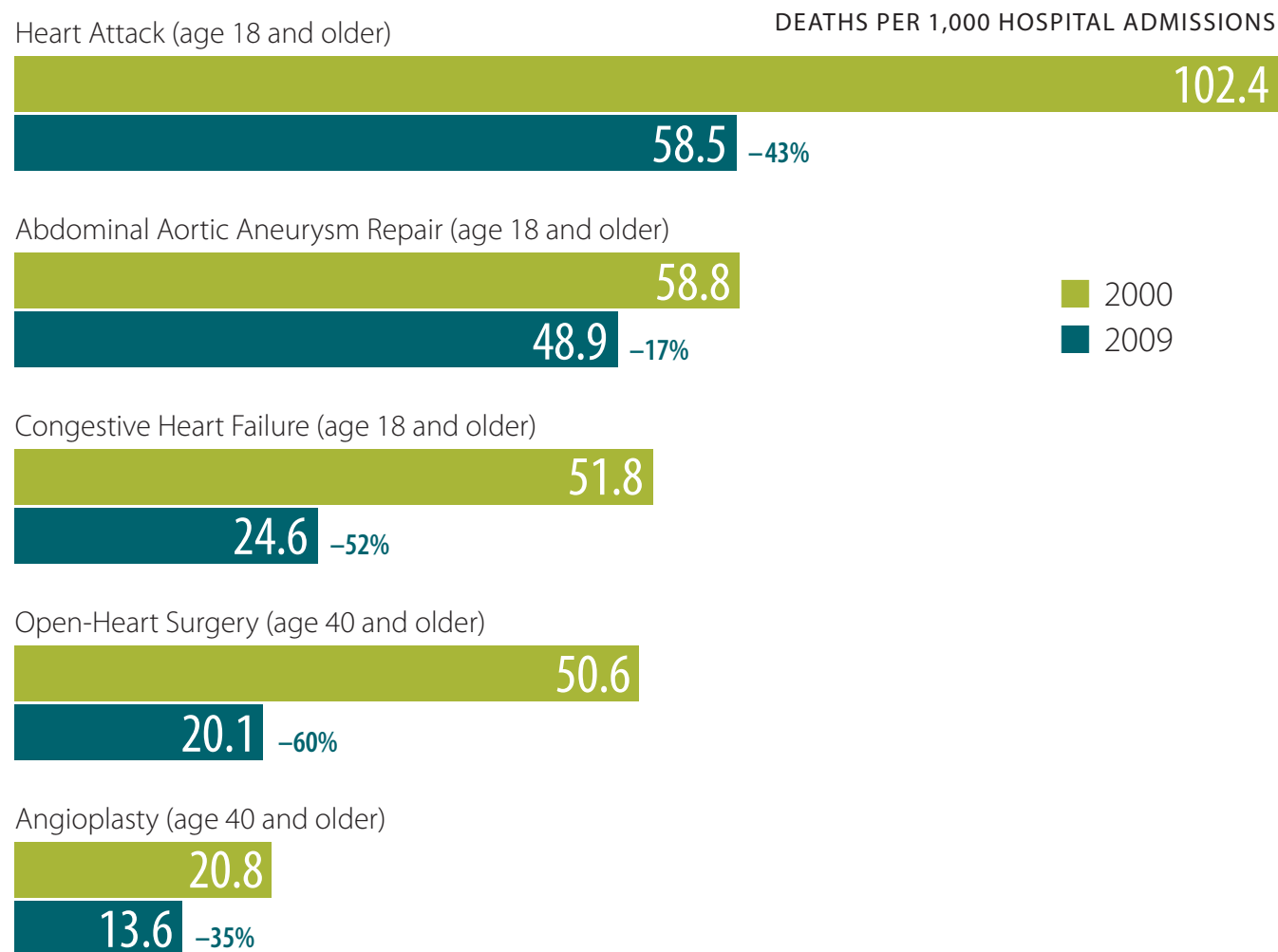
Notes: Data are from July of previous year through June of stated year. See Appendix B for all heart attack and heart failure measures.

Source: Centers for Medicare & Medicaid Services, Hospital Compare data, data.medicare.gov/data/hospital-compare, accessed April 23, 2013.

*The US government's Healthy People 2020 establishes science-based 10-year national objectives for improving the health of all Americans, www.healthypeople.gov.

Hospital Deaths from Heart Conditions and Procedures

California, 2000 and 2009



Notes: Rates are adjusted by age, gender, age-gender interactions, major diagnostic category, and All Patient Refined-Diagnosis Related Group (APR-DRG) risk of mortality score, and transfers into the hospital, except for AMI, which is not adjusted by gender. Excludes obstetric admissions and transfers to another hospital. Common names have been substituted for technical names for the following: heart attack for acute myocardial infarction, angioplasty for percutaneous transluminal coronary angioplasty, and open-heart surgery for coronary artery bypass graft.

Source: Agency for Healthcare Research and Quality (AHRQ), *National Healthcare Quality Report, 2012*, Data Tables Appendix.

Quality of Care

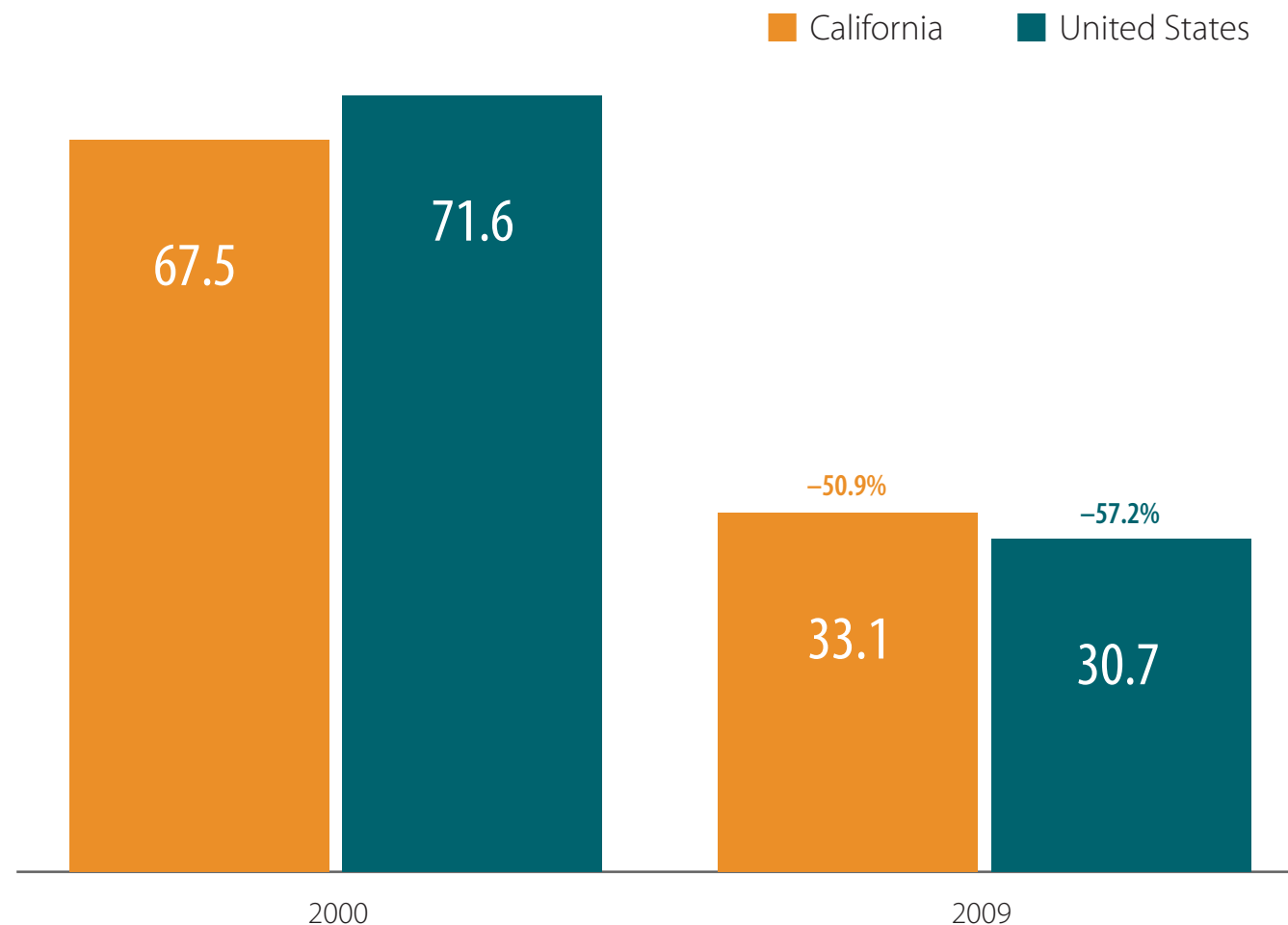
Heart Health

Hospital mortality rates for five common heart conditions and procedures declined in California from 2000 to 2009. Notably, mortality rates for congestive heart failure and open-heart surgery patients were halved over this period. The California trend was similar to the national trend.

Hospital Deaths from Pneumonia

California vs. United States, 2000 and 2009

DEATHS PER 1,000 HOSPITAL ADMISSIONS



Notes: Rates are adjusted by age, gender, age-gender interactions, major diagnostic category (MDC), All Patient Refined-Diagnosis Related Group (APR-DRG) risk of mortality score, and transfers into the hospital.

Source: Agency for Healthcare Research and Quality (AHRQ), *National Healthcare Quality Report, 2012*, Data Tables Appendix.

Quality of Care

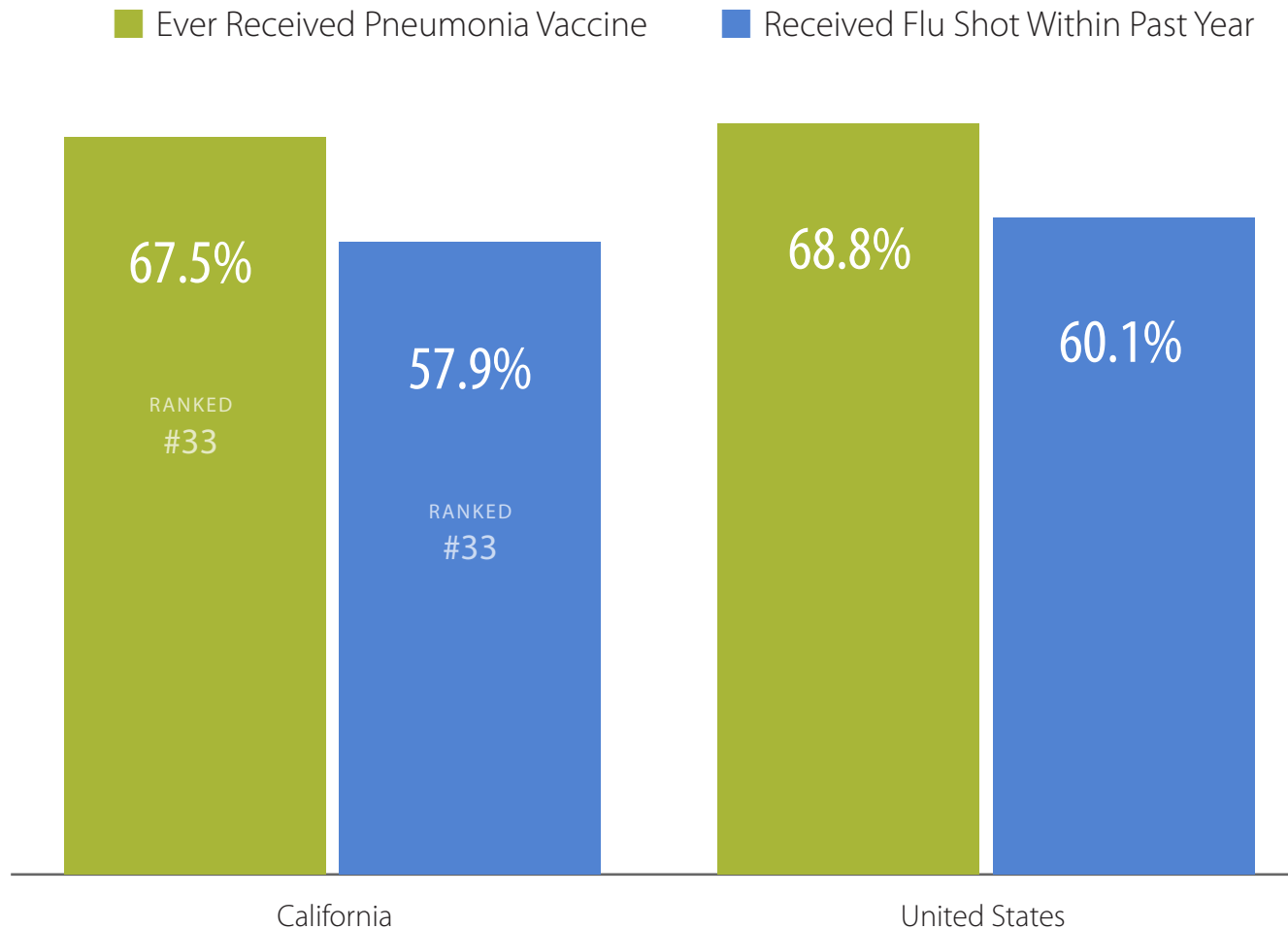
Respiratory Health

Pneumonia mortality rates in California hospitals decreased by half from 2000 to 2009. However, California has not improved as much as the national average.

Seniors Receiving Vaccines

California vs. United States, 2012

PERCENTAGE OF ADULTS AGE 65+ WHO...



Note: Rank is out of the 50 states and the District of Columbia.

Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System Survey Data, accessed August 5, 2013.

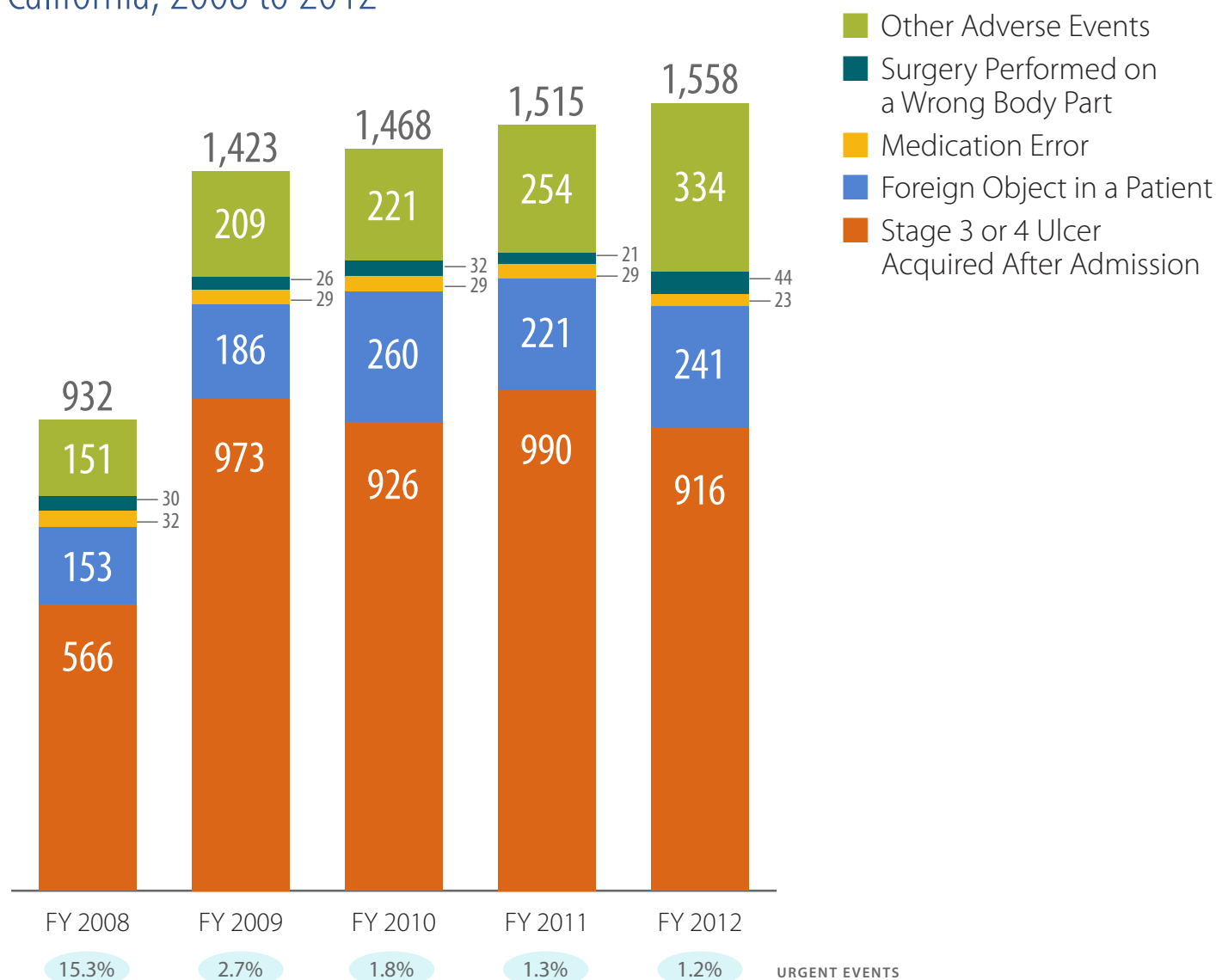
Quality of Care

Respiratory Health

In 2012, California performed slightly worse than the national average in the proportion of seniors who received flu and pneumonia vaccines.

Preventable Adverse Events at Hospitals

California, 2008 to 2012



Quality of Care

Patient Safety

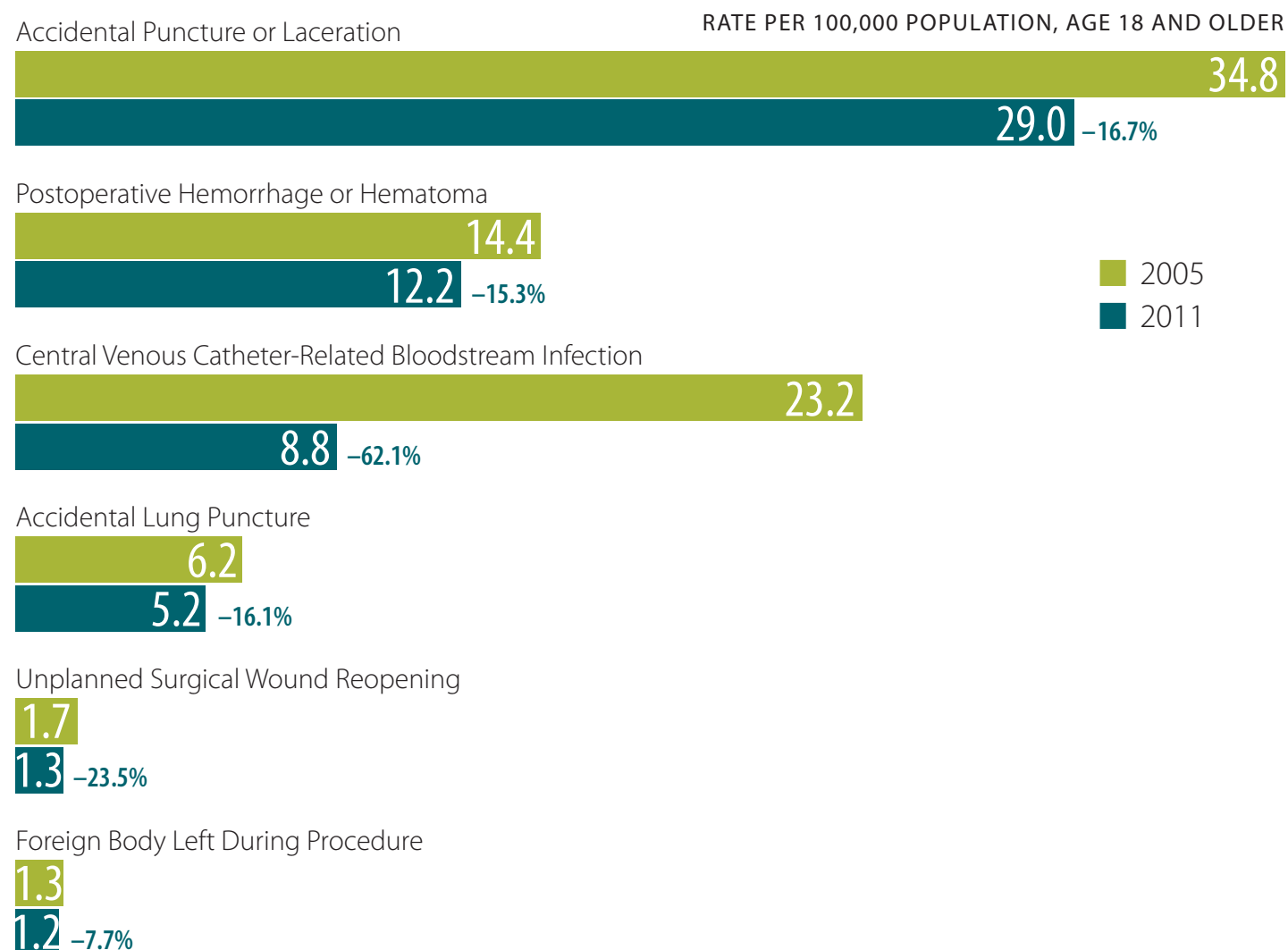
Reports of preventable adverse events at California hospitals have increased each year since mandatory tracking began in 2008. Pressure ulcers have been the most common adverse event in each year, accounting for over half of all events. While the number of reported incidents has increased each year since 2008, the share of urgent events has sharply declined, to 1.2% in 2012.

Notes: California Fiscal Year runs from July 1 to June 30. An urgent event is one that involves "an ongoing threat of imminent danger of death or serious bodily harm."

Source: California Department of Public Health, Center for Health Care Quality, Licensing and Certification Program, Annual Fee Report for Fiscal Year 2013–2014, www.cdph.ca.gov, accessed June 5, 2013.

Hospital Patient Safety, by Selected Indicators

California, 2005 and 2011



Notes: Rates are observed and not adjusted by age, gender, or risk. Data on transfusion reaction is not included due to low incidence (33 cases statewide in 2011).

Source: State of California, Office of Statewide Health Planning and Development (OSHPD), AHRQ Patient Safety Indicators, 2005–2011, www.oshpd.ca.gov, accessed June 5, 2013.

Quality of Care

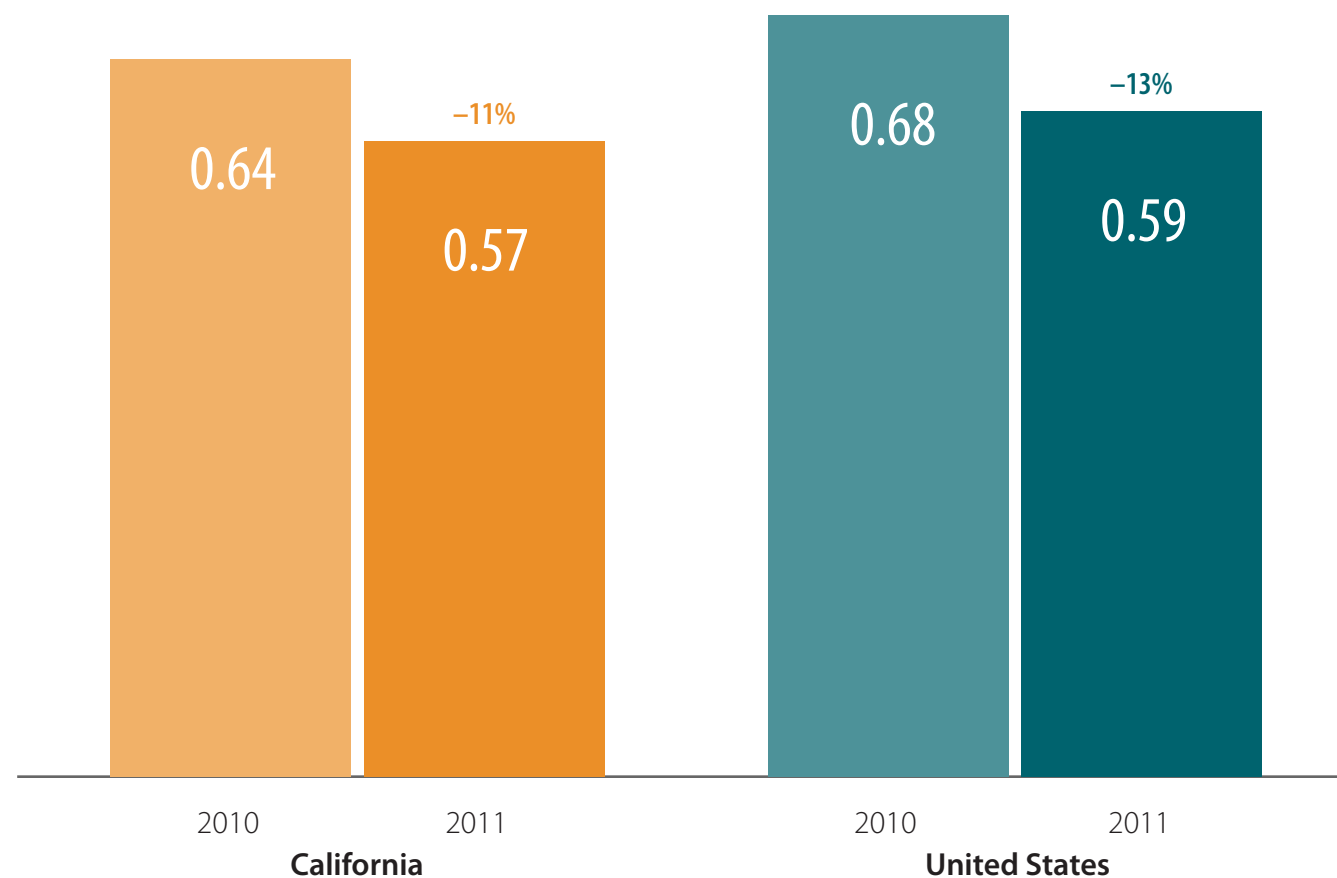
Patient Safety

California hospitals reduced the incidence of several patient safety events from 2005 to 2011. The largest decline was for central venous catheter-related bloodstream infections, which dropped 62%.

Central Line-Associated Bloodstream Infections

California vs. United States, 2010 and 2011

STANDARDIZED INFECTION RATIO (SIR)



Notes: The Standardized Infection Ratio (SIR) compares the actual number of CLABSIs with the predicted number based on the baseline US experience, adjusting for several risk factors that are most closely associated with differences in infection rates. A SIR of 1 indicates that the number of observed infections is no different from the predicted number. Lower numbers are better.

Source: U.S. Department of Health and Human Services, Centers for Disease Control, *2011 National and State Healthcare-Associated Infections Standardized Infection Ratio Report*, January – December 2011, www.cdc.gov.

Quality of Care

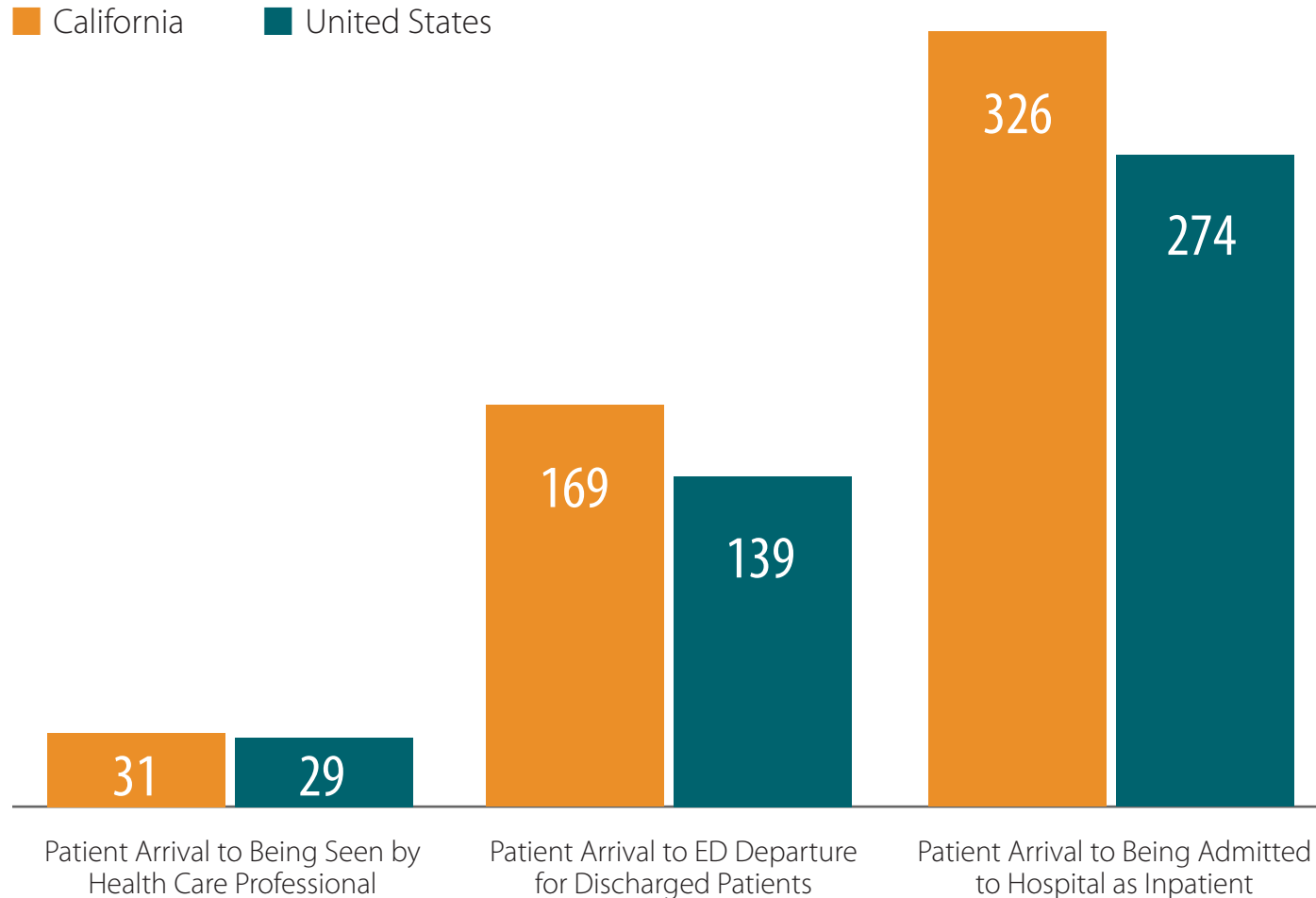
Patient Safety

Central line-associated bloodstream infections (CLABSIs) are among the most severe health care-associated infections (HAIs). In 2011, California hospitals performed better than predicted and better than the national average on this measure.

Emergency Department Timeliness of Care

California vs. United States, 2012

AVERAGE TIME IN MINUTES



Note: Data from January through June of stated year.

Source: Centers for Medicare & Medicaid Services, Hospital Compare data, data.medicare.gov/data/hospital-compare, accessed April 23, 2013.

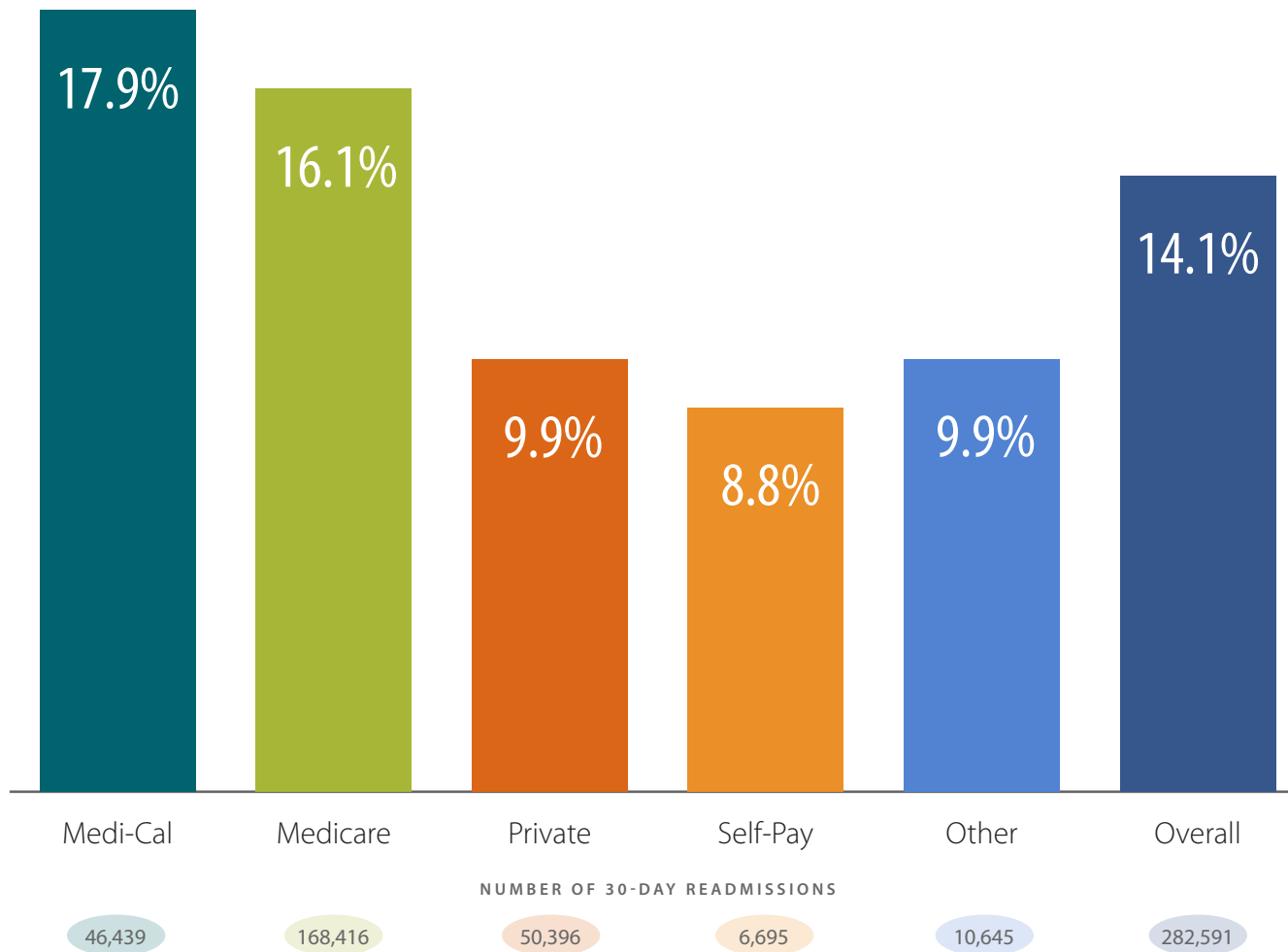
Quality of Care

Patient Safety

Timely care in the emergency department (ED) is an important measure of quality, as delays can increase risks for patients with serious illness or injuries. In 2012, California hospitals were slower on three measures than the national average. California's ED patients who were admitted to the hospital spent over 5 hours in the ED, nearly an hour longer than the average US patient.

Hospital 30-Day Readmission Rate

by Payer, California, 2011



Notes: Rate is unadjusted all-cause unplanned 30-day readmission rate. Other includes: worker's compensation, county indigent, other government indigent, and sources not reported.

Source: State of California, Office of Statewide Health Planning and Development, special data request, July 24, 2013.

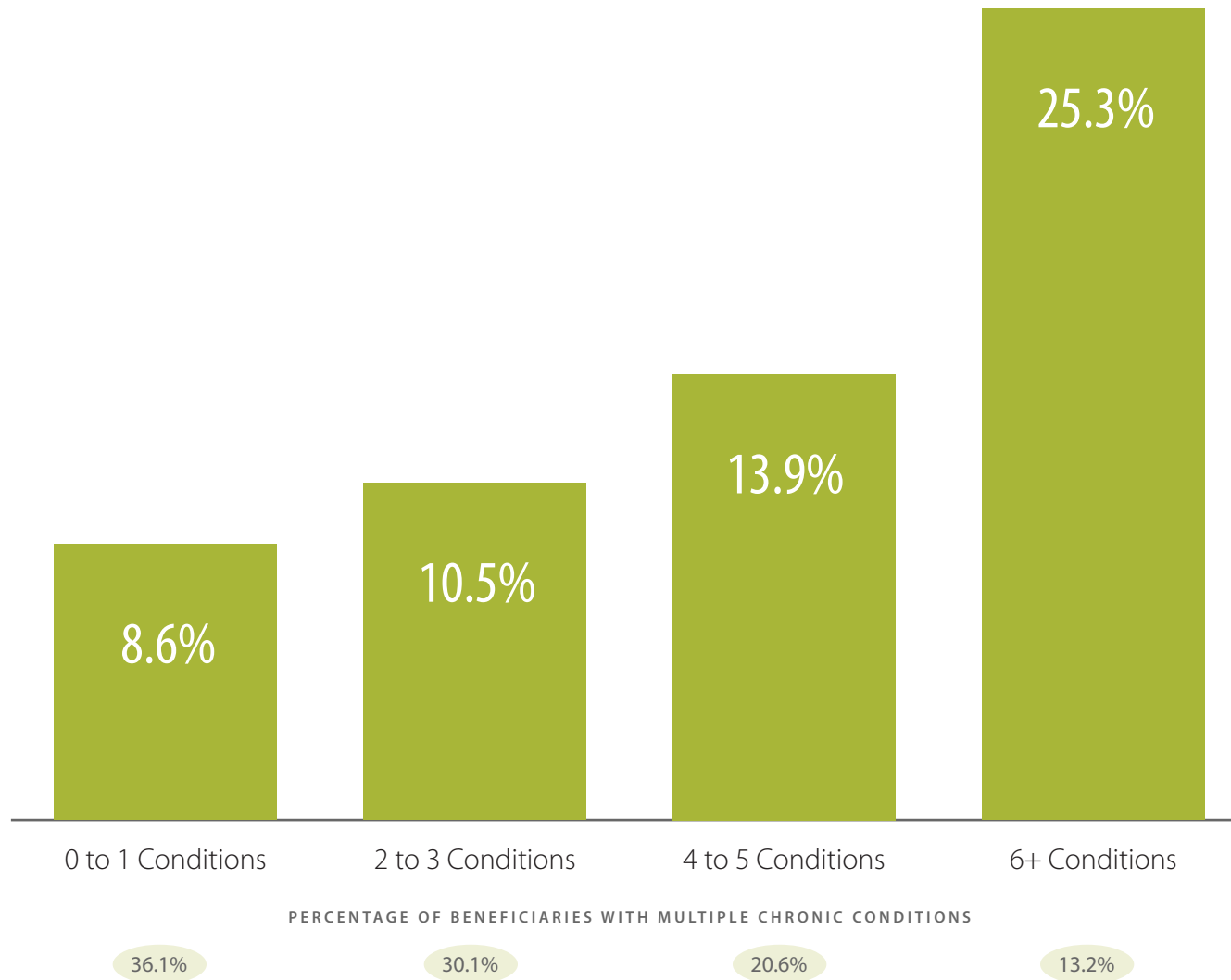
Quality of Care

Patient Safety

In California, hospital readmission rates vary widely by payer. While Medi-Cal had the highest 30-day readmission rate at 18%, Medicare patients accounted for 60% of readmissions in 2011. Some portion of hospital readmissions may be prevented by proper discharge planning and coordination of care.

Medicare 30-Day Readmission Rate

by Number of Chronic Conditions, California, 2011



Notes: Data include Medicare beneficiaries enrolled in fee-for-service coverage of both Parts A and B for the entire year. Based on set of 15 chronic conditions.

Source: Centers for Medicare & Medicaid Services, State Level Chronic Condition Reports, www.cms.gov, accessed April 5, 2013.

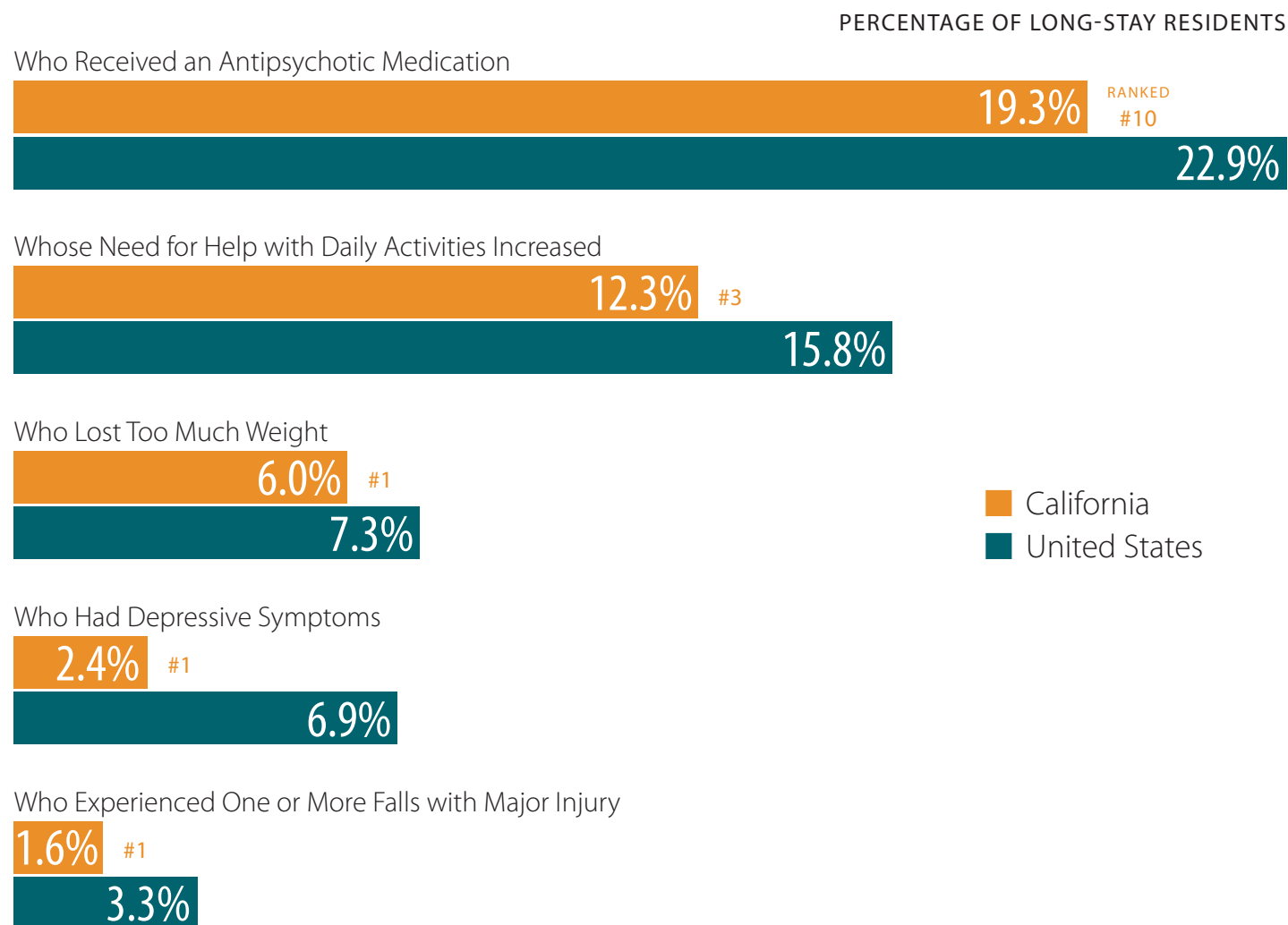
Quality of Care

Patient Safety

Readmission rates for Medicare beneficiaries are strongly correlated with the number of chronic conditions they have. In 2011, 9% of California Medicare patients with one (or no) chronic condition were readmitted, while 25% of patients with six or more chronic conditions were readmitted.

Nursing Home Quality Measures with Good Performance

California vs. United States, 2012



Notes: Data from April through December 2012. Rank is out of 50 states and the District of Columbia. For those "who had depressive symptoms," California was tied with one other state for the rank. For all measures shown, a lower percentage indicates higher quality.

Source: Centers for Medicare & Medicaid Services, Nursing Home Compare, www.medicare.gov/nursinghomecompare, accessed April 28, 2013.

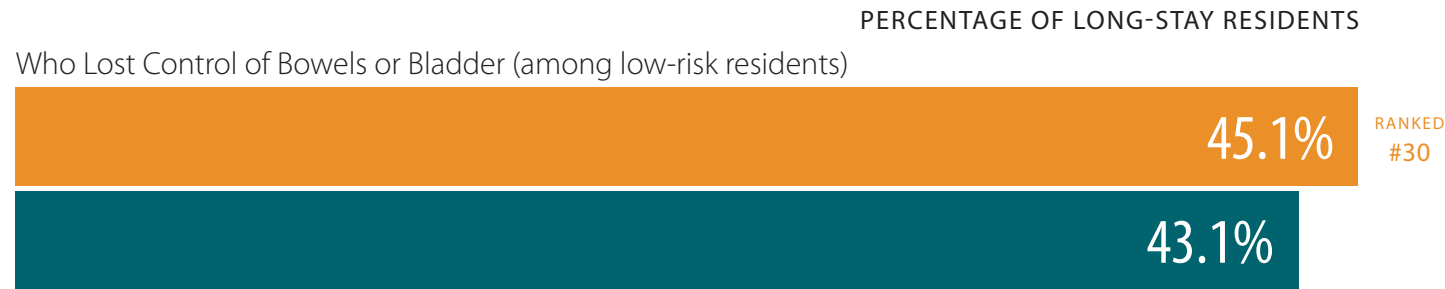
Quality of Care

Nursing Homes

California nursing homes compared well to the nation on a number of quality measures in 2012, with lower percentages of residents who were injured in a fall, had depressive symptoms, or lost too much weight. The state ranked first in the nation on each of these measures.

Nursing Home Quality Measures with Poor Performance

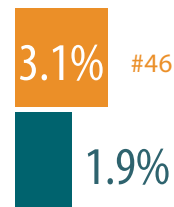
California vs. United States, 2012



Who Had Pressure Ulcers (among high-risk residents)



Who Were Physically Restrained



Quality of Care

Nursing Homes

California nursing home patients were more likely to be physically restrained than residents of nursing homes in the nation as a whole. The state ranked 46th on this measure in 2012. The use of physical restraints can cause significant medical problems for nursing home patients, including pressure sores, weakness, and the inability to use the bathroom independently.

Notes: Data from April through December 2012. Rank is out of 50 states and the District of Columbia. For those "who had pressure ulcers," California was tied with two other states for the rank.

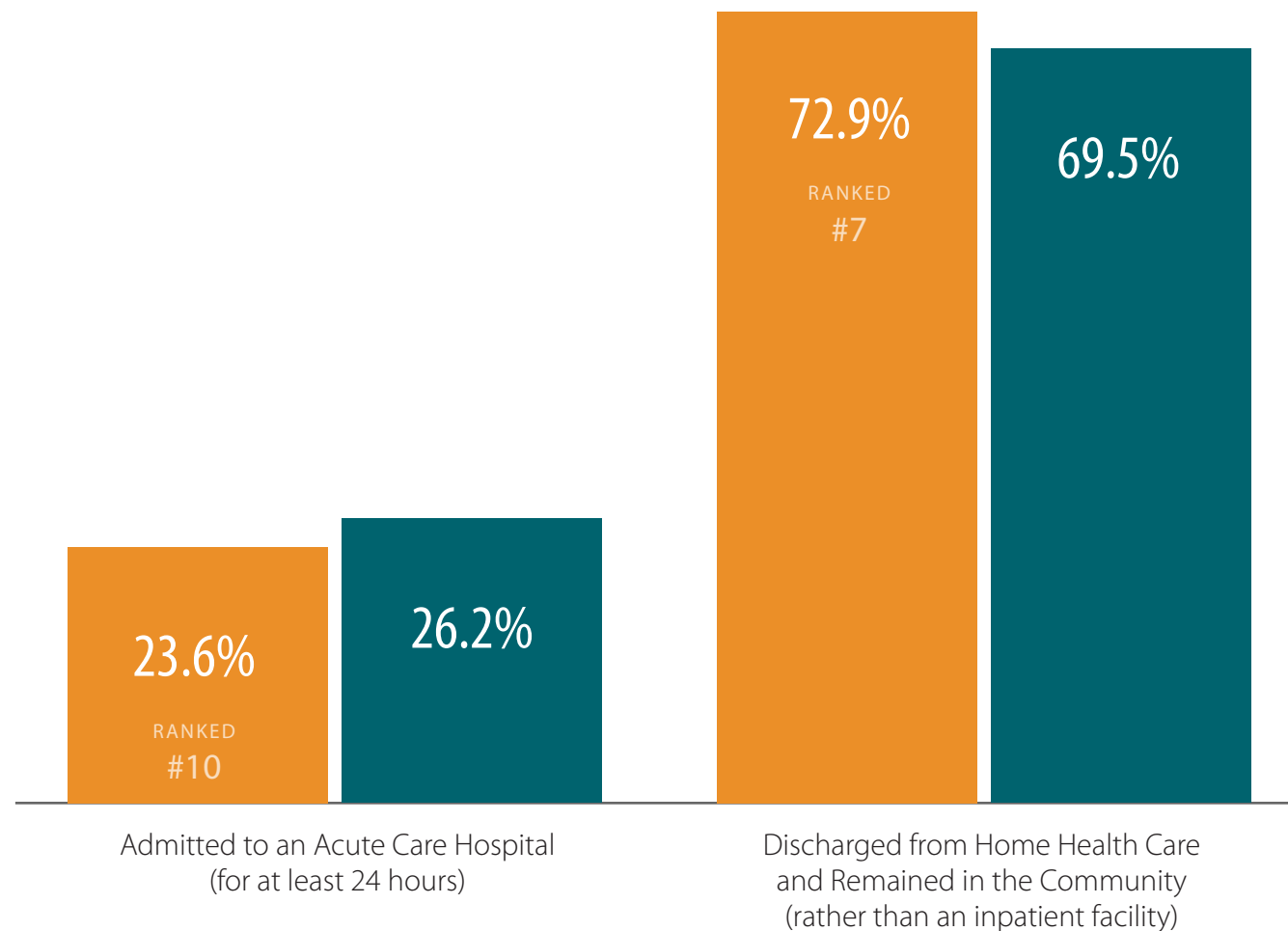
Source: Centers for Medicare & Medicaid Services, Nursing Home Compare, www.medicare.gov/nursinghomecompare, accessed April 28, 2013.

Outcomes for Home Health Patients

California vs. United States, 2012

California

United States



Notes: Data from calendar year 2012. Rank is out of 50 states and the District of Columbia. For each measure, California was tied with other states for the rank.

Source: Centers for Medicare & Medicaid Services, Oasis C Based Home Health Agency Patient Outcome, Process and Potentially Avoidable Event Reports, www.cms.gov, accessed June 6, 2013.

Quality of Care

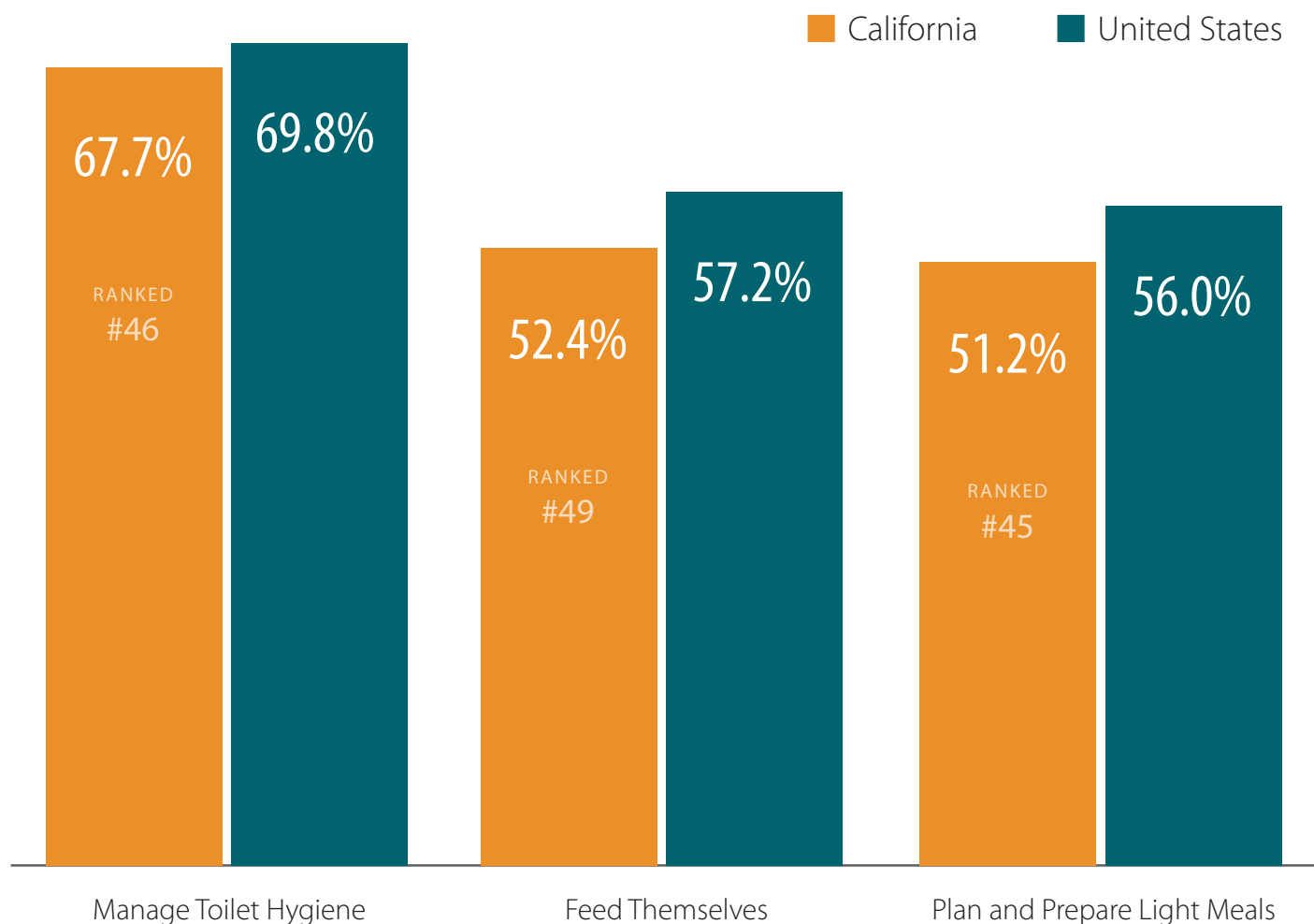
Home Health

An important indicator of home health quality is what happens to patients following their home health care episode. A high percentage of patients staying in the community as well as a low percentage of patients being admitted to an acute care hospital are considered favorable outcomes. California home health agencies ranked among the best 10 states for both of these measures in 2012.

Improved Daily Living Activities, Home Health Patients

California vs. United States, 2012

PERCENTAGE WITH IMPROVED ABILITY TO...



Notes: Data from calendar year 2012. Rank is out of 50 states and the District of Columbia. For "manage toilet hygiene," California was tied with another state for the rank.

Source: Centers for Medicare & Medicaid Services, Oasis C Based Home Health Agency Patient Outcome, Process and Potentially Avoidable Event Reports, www.cms.gov, accessed June 28, 2013.

Quality of Care

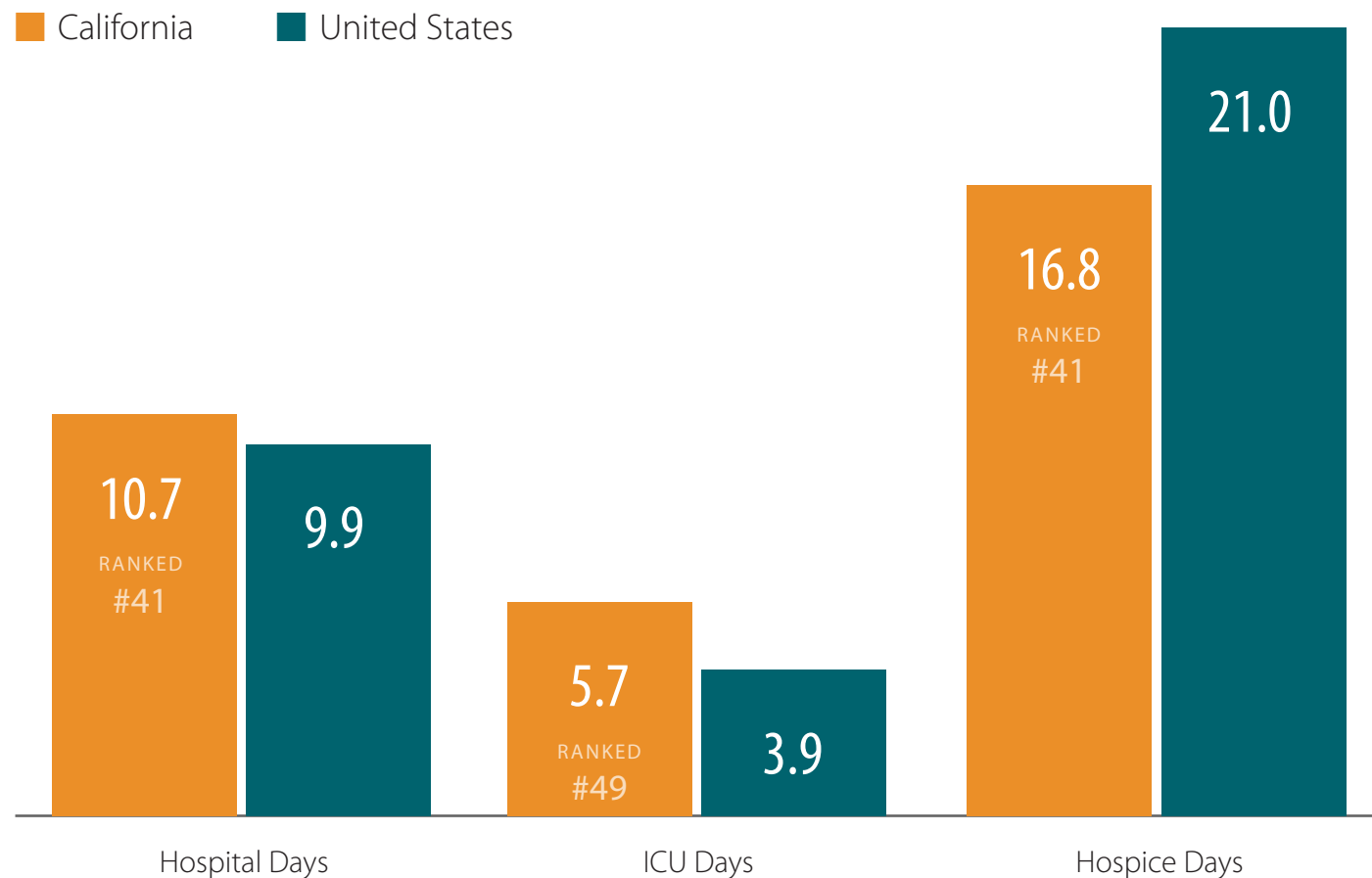
Home Health

California home health agencies performed among the worst of all states on three measures addressing improvements in basic activities of daily living in 2012. The state ranked 49th in the percentage of patients whose ability to feed themselves improved.

End-of-Life Care, Chronically Ill Medicare Patients

California vs. United States, 2010

DAYS PER DECEDENT DURING LAST 6 MONTHS OF LIFE



Notes: Data include Medicare beneficiaries with one of nine chronic conditions who died during the measurement year. Population is restricted to those whose age at death was 67 to 99 years and to those with full Part A and Part B entitlement and no HMO enrollment during the measurement period. Rates adjusted for age, sex, race, primary chronic condition, and the presence of more than one chronic condition. California tied with other states for hospital days.

Sources: California HealthCare Foundation, *End-of-Life Care in California: You Don't Always Get What You Want*, www.chcf.org, April 2013. The Dartmouth Atlas of Health Care, *Tracking Improvement in the Care of Chronically Ill Patients: A Dartmouth Atlas Brief on Medicare Beneficiaries Near the End of Life*, www.dartmouthatlas.org, data download, June 14, 2013.

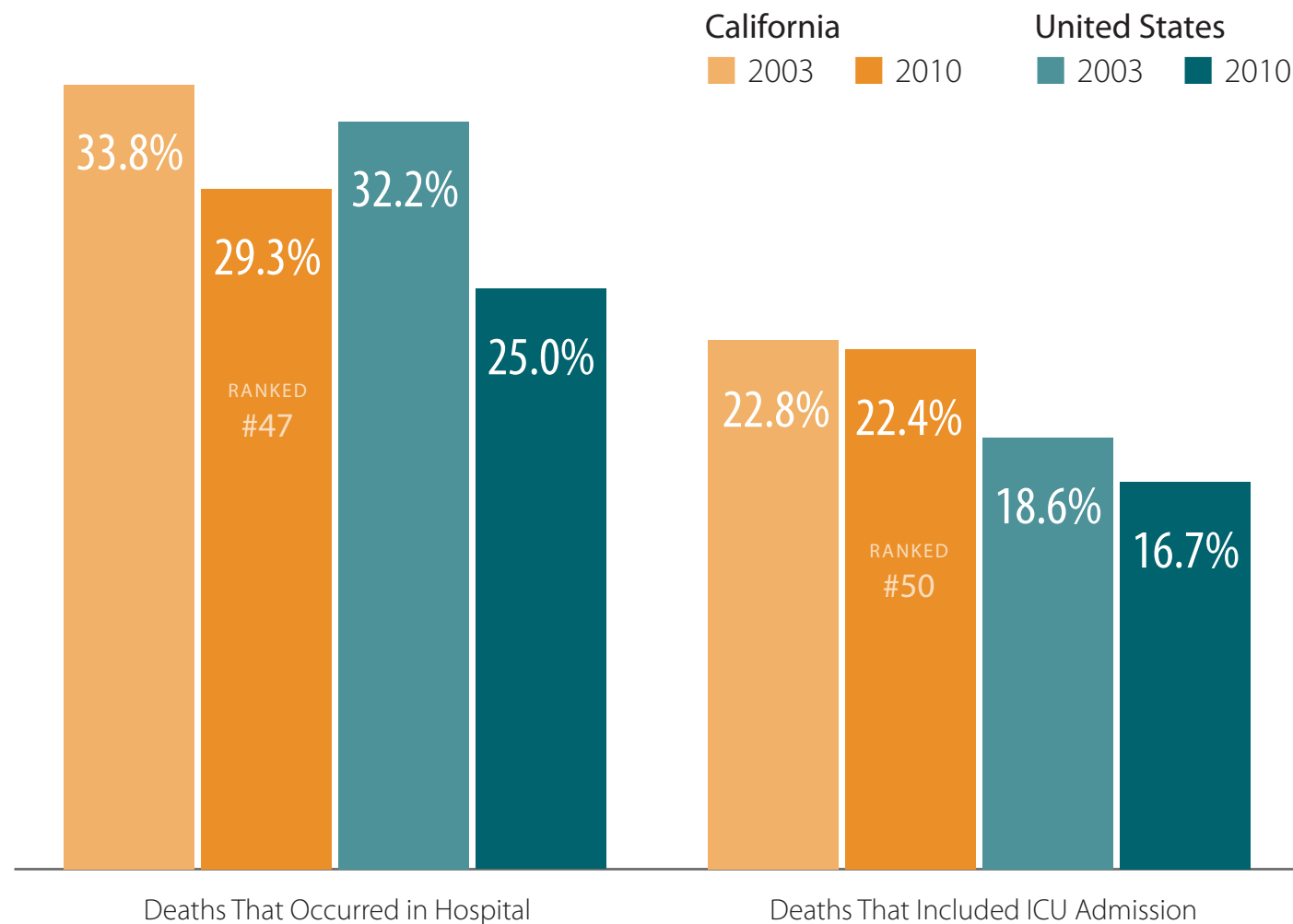
Quality of Care

End of Life

Compared to the nation, California provides relatively aggressive care to chronically ill Medicare patients at the end of life. California patients spend more days in the hospital and in the ICU in the last six months of life. On average, Californians spend 17 days in hospice care, compared to 21 days for the nation. Research shows that a majority of Californians would prefer low-intensity care at the end of life.

Deaths Occurring in Hospital, Medicare Patients

California vs. United States, 2003 and 2010



Notes: Data include Medicare beneficiaries with one of nine chronic conditions who died during the measurement year. Population is restricted to those whose age at death was 67 to 99 years and to those with full Part A and Part B entitlement and no HMO enrollment during the measurement period. Rates adjusted for age, sex, race, primary chronic condition, and the presence of more than one chronic condition.

Sources: California HealthCare Foundation, *End-of-Life Care in California: You Don't Always Get What You Want*, www.chcf.org, April 2013. The Dartmouth Atlas of Health Care, *Care of Chronic Illness in Last Two Years of Life*, www.dartmouthatlas.org, accessed July 1, 2013.

Quality of Care

End of Life

California's Medicare beneficiaries with chronic conditions are more likely to die in the hospital than are residents of almost all other states. California has one of the highest rates of deaths with an ICU admission, at 22% compared to the national average of 17%, which is the 2022 target of Let's Get Healthy California.*

*Established by Governor Brown, the Let's Get Healthy California task force developed a blueprint to achieve the triple aim of better health, better care, and lower costs. The task force established 10-year improvement targets for 39 health care indicators.

Data Resources

Agency for Healthcare Research and Quality

National Healthcare Quality and Disparities Reports, 2012

www.ahrq.gov

Annual report published by federal government with data on large selection of quality metrics; associated state profiles provide data for each state.

California Department of Public Health, Maternal, Child, and Adolescent Health Program

www.cdph.ca.gov/programs/MCAH

Publishes data and reports on maternal mortality, infant mortality, and other childbirth-related quality indicators

California Office of Statewide Health Planning and Development (OSHDP)

www.oshpd.ca.gov

Publish data on various quality indicators for California hospitals.

Centers for Disease Control and Prevention (CDC)

Behavioral Risk Factor Surveillance System Survey Data

apps.nccd.cdc.gov/brfss

Diabetes Data and Trends, California Surveillance Data

apps.nccd.cdc.gov/DDTSTRS

National Center for Health Statistics

www.cdc.gov/nchs

Publishes annual reports on births and deaths, as well as other data-based reports.

National Center for Health Statistics, VitalStats

www.cdc.gov/nchs/vitalstats.htm

National Immunization Survey

www.cdc.gov/vaccines/stats-surv/nis

Publishes data on child immunization rates, updated quarterly.

United States Cancer Statistics

apps.ncccd.cdc.gov/uscs

Publishes data on cancer incidence and mortality at state and national level.

Centers for Medicare & Medicaid Services

Data.Medicare.gov

data.medicare.gov

Hospital Compare

www.medicare.gov/hospitalcompare

Nursing Home Compare

www.medicare.gov/nursinghomecompare

OASIS C Based Home Health Agency Patient Outcome and Case Mix Reports

www.cms.gov

Set of data providing 60 measures of home health quality with state and national averages, updated quarterly. Data are from calendar year 2011.

Data Resource Center for Child and Adolescent Health

www.childhealthdata.org

Conducts and publishes data from National Survey of Children's Health.

Quality of Care

Data Resources

AUTHOR

Jennifer Joynt, health care consultant

FOR MORE INFORMATION



CALIFORNIA
HEALTHCARE
FOUNDATION

California HealthCare Foundation
1438 Webster Street, Suite 400
Oakland, CA 94612

510.238.1040

www.chcf.org

Appendix A: Timely and Effective Care Measures for Surgical Patients California vs. United States, 2008 and 2012

	CALIFORNIA		UNITED STATES	
	2008	2012	2008	2012
Percentage of Outpatient Surgery Patients				
Received antibiotic at right time (within one hour before surgery)	n/a	96%	n/a	97%
Given right kind of antibiotic	n/a	96%	n/a	97%
Percentage of Inpatient Surgery Patients				
Kept on beta blockers before and after surgery (of patients on beta blockers)	n/a	96%	n/a	97%
Received antibiotic at right time (within one hour before surgery)	86%	98%	86%	98%
Given right kind of antibiotic	93%	98%	92%	99%
Antibiotics stopped within 24 hours*	82%	97%	84%	97%
Blood glucose kept under good control after surgery [†]	86%	95%	85%	96%
Urinary catheters removed on first or second day post-surgery	n/a	95%	n/a	95%
Actively warmed in the operating room or body temperature was near normal by the end of surgery	n/a	100%	n/a	100%
Doctor ordered treatment to prevent blood clots	80%	98%	84%	98%
Received treatment at right time (within 24 hours before or after surgery) to help prevent blood clots	76%	97%	85%	97%

*Taking preventive antibiotics for more than 24 hours after routine surgery is usually unnecessary.

†Heart surgery patients only.

Note: Data are from July of previous year through June of stated year.

Source: Centers for Medicare & Medicaid Services, Hospital Compare data, data.medicare.gov/data/hospital-compare, accessed April 23, 2013.

Appendix B: Timely and Effective Care Measures for Heart Patients California vs. United States, 2005 and 2012

	CALIFORNIA		UNITED STATES	
	2005	2012	2005	2012
Outpatients with Chest Pain or Possible Heart Attack				
Average time before patient needing specialized care was transferred	n/a	60 minutes	n/a	59 minutes
Average time before patient received electrocardiogram	n/a	8 minutes	n/a	7 minutes
Percentage who got drugs to break up blood clots within 30 minutes of arrival	n/a	67%	n/a	59%
Percentage who got aspirin within 24 hours of arrival	n/a	97%	n/a	97%
Percentage of Heart Attack Inpatients				
Prescribed aspirin at discharge	89%	99%	88%	99%
Given PCI Within 90 minutes*	58%	95%	62%	95%
Given anti-clotting therapy within 30 minutes†	32%	78%	30%	60%
Given prescription for a statin at discharge	n/a	98%	n/a	98%
Percentage of Heart Failure Inpatients				
Prescribed an ACE inhibitor or angiotensin receptor blocker at discharge	81%	97%	80%	96%
Evaluation of left ventricular systolic (LVS) function	82%	99%	80%	99%
Given discharge instructions	45%	94%	50%	93%

*2005 figures reflect percentage of patients given PCI within 120 minutes.

†2005 figures reflect percentage of patients given thrombolytic medication.

Notes: Data are from July of previous year through June of stated year. ACE = angiotensin converting enzyme; PCI = percutaneous coronary intervention (commonly known as angioplasty).

Source: Centers for Medicare & Medicaid Services, Hospital Compare data, data.medicare.gov/data/hospital-compare, accessed April 23, 2013.

Appendix C: Timely and Effective Care Measures for Pneumonia Patients California vs. United States, 2005 and 2012

	CALIFORNIA		UNITED STATES	
	2005	2012	2005	2012
Percentage of Pneumonia Inpatients				
Blood cultures before antibiotics in the emergency room	82%	97%	82%	97%
Given most appropriate antibiotic	76%	96%	77%	95%
Percentage of Inpatients				
Assessed and given pneumonia vaccination	n/a	86%	n/a	88%
Assessed and given flu vaccination	n/a	82%	n/a	86%

Note: Data are from July of previous year through June of stated year.

Source: Centers for Medicare & Medicaid Services, Hospital Compare data, data.medicare.gov/data/hospital-compare, accessed April 23, 2013.