

SNAPSHOT

Beds for Boomers: Will Hospitals Have Enough?

2008



CALIFORNIA
HEALTHCARE
FOUNDATION

Introduction

California, like the rest of the nation, is anticipating unprecedented growth in the 65+ population. This will have a significant impact on the state’s acute care hospitals, since seniors are hospitalized at much higher rates than younger people. The California HealthCare Foundation sponsored research to help hospitals and other health care stakeholders assess the impact of the aging population on the need for beds.

KEY FINDINGS INCLUDE:

- California’s 65+ population is projected to more than double from 2000 to 2030, growing to 8.8 million.
- Due to seniors’ high rate of hospitalization, acute care hospital days are projected to increase by 76 percent over that period. By 2030, the 65+ group is projected to use over half of the state’s acute care days, despite representing only 18 percent of the population.
- California’s regions differ widely in senior population growth, use of acute care days, and licensed bed capacity.* An analysis of seven regions projects that by 2030 there will be insufficient acute care beds in four regions.
- As early as 2020, the Sacramento Area, San Joaquin Valley, and Inland Empire may experience a shortfall in beds.

As California’s hospitals plan upgrades to meet earthquake safety requirements, they will need to consider the impact that the growth of the older population in their region will have on the need for acute care beds. Efficiency of hospital care will be a crucial factor in meeting demand without unnecessarily increasing supply.

*The calculations in this report were based on licensed acute care beds because these data are the most consistently defined and reported measure of hospital beds.

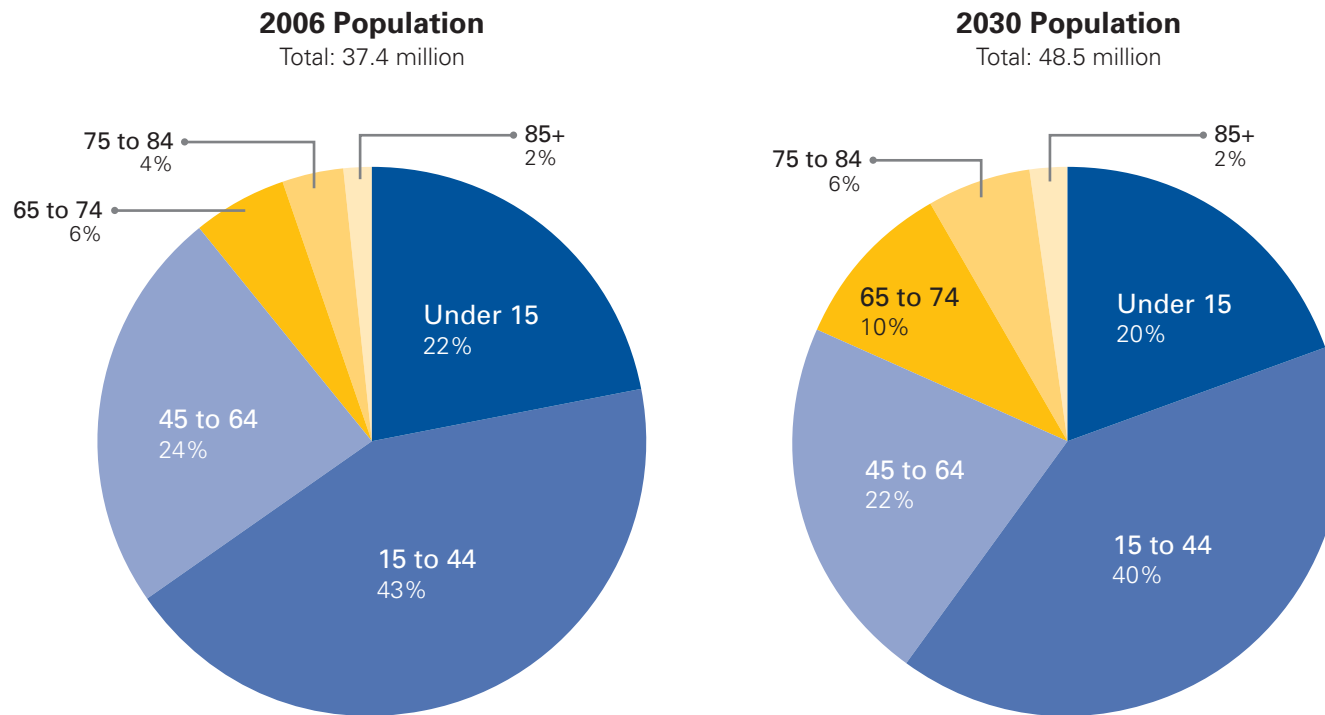
Beds for Boomers

Introduction

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California Current and Projected Population, by Age Group, 2006 and 2030



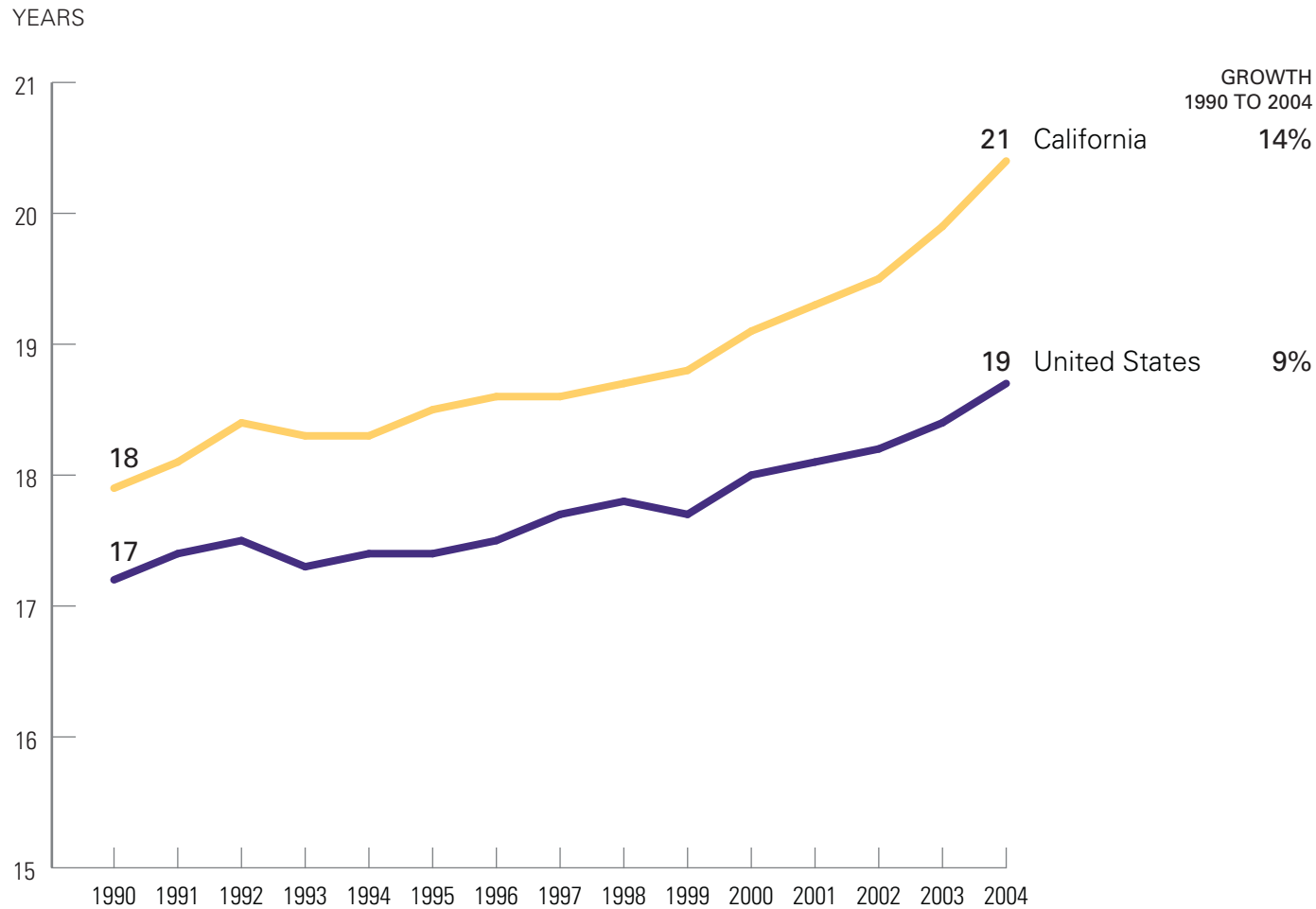
Beds for Boomers Demographic Profile

California's population is rapidly aging. In 2006, seniors (age 65+) represented 12 percent of the state's population. By 2030, seniors are projected to grow to 18 percent of Californians, or around 8.8 million. The 65 to 74 age group alone will represent 10 percent of the state's population.

Note: Due to rounding, percents may not add up to 100.

Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

Average Years of Life Remaining at Age 65, United States and California, 1990–2004



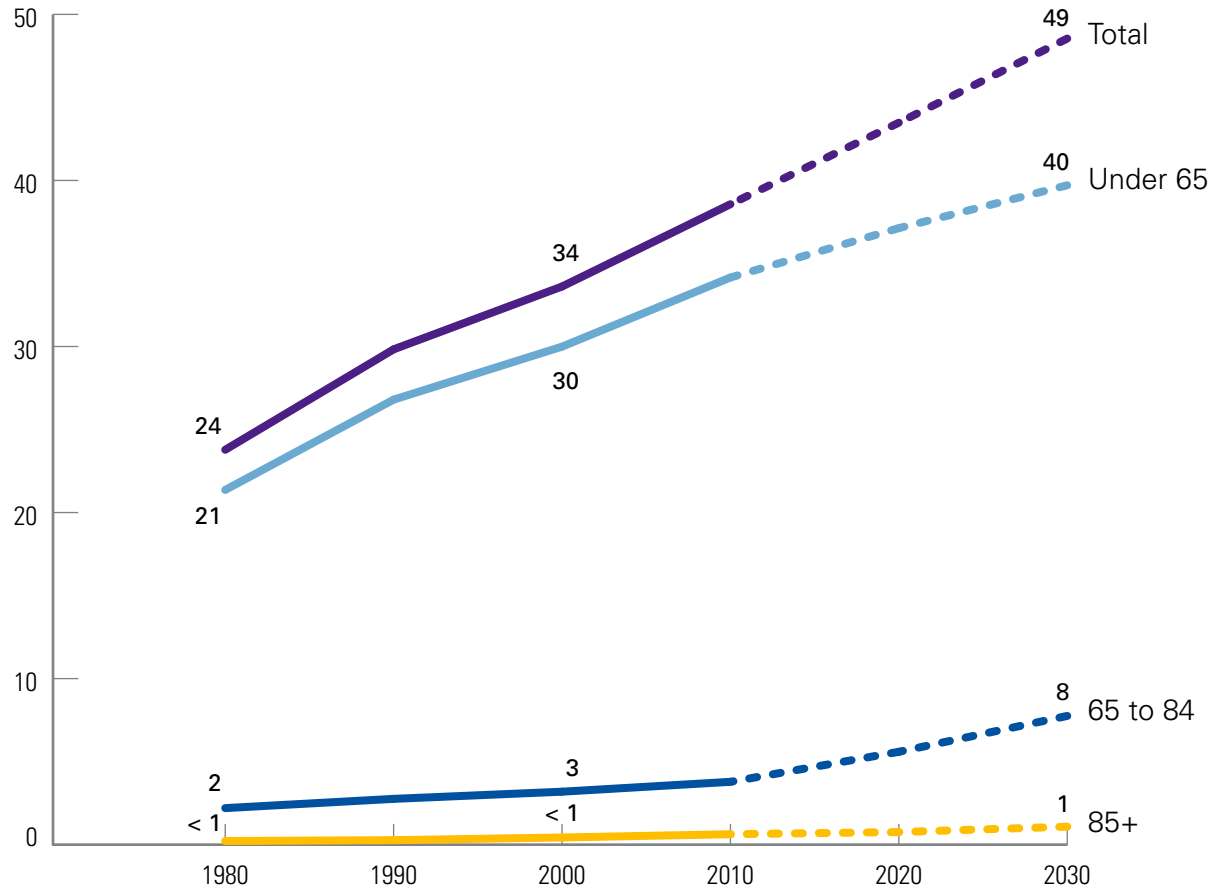
Beds for Boomers Demographic Profile

California's seniors live longer than American seniors as a whole, and the gap is widening. A 65-year-old Californian, in 2004, could expect to live, on average, 20 more years—to age 85.

Source: Springborn, R. Abridged Life Tables for California, 2004. California Department of Health Services. November 2006. Centers for Disease Control and Prevention, National Center for Health Statistics.

Projected Growth in California's Population, by Age Group, 1980–2030

POPULATION (IN MILLIONS)



Source: State of California, Department of Finance, Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity, Sacramento, California, July 2007. State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 1970–1989. Sacramento, CA, December 1998. State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 1990–1999. Sacramento, CA, May 2004.

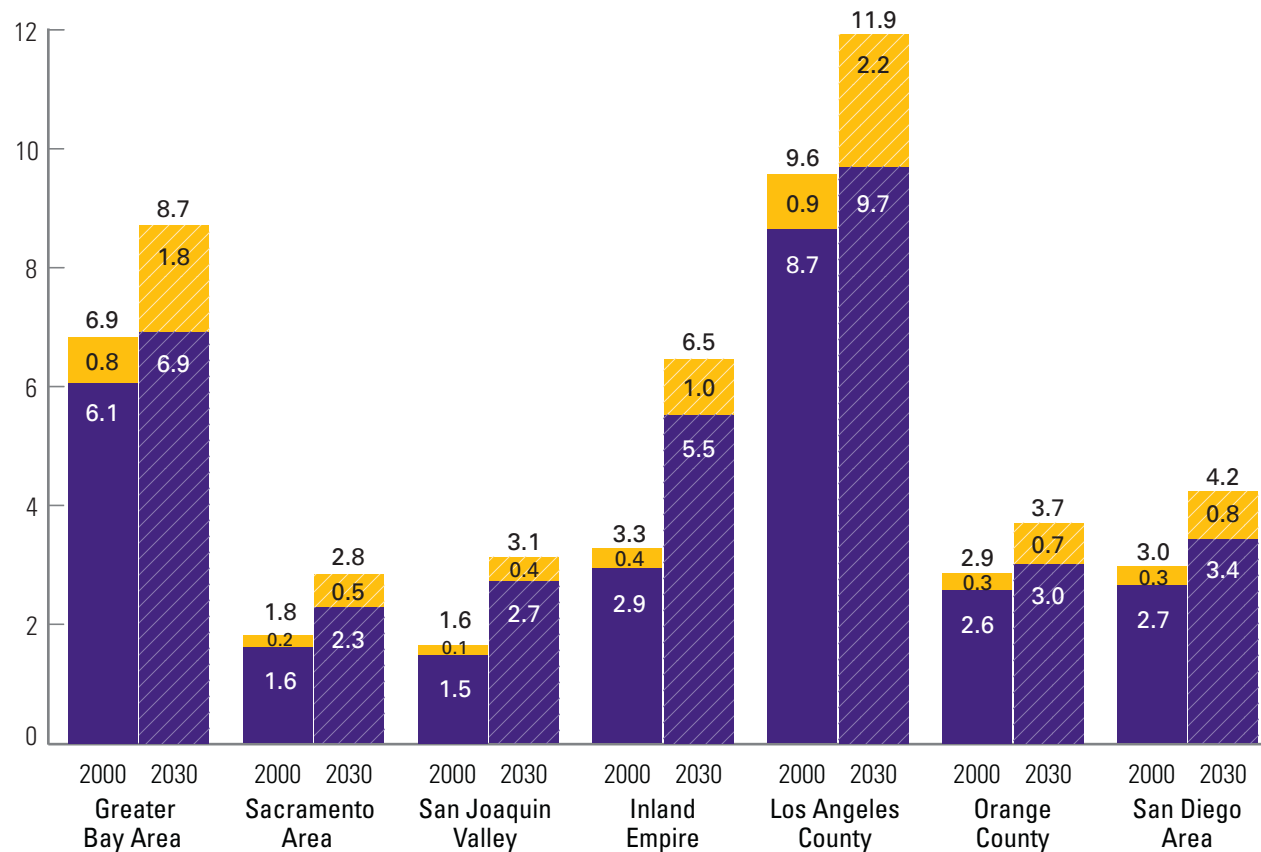
Beds for Boomers Demographic Profile

California's seniors are projected to more than double between 2000 and 2030, while the total state population grows 44 percent. The state's oldest seniors (85+) doubled from 1980 to 2000 and are projected to double again from 2000 to 2030. California can expect to have over a million 85+ persons by that year.

Projected Growth in California's Population, Selected Regions, by Age Group, 2000–2030

POPULATION (IN MILLIONS)

■ Under 65 ■ 65+

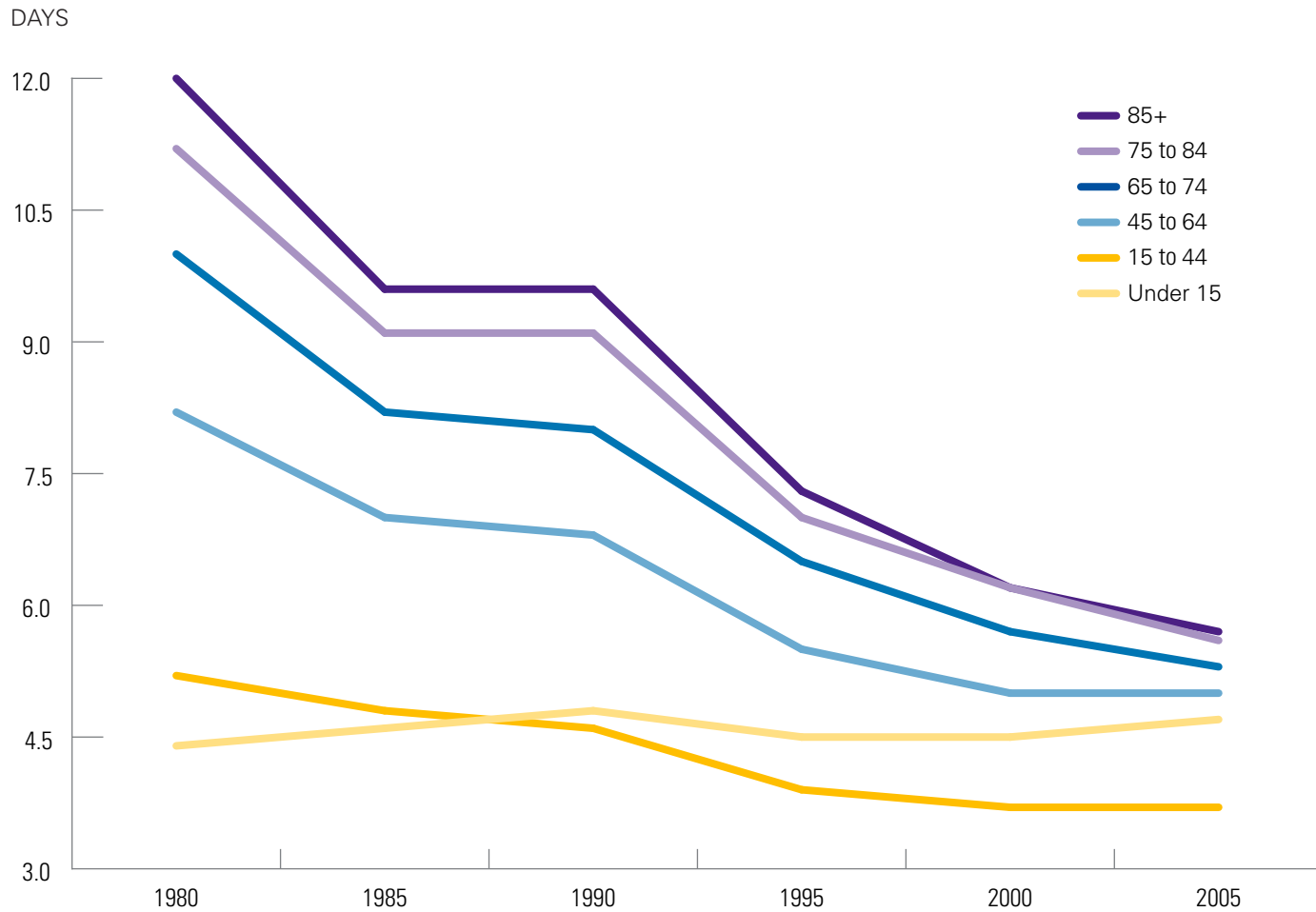


Source: State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Beds for Boomers Demographic Profile

There are wide regional differences in projected population growth. The 65+ population will drive over half of total population growth from 2000 to 2030 in Los Angeles County and the Greater Bay Area. In contrast, the under-65 population accounts for most of the growth expected in the Sacramento Area, the Inland Empire, and the San Joaquin Valley.

National Average Length of Stay, by Age Group, 1980–2005



Notes: Based on discharges of inpatients from acute care hospitals, excluding newborns.

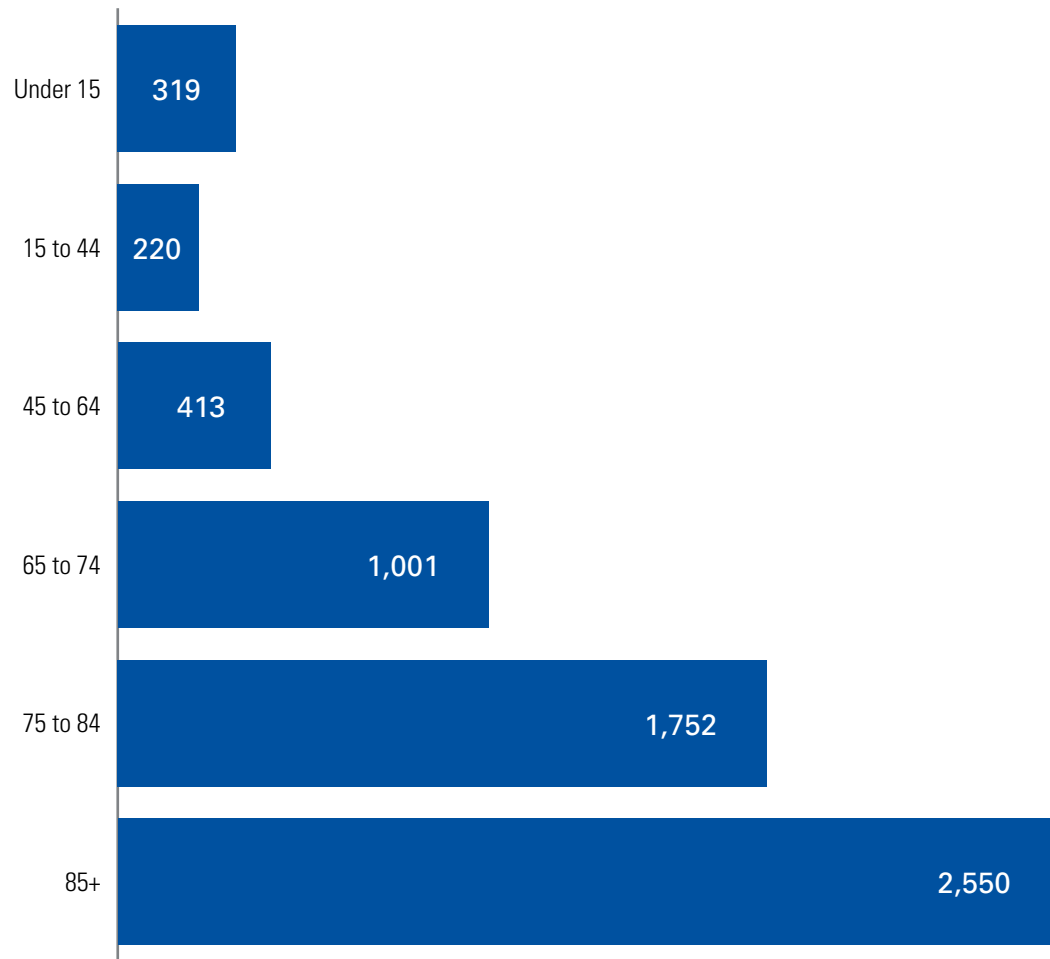
Source: DeFrances C.J., Cullen K.A., Kozak L.J. *National Hospital Discharge Survey: 2005*, annual summary with detailed diagnosis and procedure data. National Center for Health Statistics. Vital Health Stat 13(165). 2007.

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Seniors' Use of Hospital Beds

Over the last 25 years, changes in health care delivery have dramatically reduced the average length of stay for seniors. Since 1980, the 8-day gap between length of stay for the oldest and the youngest patients has narrowed to just one day.

Acute Care Days per 1,000 Population, California, by Age Group, 2006



Notes: Based on discharges of inpatients from acute care hospitals, excluding newborns.

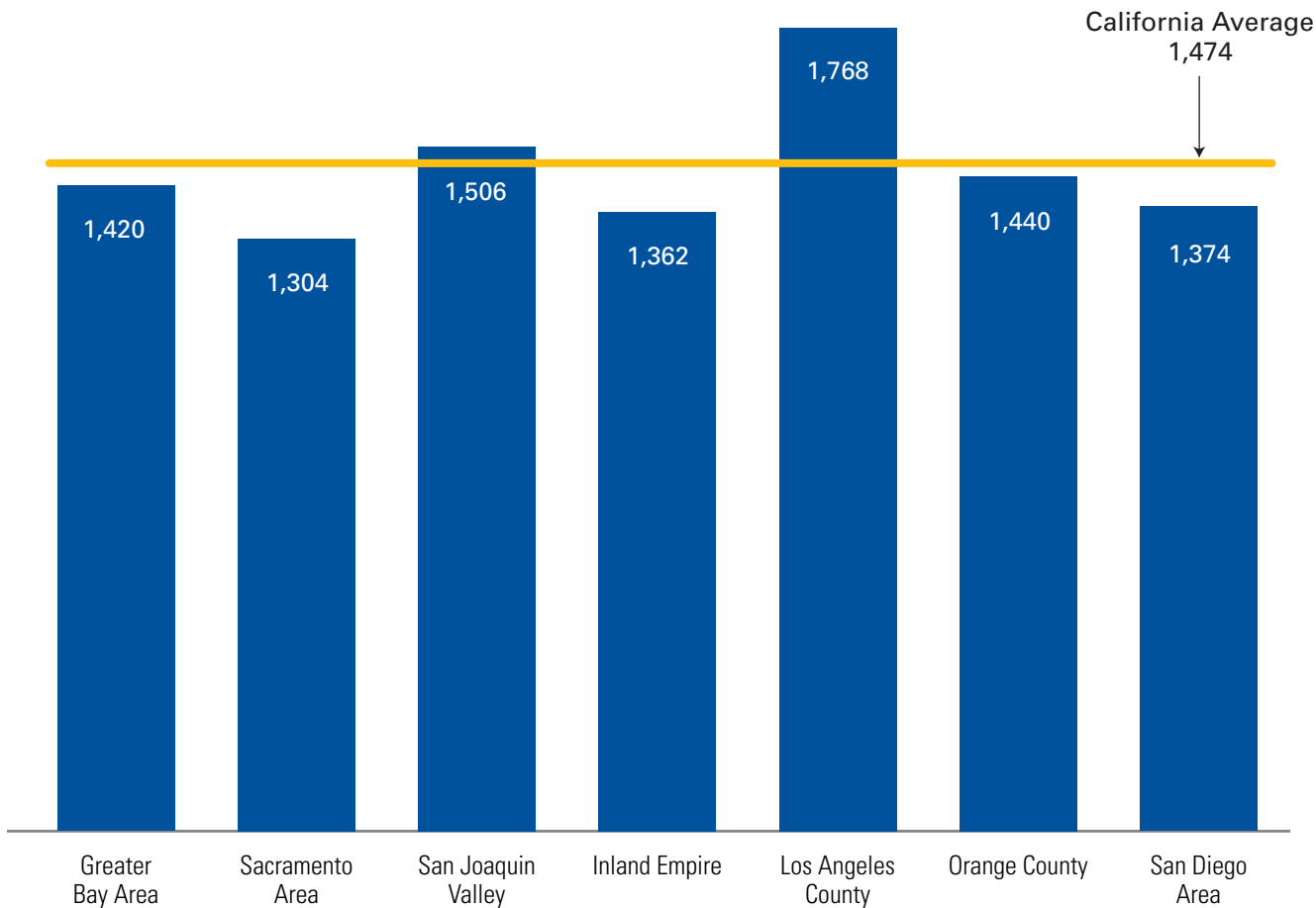
Source: OSHPD Patient Discharge Data. State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

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Seniors' Use of Hospital Beds

Despite their decreasing length of stay, California's seniors use hospital beds at a much higher rate than those under age 65. The oldest seniors (85+) have substantially higher use rates than those who are between 65 and 84.

Seniors' Acute Care Days per 1,000 Population, Selected California Regions, 2006



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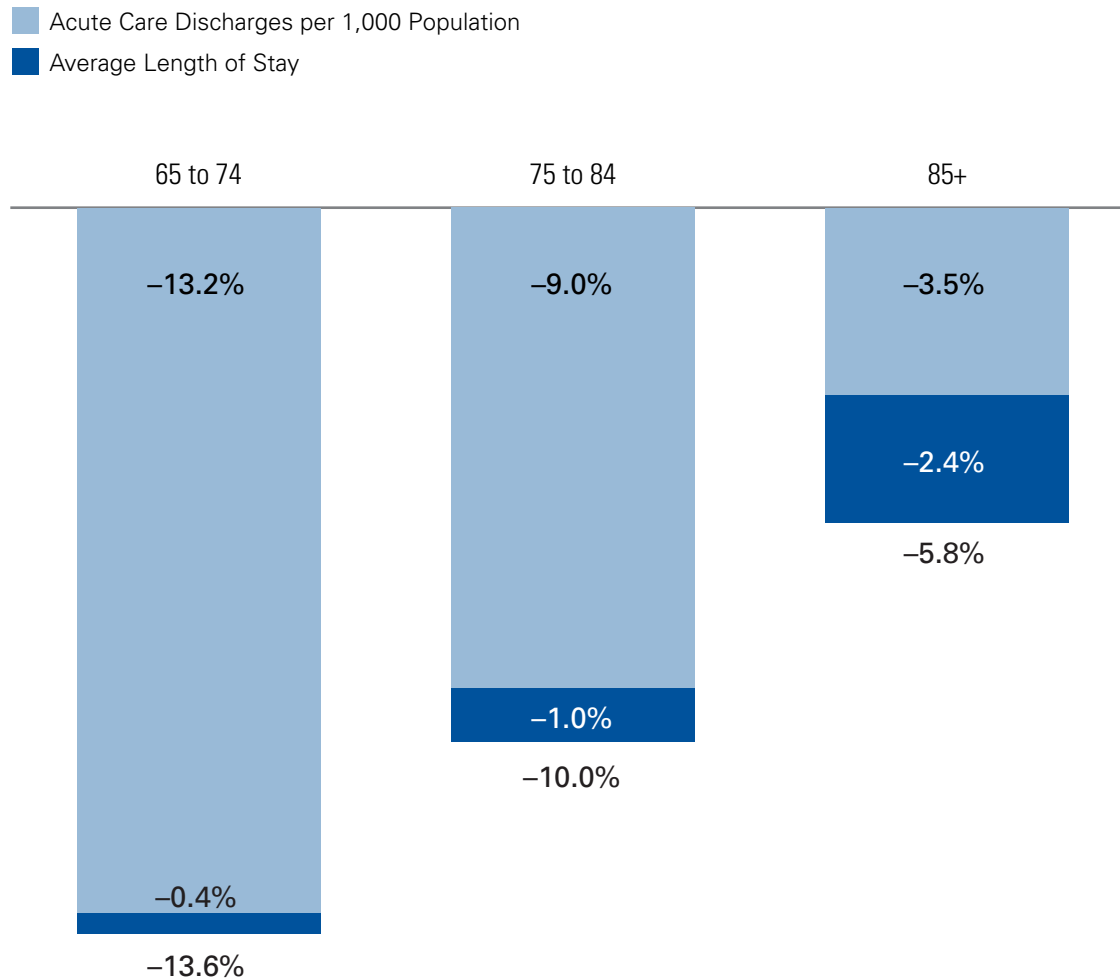
Seniors' Use of Hospital Beds

Due to differences in practice patterns, seniors' use of acute care days per 1,000 population varies widely from region to region. The Sacramento Area uses relatively few days, while Los Angeles County's use is well above the California average. Research on practice variation by the Dartmouth Atlas team suggests this variation is unwarranted.

Source: OSHPD Patient Discharge Data. State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

Source: cecsweb.dartmouth.edu/atlas08/datatools/hci_s1.php

Decrease in Acute Care Days per 1,000 Population, by Age Group, California, 1996–2006



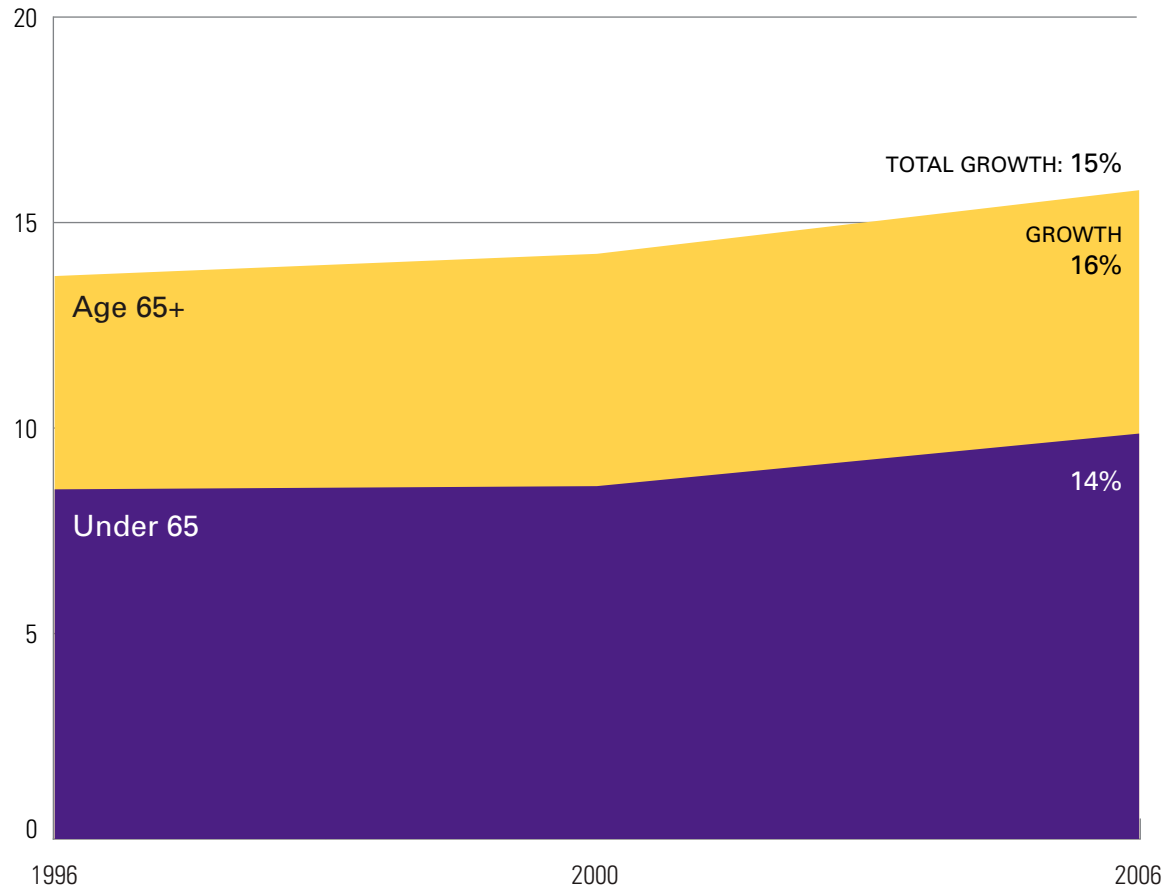
Beds for Boomers Seniors' Use of Hospital Beds

Hospital use rates for seniors have dropped sharply over the past decade. Most of the decrease is due to fewer discharges per 1,000, rather than further reductions in average length of stay.

Source: OSHPD Patient Discharge Data. State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

Acute Care Days, by Age Group, California, 1996–2006

DAYS (IN MILLIONS)



Source: OSHPD Patient Discharge Data.

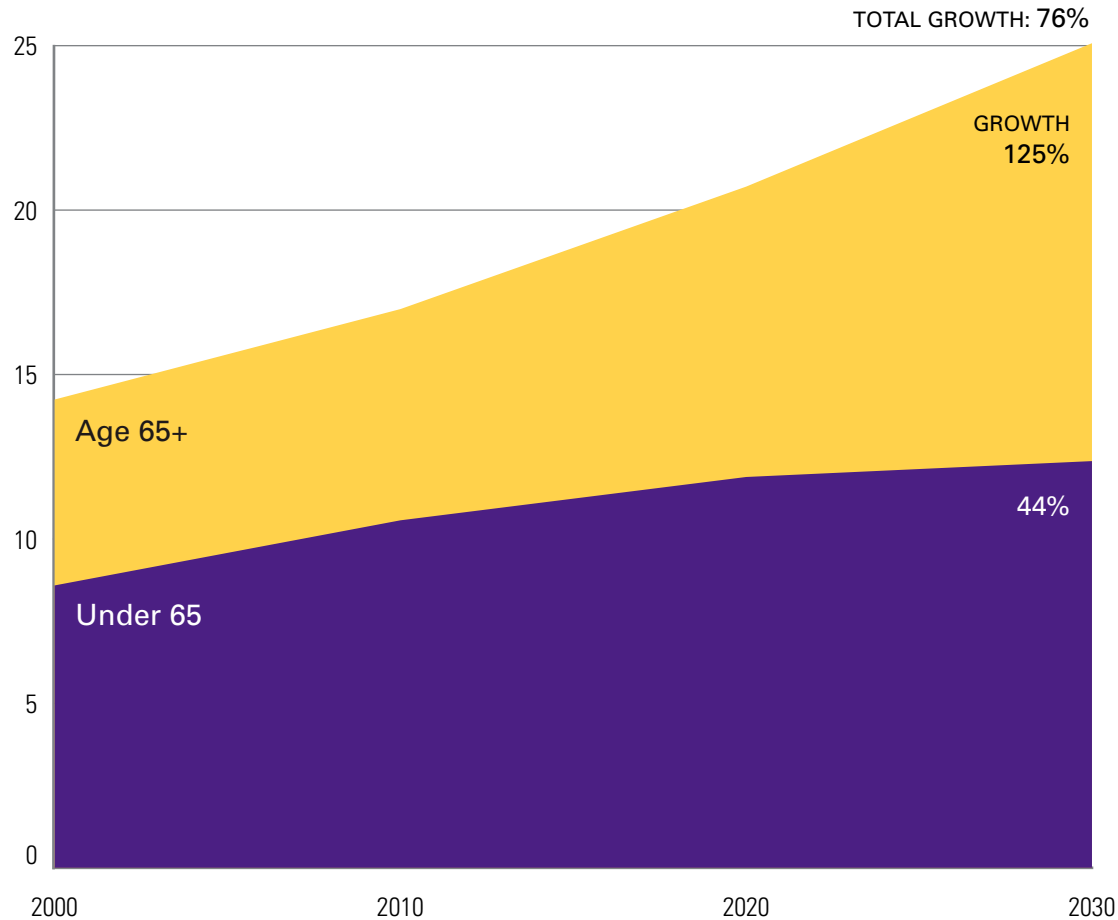
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Seniors' Use of Hospital Beds

Despite decreasing use rates and tightened length of stay, acute care days for California seniors have been growing due to rising population, as well as the aging of the population. Acute care days increased 15 percent in the decade from 1996 to 2006.

Projected Acute Care Days, by Age Group, California, 2000–2030

ACUTE CARE DAYS (IN MILLIONS)



Note: Projections are calculated by applying the 2006 days per 1000 population rates by age group to projections of future population by age group.

Source: OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Beds for Boomers

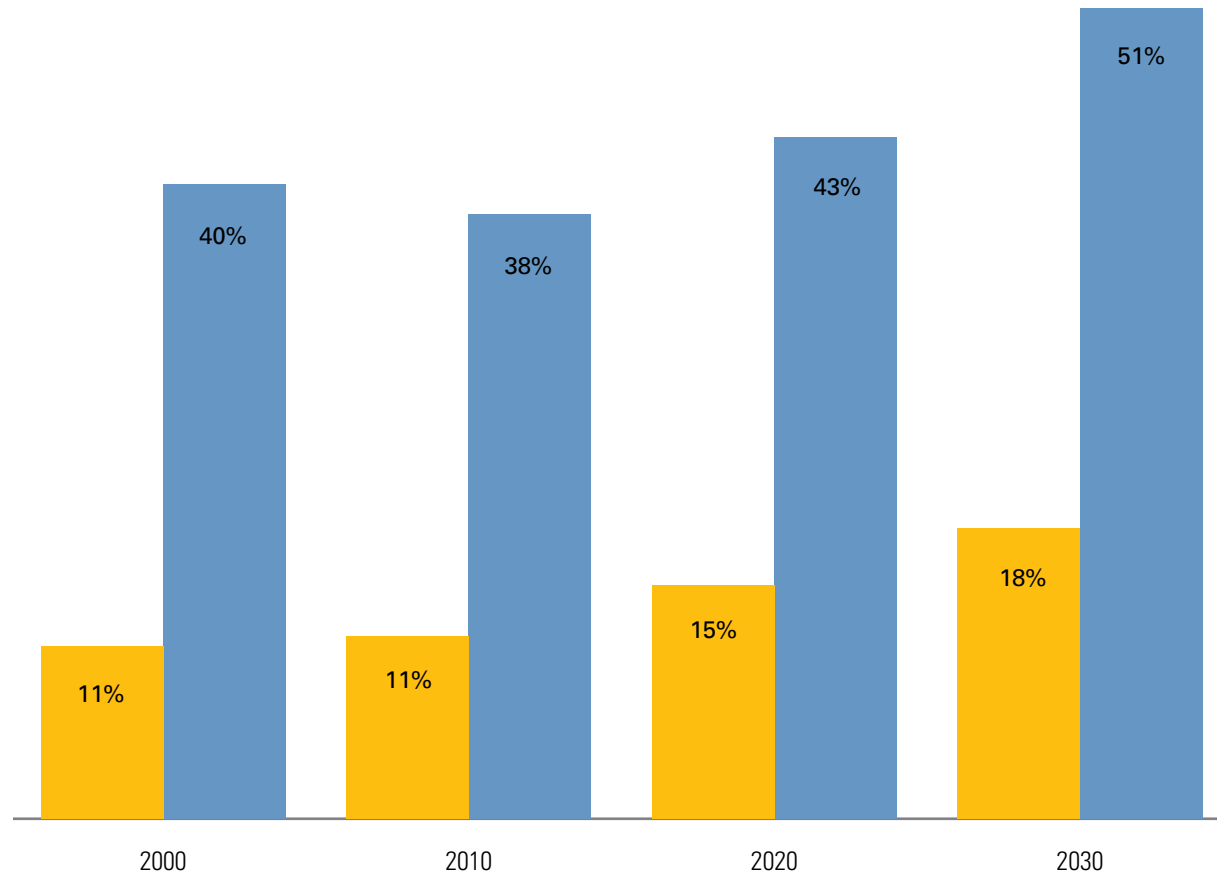
Projected Need for Acute Care

The growth in days is expected to continue. California's population increase is projected to cause a 76 percent increase in acute care days from 2000 to 2030. The 65+ population accounts for most of that growth.

Projected 65+ Share of Population and Acute Care Days, California, 2000–2030

PERCENTAGE OF...

■ Population ■ Acute Care Days



Note: The projections are calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population by age group.

Source: OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Beds for Boomers

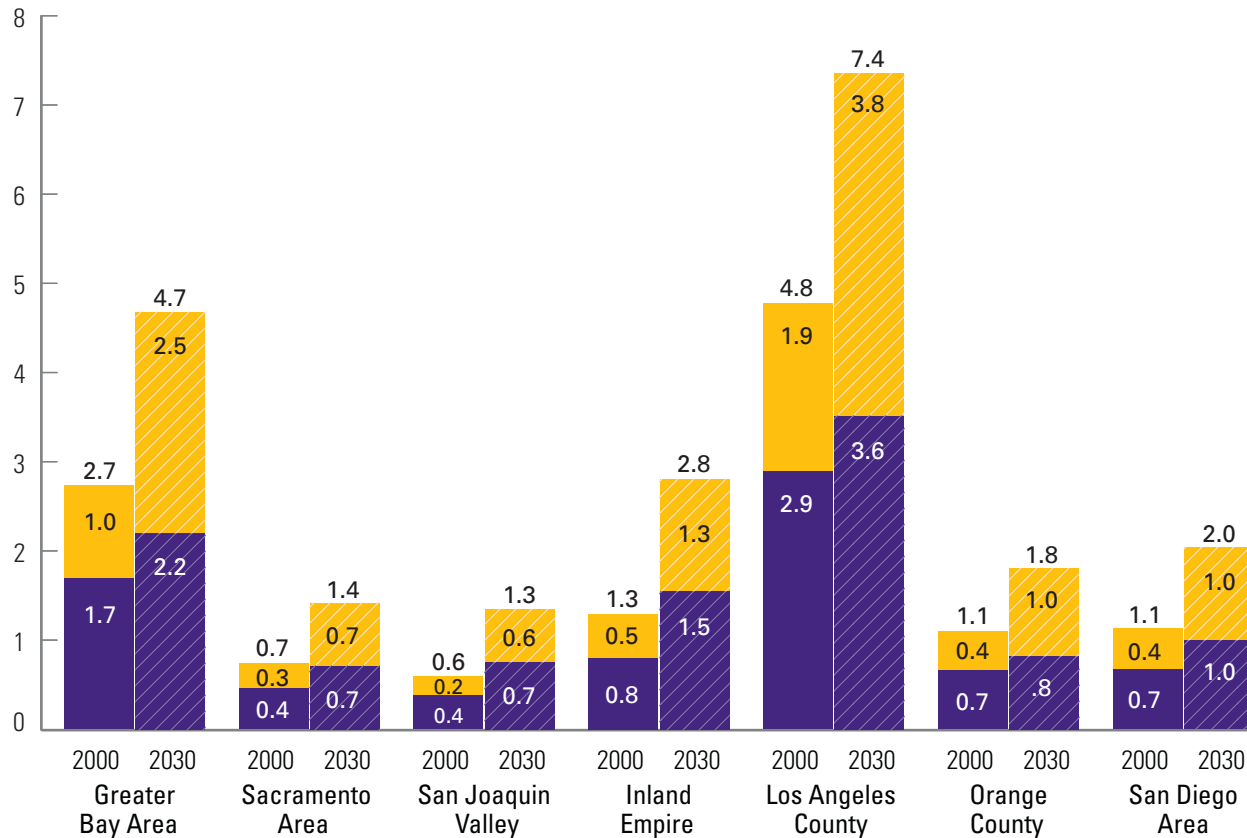
Projected Need for Acute Care

Although representing only 18 percent of the population, seniors are projected to use more than half of all acute care days in 2030.

Projected Growth in Acute Care Hospital Days, Selected California Regions, by Age Group, 2000–2030

ACUTE CARE DAYS (IN MILLIONS)

■ Under 65 ■ 65+



Notes The projections are calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population by age group. For each region, these calculations are performed at the individual county level and then summed to create the region total.

Source: OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

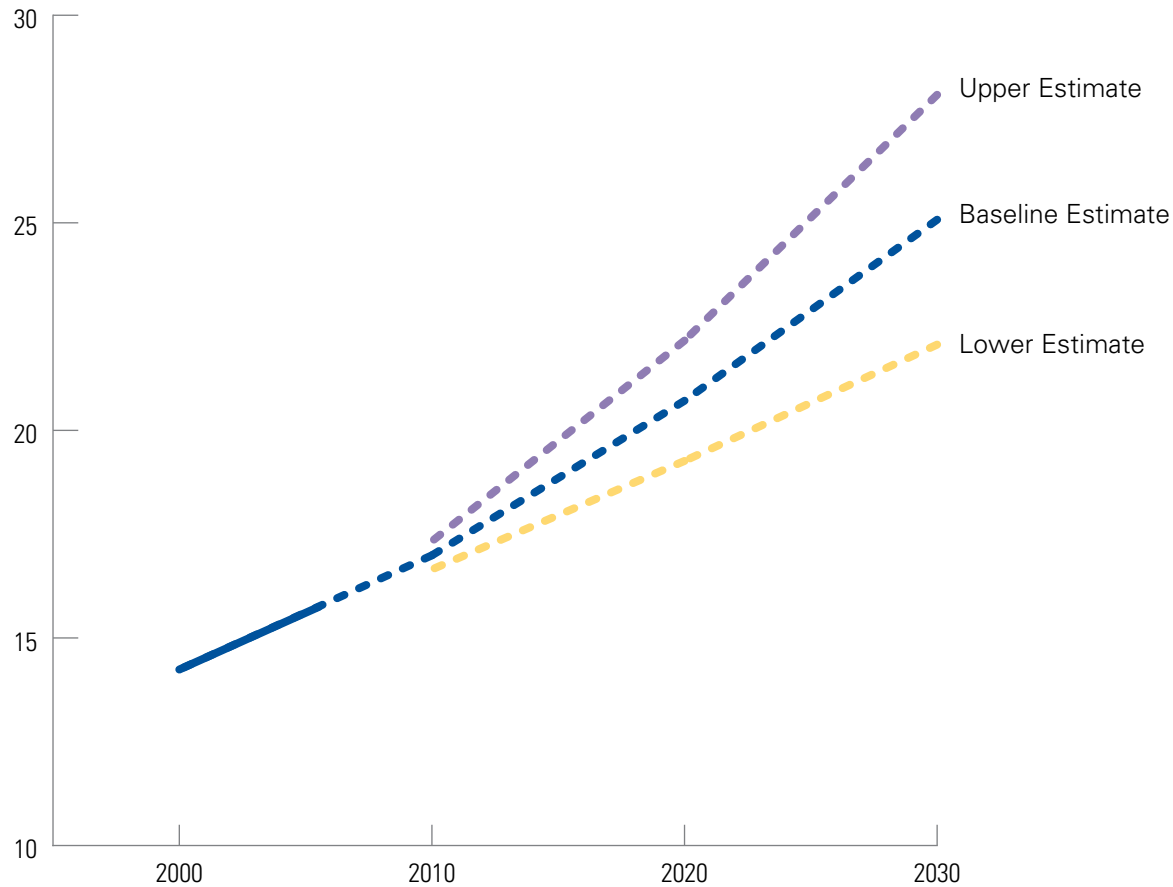
Beds for Boomers

Projected Need for Acute Care

Of the seven California regions examined, all are projected to have substantial increases in acute care days by 2030. The Inland Empire and San Joaquin Valley are likely to see the largest percentage increase.

Projected Acute Care Days, California, Three Estimates, 2000–2030

ACUTE CARE DAYS (IN MILLIONS)



Notes: The baseline estimate is calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population by age group. The upper/lower estimates are based on increasing/decreasing the baseline by 5 percent per decade, resulting in a cumulative 12 percent increase/decrease by 2030.

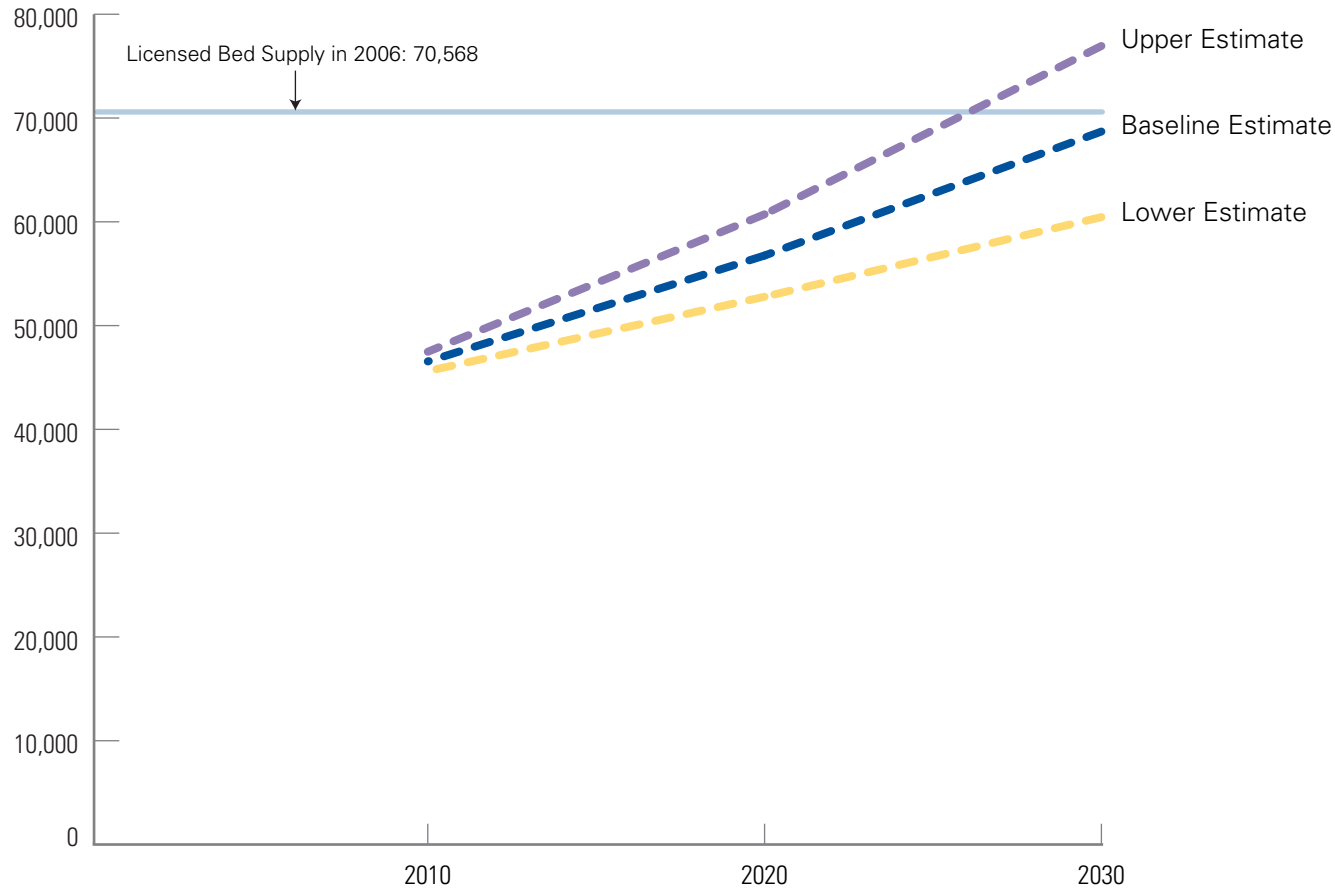
Source: OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Beds for Boomers Impact on Bed Capacity

Because forecasting cannot be precise, upper and lower estimates of projected acute care days provide a range of possibilities.

Projected Acute Care Beds, California, Three Estimates of Need, 2010–2030

BEDS NEEDED



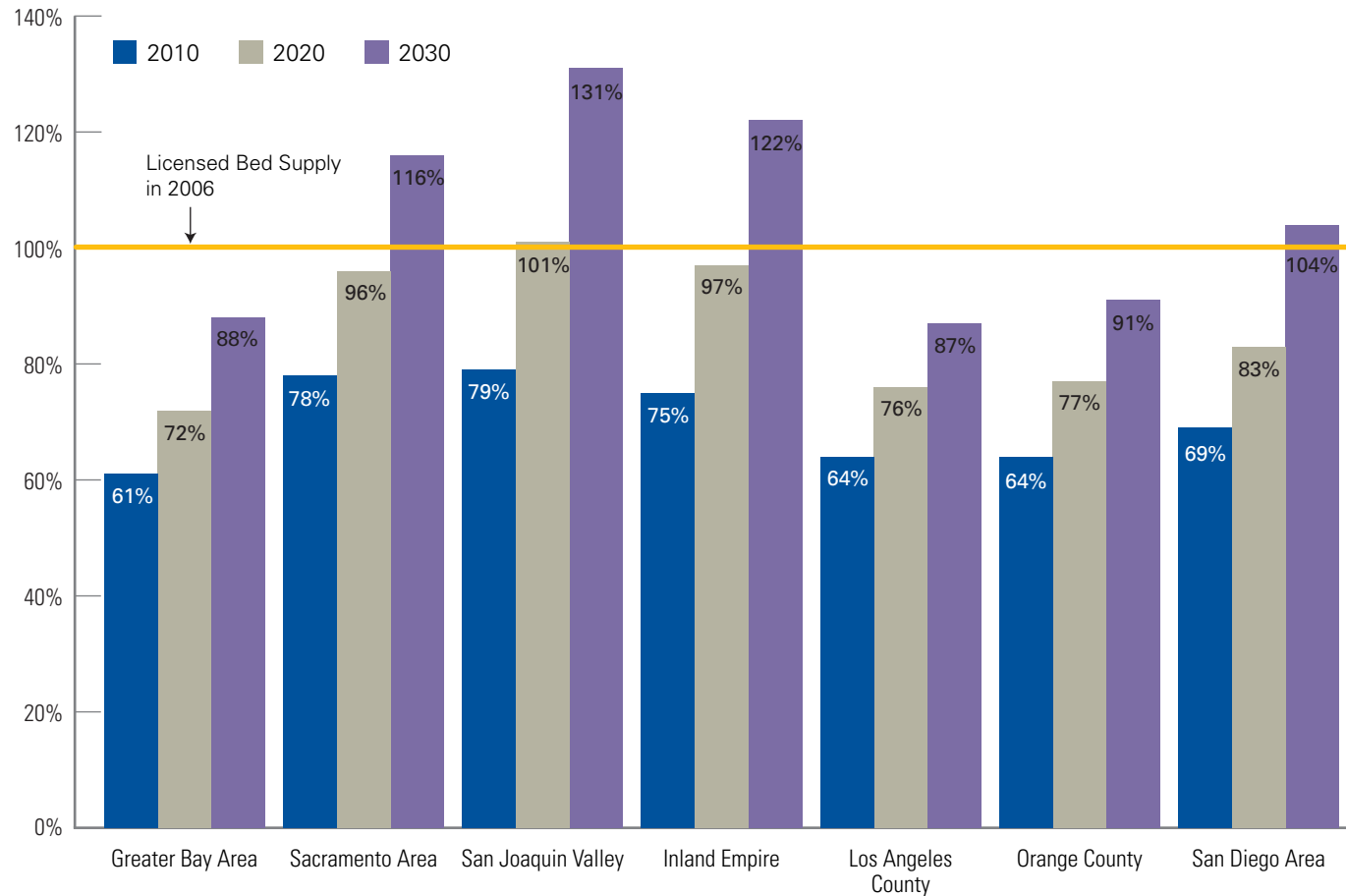
Notes: The baseline estimate is calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population by age group. The upper/lower estimates are based on increasing/decreasing the baseline by 5 percent per decade, resulting in a cumulative 12 percent increase/decrease by 2030.

Source: OSHPD, *2006 Annual Utilization Report of Hospitals Database* (ALIRTS reporting system). OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Beds for Boomers Impact on Bed Capacity

Translating acute care days into bed needs, California will likely require between 60,000 and 77,000 acute care beds to meet the expected need in 2030.

Projected Acute Care Beds as Share of 2006 Supply, Selected California Regions, 2010, 2020, 2030



Beds for Boomers Impact on Bed Capacity

Unless efficiency or capacity is increased, there may not be sufficient beds in the Sacramento Area, San Joaquin Valley, and Inland Empire by 2020. The need for acute care beds is projected to exceed supply in the San Diego Area by 2030.

Note: The baseline estimate of future bed demand need is calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population by age group. For each region, these calculations are performed at the individual county level and then summed to create the region total. Upper and lower estimates of demand need are included in additional spreadsheets. The analysis does not account for seasonal variation in demand.

Source: OSHPD, 2006 Annual Utilization Report of Hospitals Database (ALIRTS reporting system). OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Number of Projected Acute Care Beds, Selected California Regions, 2010, 2020, 2030

NUMBER OF ACUTE CARE BEDS...

	LICENSED	PROJECTED		
	2006	2010	2020	2030
Greater Bay Area	14,620	8,891	10,593	12,823
Sacramento Area	3,332	2,607	3,212	3,881
San Joaquin Valley	2,828	2,225	2,853	3,691
Inland Empire	6,313	4,728	6,122	7,688
Los Angeles County	23,062	14,659	17,413	20,159
Orange County	5,447	3,470	4,169	4,945
San Diego Area	5,396	3,714	4,496	5,586

Beds for Boomers

Impact on Bed Capacity

By 2030, the current (2006) licensed bed supply is projected to satisfy bed needs in only three of the regions studied—the Greater Bay Area, Los Angeles and Orange counties.

Note: The baseline estimate of future bed demand need is calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population by age group. For each region, these calculations are performed at the individual county level and then summed to create the region total. Upper and lower estimates of demand need are included in additional spreadsheets. The analysis does not account for seasonal variation in demand.

Source: OSHPD, 2006 Annual Utilization Report of Hospitals Database (ALIRTS reporting system). OSHPD Patient Discharge Data. State of California, Department of Finance. Population Projections for California and Its Counties 2000–2050, by Age, Gender and Race/Ethnicity. Sacramento, California: July 2007.

Variation in Efficiency of Hospital Care, Selected California Areas

PERCENTILE OF HEALTH CARE INTENSITY INDEX

Los Angeles	99.3%
Orange County	92.4%
Ventura	87.5%
San Bernadino	78.6%
Palm Springs/Rancho Mirage	73.1%
Alameda County	69.8%
Contra Costa County	65.2%
San Diego	62.9%
San Francisco	61.6%
Bakersfield	58.0%
San Jose	51.1%
Salinas	45.9%
San Mateo County	43.2%
Modesto	34.0%
Stockton	31.1%
Chico	28.8%
Fresno	28.1%
Redding	20.9%
Sacramento	19.3%
Santa Cruz	17.0%
San Luis Obispo	15.0%
Napa	13.4%
Santa Rosa	13.1%
Santa Barbara	12.1%

Source: *Dartmouth Atlas of Health Care*, Hospital Care Intensity (HCI) Index. Percentiles above are based on United States distribution.

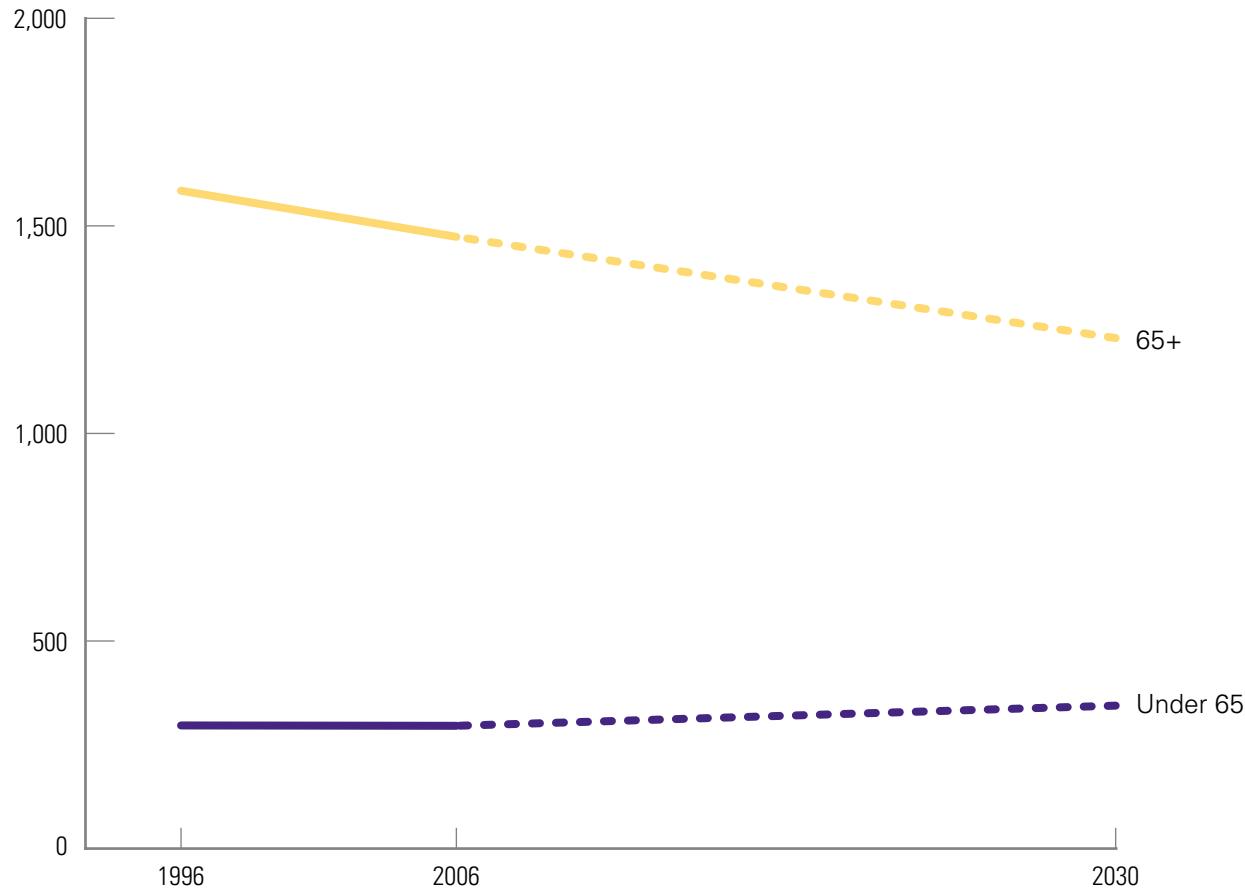
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Impact on Bed Capacity

The Health Care Intensity Index measures length of time spent in the hospital and the amount of physician services delivered there. If practice patterns in some parts of Southern California were modified, fewer beds would be needed to meet increased demand.

Trends in Acute Care Days per 1,000, by Age Group, California, 1996, 2006, 2030

ACUTE CARE DAYS



Source: OSHPD Patient Discharge Data. State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

Beds for Boomers

Impact on Bed Capacity

In evaluating the need for more beds, it is important to look at use trends. From 1996 to 2006, acute care days per 1,000 dropped for the senior population, while they rose slightly for those under 65. If hospital care for seniors continues to be more efficient, this will impact the number of beds needed.

Methodology

The California state and regional analysis is based on OSHPD utilization data for acute care discharges and days in licensed general acute care hospitals, and California Department of Finance population data and projections.

Projections of future need for acute care beds are built using author-calculated 2006 days per 1,000 population utilization rates for 19 age groups. The baseline estimate of future bed need is calculated by applying the 2006 days per 1,000 population rates by age group to projections of future population. For the regional analysis, the need projections are calculated at the individual county level and then summed to create the region total.

The model of future bed capacity utilization employs three estimates of future need for acute care beds: a baseline estimate based on 2006 utilization rates; an upper estimate based on an increase of 5 percent per decade resulting in a cumulative 12 percent increase in 2006 utilization rates for each of the 19 age groups through 2030; and a lower estimate based on a decrease of 5 percent per decade resulting in a cumulative 12 percent decrease in 2006 utilization rates for each of the 19 age groups through 2030. The bed supply estimate for the model is based on 2006 licensed general acute care beds.

In 2006, according to OSHPD's 2006 Annual Utilization Report of Hospitals Database, there were 70,568 licensed general acute care beds and 25,699,006 licensed acute care bed days.

The California regions examined in this report include the following:

- **Greater Bay Area:** Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties
- **Sacramento Area:** El Dorado, Placer, Sacramento, and Yolo counties
- **San Joaquin Valley:** Fresno, Kings, Madera, Merced, and Tulare counties
- **Inland Empire:** Riverside and San Bernardino counties
- **San Diego Area:** Imperial and San Diego counties
- **Los Angeles County**
- **Orange County**

External review and additional commentary by Lucy Johns, M.P.H., Health Care Planning and Policy.

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Jennifer Joynt, consultant

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Was the information provided in this report of value? Are there additional kinds of information or data you would like to see included in future reports of this type? Is there other research in this subject area you would like to see?

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