



**UC Irvine Health**

# **UC Irvine Medical Center 2013 Community Health Needs Assessment Report**

**April 2013 Amended Version Of The 2010 Needs Assessment Report Prepared by The Orange County Health Needs Assessment Provided to UC Irvine Medical Center on February 8, 2011**



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	a. Introduction, County Profile, Community Health and Wellness, Civic Engagement and Acknowledgement and Sources (This is a publication of The County of Orange, The Orange County Business Council, Children & Families Commission of Orange County, Association of California Cities: Orange County, Orange County United Way and The Urban Land Institute).	

# 2010 Community Benefits Needs Assessment Methodology

## Summary of Assessment Process

The Orange County Health Needs Assessment (OCHNA) is a community-based, not-for-profit collaborative that was created and designed to meet the requirements of SB697 for all not-for-profit hospitals in Orange County; the collaborative is jointly funded by the Health Care Agency of Orange County, the Children and Families Commission, CalOptima, and the nine Orange County not-for-profit HASC member hospitals.

Due to the economic downturn, county hospitals and governmental partners were unable to provide sufficient funding to conduct the random digit dial telephone survey of 5,000 households for the Orange County 2010 health needs assessment. An alternative needs assessment plan was developed that incorporated a mix mode approach to data collection that included a trend analysis of four previous OCHNA health needs surveys (1998, 2001, 2004, and 2007), as well as additional primary data from the Census Bureau's American Community Survey and the California Health Interview Survey. Population estimates for OCHNA 1998 and 2001 were updated with the latest estimates from the State of California Department of Finance, so the estimates provided for the county will differ from county estimates provided in previous reports released by OCHNA. In addition, OCHNA incorporated objective/secondary data sources, demographics/census data, and a key informant survey that OCHNA administered online, to be used as the source of qualitative data.

Objective/secondary data came from numerous sources (all cited within the report), including Dept. of Finance, 2009 Census estimates by Nielsen Claritas, Orange County Health Care Agency, and Healthy People 2020 (used as benchmarks). Qualitative data was obtained through a key informant survey of community based organizations, foundations, health advocates, community clinics, local political/policy leaders, public health organizations, and other hospitals.

In prior assessment years, hospitals have had to analyze their own raw data, and results have been mixed, depending on staff resources. New for the 2010 assessment year, OCHNA provided an objective analysis—including all tables, graphs, and text—of all data for each individual hospital, highlighting health priorities. The goal was to provide statistically reliable data analyses, which would be broad in scope, but allow for a more in-depth evaluation of specific health indicators at the hospital service area, to better meet the policy and program planning needs of each individual hospital.

The following priority health topics are highlighted for the UC Irvine Healthcare service area which encompasses all of Orange County:

- Health care access and coverage;
- Health care utilization;
- Chronic diseases;
- Mental/behavioral health;
- Maternal and infant health; and
- Nutrition, obesity, and exercise.



# Changing Face of Health Care in Orange County

## Economic Crisis Hits Home

Nationwide, economic circumstances have resulted in what is believed to be the harshest financial crisis since the Great Depression. Despite its reputation as an affluent community, Orange County has not been spared. Countywide unemployment rates were estimated to be around **9.6 %** in 2010, but many cities had much higher averages for 2010: Stanton and the densely populated city of Santa Ana had unemployment rates of **15%**; Garden Grove and Buena Park both shared an unemployment rate of **12%**, which was more than twice the average rate in 2007. Growing unemployment is accompanied with an increase in the proportion of individuals who live in poverty: the 2009 countywide estimate was **11%**, but many Orange County cities have rates as high as **20%**. In Anaheim over **24%** of children lived at or below the federal poverty level. Both Costa Mesa and Garden Grove has child poverty rate of **22%**. Many Orange County residents have slid down the economic ladder, having lost one or more sources of family income and with it, their health care coverage.

## Health Access—Decade of Gains Lost

From 1998 through 2007 the county demonstrated measurable improvements (reductions) in the proportion of adults and children without health care coverage, dropping from a high of just under 16% to a low of 9% for adults and 11% to a low of less than 4% for children. With the economic downturn continuing into 2010, those gains of the last 10 years have been completely erased.

Ethnic/minority populations throughout Orange County have experienced the largest losses of health care coverage, with 15% of all Asians and almost one in three Hispanic/Latinos (32%) having no health care coverage (just over 43% of Latino adults are without coverage). Hispanic children are over four times (16%) more likely than white children (3%) to be without health care coverage. Overall the uncovered rate has more than doubled from 2007 to 2009 for both adults (from 9% to 20%) and children (from under 4% to over 10%) in Orange County. In fact, the 2009 lack of health coverage estimates for children and adults are higher than estimates collected in the OCHNA 1998 survey.

## Increased Need, Fewer Services, and Higher Premiums

For the increasing number of families who have lost their jobs, and with them, their health care and prescription coverage, access to preventative care and disease management has been lost as well. This may lead many to put off their needed care until it becomes a trip to the emergency room. In addition, safety net programs have either increased their premiums, reduced covered services, or both.

Effective 11/1/2010, **CaliforniaKids**, a program that offers access to primary and preventive health care services for children who do not qualify for state-sponsored programs due to their immigration status, has increased their premiums to \$75 per member, per month for all new enrollments. Current members will also see the same increase effective 01/01/2011, and vision coverage will no longer be available. CaliforniaKids currently serves 2,358 children in the county and it is a concern that many families will not be able to afford to keep the insurance due to the increases. For that reason a transition plan has been developed in collaboration with the Coalition of Orange County Community Health Centers for those families.

The **Healthy Families** Program also increased their monthly premiums (for Category B and C) and co-payments as of November 1, 2009. Category B now ranges from \$13 to \$48 per family and Category C ranges from \$21 to \$72 per family. On the upside the expansion and reauthorization of the State Children's Health Insurance Program (SCHIP), signed into law on February 4, 2009, will provide for about two-thirds of the funding needed for Healthy Families over the next four years.

The **Healthy Kids** program developed and sponsored by the Children's Health Initiative of Orange County, a public-private partnership founded in 2004, will have closed its doors by February 28, 2011. They provided comprehensive health, vision and dental coverage for children who were ineligible for **Healthy Families** or **Medi-Cal** due to their family income (at or below 300% of FPL). As of August 2010 the program was still serving 570 children across the county. As their enrollment comes to an end, they most likely will be without any access to health care services, unless changes in family income has put them into an eligible poverty level for one of the State sponsored programs.

In 2009 the California State Budget made reductions in payments to public safety net hospitals at the same time that an increase in utilization of those services occurred. OC has experienced a jump in **Medi-Cal** enrollment of 4.5% from July 2007 to July 2008; from July 2008 to July 2009 there was an additional increase of 9.1%. At the same time the following Medi-Cal benefits were eliminated in July 1, 2009:

- Adult preventive dental services
- Optometric and optician services
- Audiology and speech therapy services
- Psychological services
- Chiropractic services
- Podiatric services
- Acupuncture

Most preventative dental services to adults provided through the **Denti-Cal** program were eliminated as of July 1, 2009 due to the state budget crisis, including cleanings, exams, fillings, gum treatments crowns, root canals and dentures. Only limited dental services for the "relief of pain and infection," such as a tooth removal, are still available. While governments may view these services "optional," the medical and dental communities regard preventative dental care as both necessary and primary to the overall health of the patient. The reduction of services, the increase in costs, and the growing number of uncovered families and children have all combined to create nearly insurmountable barriers to accessing needed preventative care, significantly limiting a patient's ability to manage existing chronic diseases. Having access to preventive health services is far more effective and cost efficient over time, and leads to better overall health for the patient, increasing productivity and quality of life.

## Health Care Reform: Redefining Access and New Challenges

With the passage of [The Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010](#) come a number of changes that will impact and redefine access to health care. It requires health plans and insurers to provide access to insurance to individuals, regardless of their health status, age or occupation. Those with preexisting health conditions can no longer be denied coverage, and dependent adult children up to age 26 can now be covered under their parents' health coverage plan. Just a few of the additional changes that will be implemented by 2014 include:

- An expansion of the **Medicaid** (Medi-Cal in California) program to all citizens and qualifying immigrants who earn up to 133 percent of the [federal poverty level](#); **MSI** patients will be moved into the Medi-Cal program (as of August 2010 there were 34,508 MSI patients in Orange County).
- A requirement that businesses with more than fifty employees provide affordable coverage or pay a fee. (Note a majority of small business in Orange County have less than 50 employees.)
- A requirement that individuals and families to purchase insurance if it is affordable for them, or pay a penalty.
- New taxes on certain health sector business, high-income families, and high-cost health plans.

As health care reforms become implemented, more and more people will be utilizing health services than ever before. Even with expanded access, it is estimated that there will still be approximately 220,000 people without coverage. The challenge to the health care leaders and providers is to redesign a health care delivery system that offers quality and timely services, even as there is a decline in primary care as a specialty of choice among new physicians, a shortage of pediatric dentists, and an ongoing shortage of available nurses. The roles of hospitals will be even more important to the communities they serve and the clinics they support in addressing the increased demand for services and ensuring access to health care.

# 2010 Community Benefits Needs Assessment Summary of Highlights

## Access to Health Care: Decade of Gains Lost

From 1998 through 2007 the UC Irvine Healthcare countywide service area demonstrated measurable improvements (reductions) in the percent of adults and children without health coverage; for adults it dropped from a high of under **15%** to a low of **9%**, for children it dropped from about **11%** to less than **4%** for children. However, the economic downturn that began in late 2007 **erased** the gains made over the previous decade.

Overall the uncovered rate in the countywide service area has more than doubled from 2007 to 2009 for both adults (increasing from **9%** to **20%**) and children (increasing from under **4%** to just over **10%**). For adults, the 2009 rate is higher than the 1998 rate estimated by the OCHNA survey.

Ethnic/minority populations throughout the service area have experienced the largest losses of health care coverage, with almost one in three Hispanic/Latino (**32%**) individuals having no health care coverage. Hispanic children are over four times (**16%**) more likely than white children (**3%**) to be without health care coverage, and just over **41%** of Latino adults. **15%** of all Asians are without coverage health care coverage. Uncovered rates are notably high in cities that have higher proportions of low-income and minority populations and have seen their unemployment rates more than double since 2007.

- **Santa Ana:** In 2009 **47%** of Adults (18-64) and **20%** of children (0-17) were uncovered; rate of unemployment rose from **6%** in 2007 to **15%** in 2010.
- **Garden Grove:** In 2009 **35%** of Adults (18-64) and **13%** of children (0-17) were uncovered; rate of unemployment rose from **5%** in 2007 to **12%** in 2010.
- **Orange:** In 2009 **28%** of Adults (18-64) and **12%** of children (0-17) were uncovered; rate of unemployment rose from **4%** in 2007 to **9%** in 2010.
- **Anaheim:** In 2009 **31%** of Adults (18-64) and **12%** of children (0-17) were uncovered; rate of unemployment rose from **5%** in 2007 to **12%** in 2010.
- **Irvine:** In 2009 **11%** of Adults (18-64) and **1%** of children (0-17) were uncovered; rate of unemployment rose from **3%** in 2007 to **7%** in 2010.

The sustained nature of the economic downturn has led to an increased reliance on public safety net programs in Orange County. Since July of 2007, before the beginning of the recession, there has been an overall increase in the numbers of beneficiaries in the Medi-Cal program. The number of beneficiaries in July 2007 was **366,314**. This number increased by **18.4%** in July 2010 to **433,628** beneficiaries, coinciding with the economic downturn.

## Health Care Utilization

### Adults (18+)

For the increasing number of families who have lost their jobs, and with them, their health care and prescription coverage, their access to preventative care and disease management has been similarly lost. Having a usual source of care helps to ensure the consistency and continuity of care for individuals and families, as the provider will be familiar with their medical histories. However, the growth of populations without health coverage in 2008 and 2009 suggests that a number of individuals may have lost access to their usual sources of care. The following key points were determined by the OCHNA 2007 survey.



- In the service area, **83%** of adults reported they did have a usual source of care.
- The top three reasons given for the **17%** or 385,526 of individuals 18+ years that did not have a usual source of care were that they seldom or never get sick (**47%**), they like to go to different places for care (**8%**), and the cost of medical care (**7%**). It is anticipated that the proportion of adults citing cost as the main reason increased in 2010 due to widespread losses of coverage.
- **14%** (an estimated 320,096 people) of adults in the countywide service area had not visited their doctor in over a year. Of these, **21%** had a household income under \$25,000, **one in four** only had a high school education or less, and **one in three** was in the age group of 25-34.
  - **14%** of the 320,096 adults did not visit a doctor in over a year because of cost or because they did not have coverage.

If a person has a serious chronic condition, the loss of coverage could leave him or her especially vulnerable to a health crisis, prompting the use of more costly modes of care, such as emergency rooms.

- There was a noteworthy increase of **12.8%** in the number of ED encounters at UC Irvine Medical Center (25,104 to 28,328 encounters). These increases coincide with the widespread losses of health coverage over the same time period (OSHPD).

## Children (0-17)

Regular health care is vital in childhood. In a well-child visit, a health practitioner provides preventive care by examining a child physically, behaviorally, developmentally, and emotionally. Such appointments enable the detection of potential developmental delays or disabilities, which can lead to treatment or management that reduces the future impact on both children and families. The following highlights are taken from the OCHNA 2007 survey, encompassing the countywide service area.

- **80%** of parents utilized one place as their source of care for their child, **16%** reported two places, **3%** reported three places, and a few (**1%**) reported more than four places for their child's source of care.
- The top three reasons the **20%** of parents gave for not having a usual source of care for their child were that the parent likes different places for child's health care needs (**21%**), there were a lack of evening or weekend services (**19%**), and finally the child seldom or never gets sick (**17%**).
- **70%** of children visited a general practitioner on their last appointment, **16%** visited a specialist, **8%** visited a pediatrician, **4%** used a nurse practitioner, and **3%** visited a physician's assistant.
- **90%** of service area children had visited their doctor within the past year. The majority of those visits (**61%**) were for routine care. Some of the **22%** of visits for acute illness may have been prevented had the child received a flu vaccination. **5%** of those visits were for chronic disease treatment, **5%** were for treatment of an injury, and **2%** were for immunizations.

Some common barriers to health care utilization include: cost, health care coverage, transportation, personal and community beliefs, language, and parental unawareness of the importance of routine checkups. Cost and coverage status remain a barrier to obtaining needed services, perhaps becoming more pronounced due to current economic conditions.

- **10%** of children had not visited a doctor in the previous year since the survey for a routine exam. Most parents cited this was because their child was not ill (**80%**), and **5%** of parents cited cost.
- **4%** of service area parents reported that they had delayed treatment or care for their child because of cost issues.
- Another barrier to the utilization of health care services is their availability when needed. **33%** of parents indicated their child's primary place for care is not open evenings or on weekends.

**20%** of service area children visited an ER in 2007 according to the OCHNA survey. **3%** of all service area children visited at least two times. Almost **one** in **four** children utilized the services of an ER because their usual place of care was not open, which demonstrates the need for extended hours at primary care locations.

- The top five reasons why treatment was sought at the ER were injury (**27%**), fever (**9%**), flu (**7%**), laceration or wound (**7%**), and infection (**6%**).

## Maternal and Infant Health

There were a reported **40,431** live births in all of Orange County during 2009. From 2000 to 2009, the number of live births and the crude birth rate declined from **16.4 per 1,000** total Orange County population in 2000 (46,980 live births) to **12.6 per 1,000** in 2009.

- The cities of **Anaheim, Santa Ana, Irvine, Garden Grove, and Orange** accounted for almost half of all births in the entire UC Irvine Healthcare countywide service area in 2009, with **20,194** live births.
- The crude birth rate varied within the county's main race/ethnic groups. For whites the rate was **8.5 per 1,000** total white population, while for Hispanic/Latinos the rate was **18.0 per 1,000** total Hispanic/Latino population.
- Teen moms face a higher risk of medical complications during pregnancy because they often fail to receive timely and proper prenatal care. Countywide, **6.8%** (2,764) of live births in 2009 were by mothers under 20 years.
- In the countywide service area **11%** of all live births in 2009 had late or no prenatal care. **14%** of Hispanic/Latino mothers received late or no prenatal care, compared to **8%** of white mothers.
- Countywide, **7%** of live births were low birth weight babies (less than 2,500 grams), meeting the Healthy People 2020 Objective. Comparing low birth weight across race/ethnicity, **8%** of Asian or PI live births had low birth weights, and **6%** of Hispanic/Latino live births had low birth weights.
- **9%** of Orange County live births in 2008 were born premature, meeting the Healthy People 2020 Objective.
- In 2008 the number of infant deaths in the UC Irvine Healthcare countywide service area was **202**—the infant mortality rate was **4.8 per 1,000** live births, meeting the Healthy People 2020 Objective.

After a child is born, breastfeeding can provide several health benefits, including helping to protect an infant from a variety of illnesses, bacteria, and infections.

- According to the OCHNA 2007 survey, only **22%** of mothers with children between 0 and 2 years exclusively breastfed their baby. **53%** of children received breast milk for at least 6 months. **47%** received breast milk for less than 6 months.

California in-hospital infant feeding practices are monitored using data collected by the Newborn Screening (NBS) Program at the CDPH.

- In 2008, there were **38,444** births at the county's reporting hospitals; **85%** (32,604) of mothers initiated *any breastfeeding*, and **39%** (14,955) of mothers initiated *exclusive breastfeeding*.
- In 2008 there were **759** births at the UC Irvine Medical Center: **81%** of mothers initiated *any breastfeeding*, and **41%** of mothers initiated *exclusive breastfeeding*.

## Chronic Diseases and Other Reasons for Hospitalization

**28%** (654,239) of adults in the UC Irvine Healthcare countywide service area indicated that they had an ongoing or a serious health problem, like heart disease, arthritis, or a mental health condition that requires frequent medical care, such as regular doctor visits and/or daily medications.

### Diabetes, Heart Disease and Stroke

Adults who have been diagnosed with one chronic disease, such as diabetes or heart disease, are at greater risk for additional chronic diseases than those who do not have diabetes.

#### Diabetes—7% of Countywide Adults 18+ (OCHNA 2004):

- Of adults who reported having diabetes, **40%** also had arthritis. In contrast, **17%** of adults without diabetes had arthritis.
- **62%** of adults with diabetes also had high blood pressure; among those without diabetes, **21%** had high blood pressure.
- **24%** of adults with diabetes also had heart disease; only **4%** of those without diabetes reported having heart disease.
- Nearly **17%** of adults with diabetes were also diagnosed with cancer, compared to **7%** of adults without diabetes who were diagnosed with cancer.

In 2008 diabetes mellitus accounted for **3%** (425) of countywide deaths (CDPH).

#### Heart Disease—5% of Countywide Adults 18+ (OCHNA 2004):

- Of adults who reported having heart disease, **64%** also had arthritis. In contrast, **16%** of adults without heart disease had arthritis.
- **79%** of adults with heart disease also had high blood pressure; among those without heart disease, only **20%** had high blood pressure.
- **31%** of adults with heart disease also had diabetes; only **6%** of those without heart disease reported having diabetes.
- Nearly **34%** of adults with diabetes were also diagnosed with cancer, compared to **6%** of adults without diabetes who were diagnosed with cancer.

In 2008 heart disease accounted for **26%** (4,534) of countywide deaths (CDPH).

#### Stroke (OCHNA 2004):

The third overall leading cause of death in Orange County during 2008 was cerebrovascular disease (stroke). A stroke occurs when blood to the brain is blocked either due to a blood clot or burst blood vessel. A stroke can often be fatal or cause severe disability in an individual according to the CDC. According to the [American Heart Association](#), there are a number of preventable diseases that can increase the risk for stroke, including heart disease, high blood pressure, high cholesterol, and diabetes.[HDS-3](#)

- According to the OCHNA 2004 survey, **2%** of adults 18+ years countywide had a stroke.
- **24%** of adults 18+ had high blood pressure and **22%** of adults 18+ had high cholesterol.
- In 2008 stroke accounted for **6%** (1,102) of countywide deaths (CDPH).



## Other Conditions

**Respiratory Disease:** The OCHNA 2004 survey determined that **2%** of adults 18+ had a respiratory disease. In 2008 there were **959** deaths from Chronic Lower Respiratory Diseases (CLRD), accounting for **6%** of deaths. CLRD was the 4th leading cause of death in the countywide service area. Chronic Lower Respiratory Diseases (CLRD) refers to chronic diseases that affect the lower respiratory tract (including the lungs). The most prevalent diseases are Chronic Obstructive Pulmonary Diseases (COPD), which include emphysema, chronic bronchitis, and other smoking-related disorders.

**Arthritis:** The OCHNA 2004 survey determined that **19%** of adults 18+ had arthritis.

**Tuberculosis:** The OCHNA 2004 survey determined that almost **1%** of adults 18+ had ever had tuberculosis (TB). From 2005 to 2007 there was a countywide incidence rate of **7.46 per 100,000** population, or **685** new cases. Although the lung is a main site of the disease, TB can affect other organs as well. In 2008 there were only **7** deaths from tuberculosis.

**Influenza:** In 2008 there were **557** deaths from influenza or pneumonia, accounting for **3%** of deaths.

## Injuries and Trauma

The CDPH [EPICenter](#) reports that the top five causes of fatal injuries and non-fatal injuries resulting in hospitalization within Orange County were suicide or self-harm, accidental poisoning, motor vehicle accidents (occupant), homicide/assaults, and unintentional falls. Countywide there were **1,101** fatal injuries in 2007 and **18,382** non-fatal injuries resulting in hospitalization in 2006.

- Suicide was the overall leading cause of fatal injury, followed by unintentional poisoning, unintentional motor vehicle accidents, unintentional falls, and homicide/assaults.
- The leading cause of fatal injury for children 0-4 years of age was unintentional drowning or submersion. The leading cause of fatal injury for youth 13-20 years was as an occupant in a motor vehicle accident, followed by homicide/assault. The leading cause of fatal injury for adults 45-64 years was suicide. The leading cause of fatal injury for adults 65+ was unintentional falls.
- The leading cause of non-fatal injuries resulting in hospitalizations was unintentional falls for all individuals in 2006; this was the leading cause within the 0-4, 5-12, 45-64 and 65+ age groups. The next leading causes of non-fatal injuries resulting in hospitalization were unintentional motor vehicle accidents, self-inflicted injuries, unintentional poisonings, and assaults.
- Among youth 13 to 20 years the leading cause of non-fatal injuries was a self-inflicted injury. A motor vehicle accident where the occupant was injured was the leading cause for adults 21-44 years. **44%** of non-fatal hospitalizations resulting from motor vehicle accidents were by adults 21-44 years.

# 2010 Community Benefits Needs Assessment Key Informant Survey Summary

The 2010 Community Benefits Key Informant Survey, which was conducted in September 2010, targeted local health care leaders selected by the OCHNA Steering Committee to determine community opinions on the health needs in Orange County, as well as the barriers faced by patients in accessing health care. **144** out of 474 invited individuals completed the online survey, for a **31%** response rate. Key informants also answered questions about challenges in the county's health care system that have limited the scope of health care services, as well as about the forms and quality of collaborative relationships between their organizations, service area hospitals, and other groups. There was broad representation of the health care sector, with particular representation from Community Based Organizations (CBOs).

The key organization groups used for analysis were Health Provider CBOs (21 key informants), County or City Governments (14), Hospitals (13), Community Clinics or FQHCs (11), and Health Advocacy or Education Organizations (8). The majority of key informants (**68%** or **105**) were Executives (such as CEOs, Directors, VPs), or Managers (such as Program Coordinators, Supervisors). The sample also included health care providers, educators, and researchers. Over **80%** of key informants belonged to organizations that provided direct services, either to the entire county or to specific populations (e.g. seniors, Asian and Pacific Islanders, the low-income). Of the 144 key informants, **61 key informants** viewed UC Irvine Medical Center as a current collaborative partner, in addition to other hospitals, clinics or organizations. Please note that percents have been rounded to the nearest whole number and that the number of key informant responses may vary for each question.

## Top 5 Health Priorities or Needs

- **55%** (**78** out of 144) indicated a need for *adequate funding for health services from public programs* and **52%** (**75**) indicated a need to *increase funding to community clinics*.
- **39%** (**56**) indicated a need for *dental care for low-income/uninsured individuals*; **37%** (**54**) indicated a need for *housing support for low to moderate- income*, and **35%** (**51**) indicated a need for *comprehensive efforts to improve healthy eating and exercise*.

## Top 5 Health Care Delivery System Challenges

Many of the challenges related to funding issues or insufficient primary care for underserved groups:

- **76 %** (**108** out of 142) indicated *government funding cuts* and **54%** (**76**) indicated *cuts from other sources or within organizations* as challenges.
- **37%** (**53**) of respondents believed that there are *insufficient FQHC's to care for underserved populations* or that the *referral system for health services is fragmented*.
- **35%** (**50**) of respondents indicated that there are *insufficient physicians available to care for low-income populations*; Community Clinics were the most likely to pick this option (**55%** or **6**).

## Top 5 Service Gaps for Underserved Populations

- **58%** (**80** out of 139) viewed gaps in *behavioral health services (e.g. outpatient services, services for children and families)* and **54.7%** (**76**) viewed gaps in *primary care services* for underserved populations.
- **46%** (**64**) viewed gaps in *adult dental care services* for underserved groups; *adult dental care* is a notable priority for both Community Clinics (73% or 8) and Hospitals (62% or 8).
- **45.3%** or **63** would like to see more *affordable prescription programs*, and **42%** (**59**) would like to see more *case managers for health care* for underserved populations.

## Top 5 Patient Barriers to Health Care

The chief patient barriers related to health coverage or costs of medical services or prescriptions:

- **63% (88)** out of 139 thought that health coverage *may be inadequate to cover all needs*, and **55.4% (77)** thought that *government eligibility levels are restrictive*. **64% (88)** of key informants selected the *cost of medical services* and **49% (68)** selected the *cost of prescriptions* as other key patient barriers.
- *Lack of adequate transportation* was also high priority barrier (**45% or 62**).
- Although not part of the top 5, **40% (55)** of key informants viewed *patient unfamiliarity with the health care system* as another barrier, with more Program Managers (**55% or 21**) expressing this concern in comparison to Executives (**31% or 18**).

## Who Should Provide Health Care to Vulnerable Groups?

- **30.9% (43)** out of 139 believed that the responsibility rested with the *County Health Department* rather than *Community or Free Clinics* (**27% or 37**) or the *State or Federal Government* (**18% or 25**).
- **43% (6)** of County/City and **38% (8)** of Health Provider CBOs employees believed that *Community or Free Clinics* are responsible. **46% (5)** of Community Clinic key informants were also in agreement.
- Executives and Managers disagreed on where the responsibility resided. **32% (19)** of executives believed that *State or Federal Governments* are responsible, while **34% (13)** of managers believed that *Community Clinics/FQHCs* are responsible.
- Only **5% (7)** of all key informants believed that *Non-Profit Hospitals* are responsible for providing health care, and **1% (2)** believed that *Investor-Owned Hospitals* are responsible.

## Primary Hospital Roles and Ratings of Effectiveness

**132** key informants provided their opinions and ratings on the primary roles and services of service area hospitals (two-part question); there were a number of *I Don't Know* responses ranging from **24% (31)** to **52% (68)** for the various role/service ratings, which were removed for analysis purposes.

- **75% (99)** believed that *ER services* should be a primary service of hospitals; **73% (69)** of key informants with an opinion gave service area hospitals a “good” to “excellent” rating for *ER services*.
- **75% (99)** selected *Hospital/Surgery Services* as another important hospital function; **78% (67)** of key informants with an opinion gave service area hospitals a “good” to “excellent” rating for this service.
- **62% (82)** also selected *Community Health Education* as an important service; **61% (62)** of key informants with an opinion gave hospitals a “good” to “excellent” rating for this service.
- **66% (82)** thought that hospitals should *develop or support community clinics*; however, **59% (50)** of key informants with an opinion gave hospitals a “very poor” to “fair” rating for this service.
- **56% (74)** also believed that providing charity care was an important service; **58% (49)** of key informants with an opinion gave hospitals a “very poor” to “fair” rating for this service.
- **55% (73)** thought that hospitals should be leaders in redesigning the health care system; **65% (51)** of key informants with an opinion indicated that service area hospitals were doing a “very poor” to “fair” job; more than half of Executives (**64% or 36**) believe that hospitals should lead redesigning the health care system, compared to only **41% (15)** of Managers.

## Key Informant Relationships with Service Area Hospitals

**91** key informants recognized that UC Irvine Medical Center operated in their service area. **52% (47)** indicated that service area hospitals (including UC Irvine Medical Center) are partners in providing *direct services/outreach activities*, **33% (30)** indicated that service area hospitals provide *direct donations or grants for their services/programs*, and **31% (28)** indicated that service area hospitals *are not involved enough*. **83** of these key informants rated their overall relationships with service area hospitals

- The majority (**53% or 44**) selected “satisfied” to “very satisfied,” with **80% (4 out of 5)** of Hospital key informants responding positively about their relationships with other service area hospitals.
- **13% (11)** selected “dissatisfied” to “very dissatisfied,” and **30% (25)** picked “neither satisfied nor dissatisfied”; this could mean that respondents could have mixed, uncertain, or neutral opinions about the relationships. Of the **36** key informants that picked the negative or neither/nor choice, the majority, or **61% (22)**, would like to see more involvement from service area hospitals. **31% (11)** were collaborative partners with service area hospitals for direct services/outreach activities, but did not feel positively about their hospital relationships.

## Key Informant Collaborative Partners

**61** key informants selected UC Irvine Medical Center as a current collaborative partner. The **61** UC Irvine Medical Center partners also collaborated with other organizations; the top 13 groups are presented below:

- County of Orange, Health Care Agency (**84% or 51**)
- St. Joseph Hospital (**74% or 45**)
- CalOptima (**72% or 44**)
- Children’s Hospital of Orange County (**66% or 40**)
- Hoag Memorial Presbyterian Hospital (**66% or 40**)
- St. Jude Medical Center (**54% or 33**)
- United Way of Orange County (**51% or 31**)
- Children and Families Commission of Orange County (**51% or 31**)
- Kaiser Permanente Orange County (**49% or 30**)
- Coalition of Orange County Community Clinics (**49% or 30**)
- Saddleback Memorial Medical Center (**49% or 30**)
- UC Irvine Family Health Centers (**49% or 30**)
- Share Our Selves Medical Clinic (**49% or 30**)

Of the **60** UC Irvine Medical Center collaborative partners that defined the relationships between their organization and service area hospitals:

- **57% (34)** reported that service area hospitals (including UC Irvine Medical Center) were *collaborative partners in providing direct services/outreach activities*.
- **25% (15)** believed that service area hospitals (including UC Irvine Medical Center) were *not involved enough*; this suggests that they may like to see more involvement from service area hospitals.

**55** UC Irvine Medical Center collaborative partners rated their relationships with service area hospitals. Of these the majority, or **64% (35)**, were “satisfied” to “very satisfied” with their service area hospital relationships (including UC Irvine Medical Center).

## Description of the UC Irvine Healthcare Countywide Service Area

The UC Irvine Healthcare service area encompasses all of Orange County, which is composed of 41 cities and communities. Data from the US Census Bureau uncovers the richness and diversity of the service area; for instance, the largest Vietnamese community in the entire nation is within Orange County, which also has sizable Hispanic/Latino and Asian or Pacific Islander communities. Moreover, almost one in four service area population 5 years and above speaks either a Spanish or Asian or PI language at home.

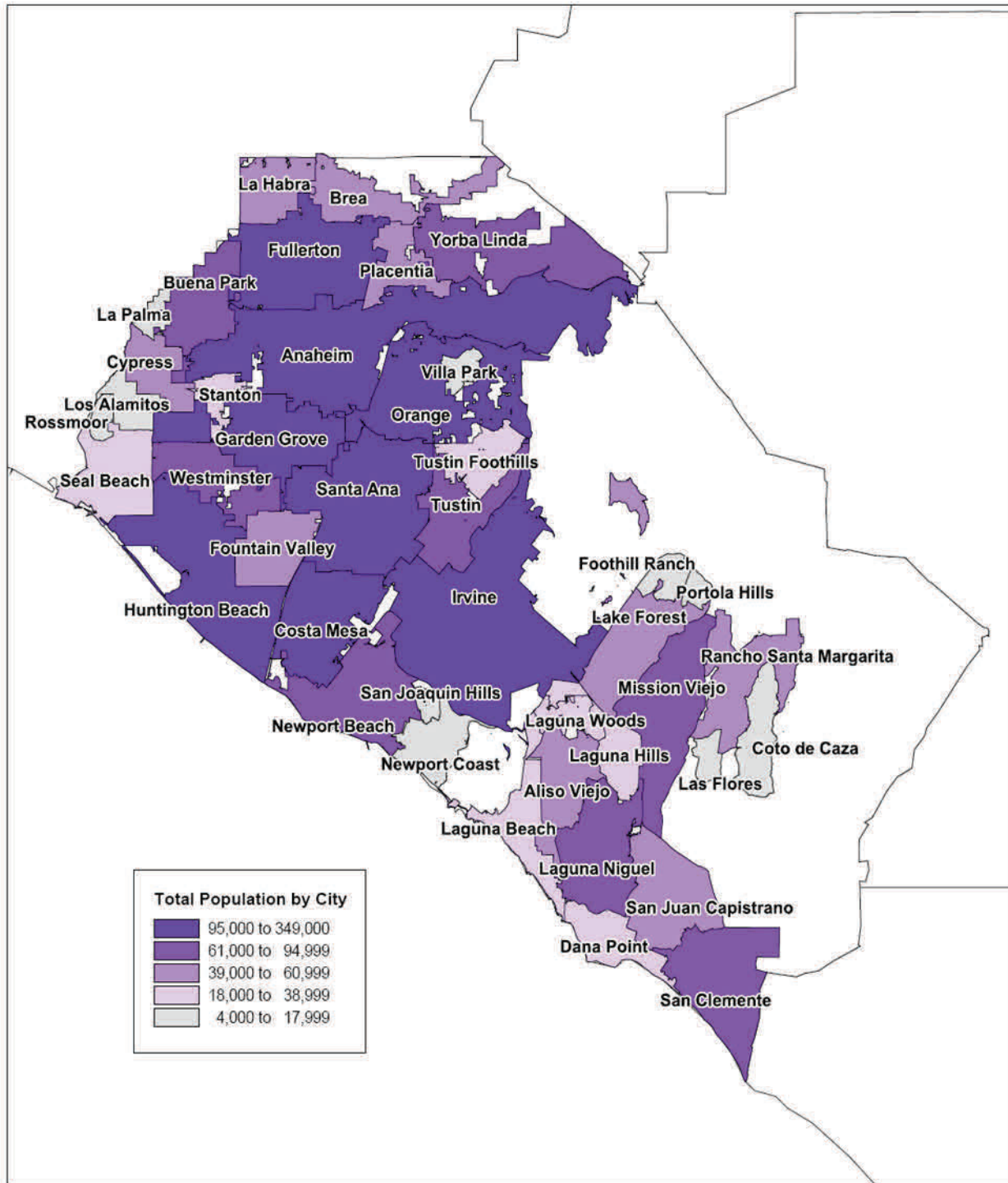
Despite the mainstream perceptions of Orange County as a center of prosperity, census and OCHNA survey data point to many areas of health and social needs. Complicating this reality is the fact that the economic downturn has also plunged many otherwise secure middle-income families into economic uncertainty throughout the service area. The average yearly unemployment rate for Orange County increased from almost **4%** in 2007 to almost **10%** in 2010. There are numerous cities with low annual household income and high poverty levels, such as Anaheim, Santa Ana, Garden Grove, and Westminster. While there are regions of affluence in the county, such as south Orange County, Newport Beach, and Irvine, these communities have also been touched by the bad economy, as suggested by increased unemployment rates.





# UCI Medical Center Service Area

## Population by City, 2010



Map Produced by Orange County Health Needs Assessment, December 2010  
 Data Source: Nielsen Claritas 2010 Census estimates

## Demographic Overview

The following table provides an overview of the main demographic features of the service area in 2010. Since the 2000 U.S. Census, the population encountered an estimated population growth of **8.6%** (from **2,852,849** in 2000). From 2010 to 2015, the population is projected to grow by **4.8%** to **3,246,724**. Over **1 in 12** California residents (37,853,430) resided in Orange County in 2010.

Table 1: UC Irvine Healthcare Countywide Service Area Population, 2010		
Population Size	3,099,029	
Household Size	1,002,362	
Age Distribution of Service Area*		
Age Groups	Population Estimate	Percent
0-5 Years	261,739	8.5%
6-11 Years	261,111	8.4%
12-17 Years	258,082	8.3%
18-24 Years	302,738	9.8%
25-34 Years	403,869	13.1%
35-44 Years	458,473	14.8%
45-54 Years	453,641	14.7%
55-64 Years	329,746	10.7%
65+ Years	362,274	11.7%
Race/Ethnicity Distribution		
Race/Ethnicity	Population Estimate	Percent
White	1,394,560	45.0%
Hispanic/Latino	1,049,932	33.9%
Vietnamese	163,690	5.3%
Other Asian or PI	348,148	11.2%
Black or African American	48,091	1.6%
Other	94,608	3.1%

\*Population estimates for age distribution may not equal 3,099,092 because OCHNA requested customized age categories from Nielsen Claritas that were calculated through different methods; please note that data is still for 2010.

Source: 2010 US Census Estimates by Nielsen Claritas

- **11.7%** (362,274) of the population in the service area was comprised by older adults (65+).
- **25.1%** (780,923) of the population in the service area was under 18 years of age.
- One third of the population or **33.9%** in the service area was Hispanic/Latino.
- The median age of the service area was **36.3 years**, and the average age is **36.8 years**.

**11.7% or 362,274** of service area residents were older adults 65+.

**25.2% or 780,932** of service area residents were between 0-17 years.

**One third of the population was Hispanic/Latino.**

**36.3 Years** Service area median age

**36.8 Years** Service area average age

### Average Household Size, 2010:

2.92  
California

3.03  
Los Angeles County

3.05  
Orange County

3.09  
Riverside County

3.27  
San Bernardino County

2.75  
San Diego County

2.96  
Santa Clara County

## Household Size and Population by City

There were a total of **1,002,362** households in the service area, with an average household size of **3.05** individuals in 2010. **50.1%** (502,195) of households in the service area were comprised of at least three people. The table below presents the population estimates for the 10 most populous communities in the UC Irvine Healthcare countywide service area.

City in Service Area	Number of People	Number of Households	Average Household Size
Santa Ana	368,646	81,411	4.45
Anaheim	367,405	104,515	3.47
Irvine	221,604	78,554	2.71
Huntington Beach	194,350	75,067	2.58
Garden Grove	173,373	46,882	3.65
Orange	145,559	44,519	3.15
Fullerton	134,590	45,620	2.89
Costa Mesa	114,699	40,485	2.75
Mission Viejo	94,614	32,649	2.87
Westminster	90,936	26,350	3.43
<b>Service Area Total</b>	<b>3,099,029</b>	<b>1,002,362</b>	<b>3.05</b>

Source: 2010 US Census Estimates by Nielsen Claritas

- These 10 communities accounted for **61.5%** (1,905,776) of the total UC Irvine Healthcare countywide service area population.
- Over **one in five** service area residents lived in Anaheim or Santa Ana in 2010.
- Santa Ana had the highest average household size out of all communities in Orange County. Garden Grove also had a comparatively high average household size.

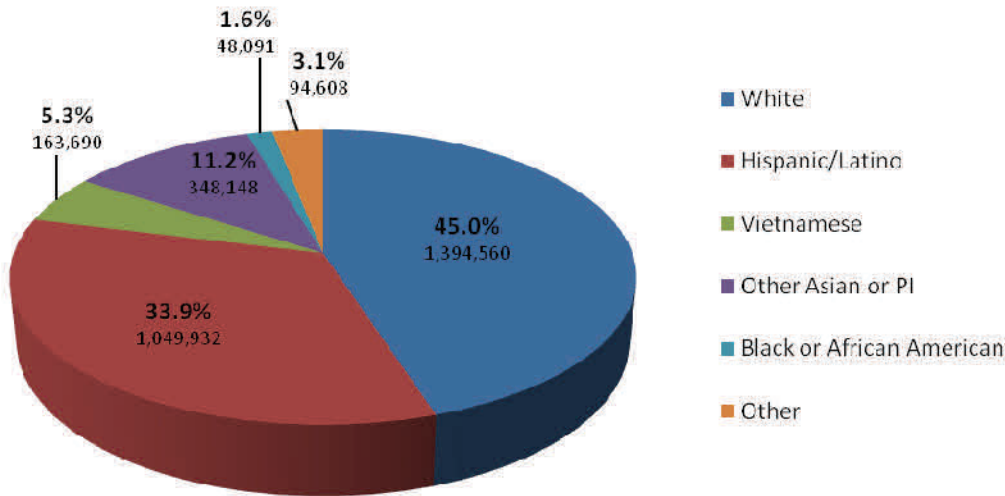




## Race/Ethnicity

The race/ethnic group distribution of California in 2010 was **40.9%** white, **36.9%** Hispanic/Latino, **1.5%** Vietnamese, **11.1%** other Asian or Pacific Islander, **5.9%** black or African American, and **3.7%** other. The figure below presents the race/ethnic distribution of the UC Irvine Healthcare countywide service area.

**Figure 1: Race/Ethnicity Distribution:  
UC Irvine Healthcare Countywide Service Area, 2010**



Source: 2010 US Census Estimates by Nielsen Claritas

- **55.0%** (1,704,532) of the service area population was part of a race/ethnic minority.
- American Indian or Alaska Native individuals comprised **0.3%** (8,361) of the service area population.

## Service Area Communities with Large Ethnic Minority Populations

### Hispanic/Latino

Santa Ana had the highest proportion of Hispanic/Latino residents—**75.5%** (278,243) of city residents were Hispanic/Latino. Other communities with large Hispanic/Latino populations include:

- **La Habra—53.5%** (37,251)
- **Anaheim—53.7%** (197,186)
- **Garden Grove—37.1%** (64,256)
- **Tustin—40.5%** (31,919)
- **Orange—40.9%** (59,547)

### Vietnamese

Westminster had the highest proportion of Vietnamese residents—**35.6%** (32,347) of city residents were Vietnamese. **23.9%** (41,395) of Garden Grove residents and **16.5%** (9,203) of Fountain Valley residents were Vietnamese. There were **20,267** Vietnamese residents in Santa Ana (**5.5%**) and **13,967** Vietnamese residents in Anaheim (**3.8%**).

### Other Asian or Pacific Islander

La Palma had the highest proportion of other Asian or PI residents—**51.4%** (8,427) of city residents were other Asian or PI. **32.5%** (71,870) of Irvine residents, **24.3%** (19,499) of Buena Park residents, and **24.8%** (12,026) of Cypress residents were other Asian or PI.

### Percent of Hispanics/Latinos by County, 2010

**47.8%**  
Los Angeles

**33.9%**  
Orange County

**44.6%**  
Riverside County

**48.3%**  
San Bernardino County

**31.1%**  
San Diego County

**25.5%**  
Santa Clara County

### Percent of Asians or PI (including Vietnamese) by County, 2010

**13.1%**  
Los Angeles

**16.5%**  
Orange County

**5.7%**  
Riverside County

**6.0%**  
San Bernardino County

**10.5%**  
San Diego County

**31.6%**  
Santa Clara County

**Percent Growth/  
Decline of Orange  
County Population  
by Race/Ethnicity  
from 2000 to 2010:**  
(Nielsen Claritas 2010)

**White: -4.7%**  
**Hispanic/Latino:  
20.3%**  
**Asian/PI: 29.1%**

**Projected Percent  
Growth/Decline of  
Orange County  
Population by  
Race/Ethnicity from  
2010 to 2015:** (Nielsen  
Claritas 2010)

**White: -2.4%**  
**Hispanic/Latino:  
9.7%**  
**Asian/PI: 12.8%**

**Language Spoken  
at Home for  
Population 5+  
Years in  
California, 2010:**

**57.7%**  
**English Only**

**9.0%**  
**Asian or PI  
Language**

**4.3%**  
**Indo-European  
Language**

**28.2%**  
**Spanish**

**0.9%**  
**Other Language**

## Languages Spoken at Home

The level of English proficiency can influence the ability of an individual to access and utilize various health services. The table below presents the types of languages spoken at home by individuals age 5 and older.

Language	Percent	Population Estimate
English Only	56.6%	1,628,508
Asian or PI Language	12.3%	352,824
Indo-European Language	3.9%	112,754
Spanish	26.4%	760,835
Other Language	0.8%	24,292
<b>Service Area Total</b>	<b>100.0%</b>	<b>2,879,213</b>

Source: 2010 US Census Estimates by Nielsen Claritas

- Spanish or an Asian/Pacific Islander language was the most common non-English languages spoken at home in the UC Irvine Healthcare countywide service area. **26.6%** of residents spoke Spanish at home, and **12.3%** of residents spoke an Asian or Pacific Islander language.
- 42.9%** of **Anaheim** residents 5+ years and **67.5%** of **Santa Ana** residents 5+ years spoke Spanish at home.
- 37.4%** of **Westminster** residents 5+ years, **30.5%** of **Garden Grove** residents 5+ years, and **23.9%** of **Fountain Valley** residents 5+ years spoke an Asian or PI language at home.

## Fluency in English

The [American Community Survey](#) also estimates the proportion of individuals 5+ years who speak languages other than English at home, as well as their ability to speak English. The 2009 ACS estimated that **45.0%** (1,263,767) of individuals 5+ years in Orange County spoke a language other than English at home. Individuals who spoke Vietnamese at home had lower levels of English fluency compared to individuals who spoke Spanish at home.

- Of the **27.1%** (762,155) of individuals in the county who spoke Spanish at home, **51.4%** (391,662) spoke English less than “very well” in 2009.
- Of the **5.2%** (146,627) of individuals in the county who spoke Vietnamese at home, **63.7%** (93,350) spoke English less than “very well” in 2009.
- Of the **12.6%** (354,985) of individuals in the county who spoke another language at home (not including Spanish and Vietnamese), **39.1%** (138,746) spoke English less than “very well” in 2009.

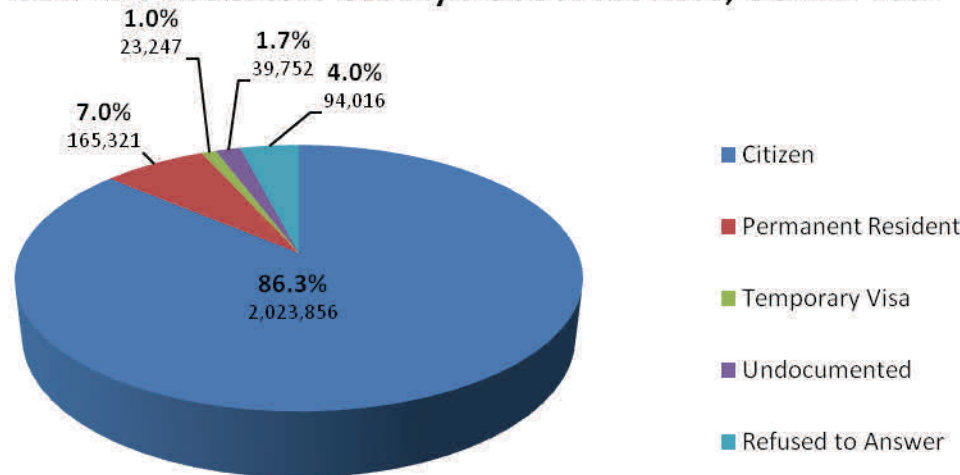
## Language of the 2007 OCHNA Interview

The 2007 OCHNA survey had a total of **4,674** respondents in the UC Irvine Healthcare countywide service area and was administered in English, Spanish, and Vietnamese. **77.3%** or **3,613** respondents were interviewed in English, **16.6%** or **777** respondents were interviewed in Spanish, and **6.1%** or **284** respondents were interviewed in Vietnamese.

## Citizenship Status

The 2007 OCHNA Survey collected data on an individual's (18+) nationality and citizenship status. A series of three citizenship status questions were asked based on the level of documentation, from U.S. citizen to undocumented: *Are you a citizen of the U.S.? Are you a permanent resident of the U.S.? Do you have a temporary Visa to stay in the U.S.?* If the respondent answered *No* or *Don't Know/Refused to Answer* to any of the previous citizenship questions, he or she was asked the next question in the series. Those who answered *No* to the final question were considered to be without documentation. Individuals in the *Refused to Answer* category below did not answer *Yes* to any of the citizenship status questions asked of them.

**Figure 2: Citizenship Status of Adults (Ages 18+):  
UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- **5.7%** (133,768) of adults in the service area were undocumented or refused to answer.

## Undocumented Adults in Orange County

The number of undocumented adults (18+) in Orange County, which corresponds to the UC Irvine Healthcare countywide service area, using OCHNA 2007 survey results, is estimated to be approximately **133,768** or **5.7%** of the total Orange County adult population, including those who refused to answer. It is important to remember that this is most likely still an underestimate, as this is self-reported data. Some respondents may have claimed to be a citizen or a permanent resident but were not, or some may have claimed to have a temporary visa and did not have one or had one that has since expired. It is equally important to remember that those who refused to answer cannot be definitively designated as “undocumented.” Excluding those who refused to answer, the number of “undocumented” adults (who reported that they were not citizens or permanent residents and did not have a temporary visa) was **39,752** or **1.7%** of the total Orange County population.

- **90.0%** (35,794) were Hispanic/Latino.
- **45.8%** (17,070) lived in households with annual income less than \$25,000, and **47.6%** (17,741) lived in households with annual income between \$25,000 and \$49,999.
- **65.1%** (25,872) were between the ages of 25 and 44.
- **17.2%** (6,830) lived in Garden Grove, **10.6%** (4,195) resided in Santa Ana, and **10.5%** (4,176) lived in Anaheim.

**Orange County Residents by US Citizenship Status, 2009:** [\(American Community Survey\)](#)

**69.6% (2,106,513)**  
**Native Citizens**

**14.5% (438,471)**  
**Foreign Born Naturalized Citizens**

**15.9% (481,802)**  
**Foreign Born Non-Citizens**

**5.9% (44,368)**  
**Percent of Non-Citizen Children 0-17 Years**

**19.3%(437,434)**  
**Percent of Non-Citizen Adults 18+ Years**

**Median Household Income of Selected Cities, 2010:****\$62,730**  
**Buena Park****\$83,644**  
**Huntington Beach****\$96,755**  
**Irvine****\$100,051**  
**Mission Viejo****\$108,441**  
**Newport Beach****\$84,902**  
**San Clemente****\$70,880**  
**Tustin****California Median Household Income, 2010:****\$62,401**

## Household Income—Median and Distribution

Median household income is determined by dividing households into two groups. The income-level at which half of all households are above/below marks the median household income. Median household income level is said to be a better socioeconomic indicator than average household income because it is not influenced by very high or low values. The following table presents the 10 communities in the service area with the lowest median and average household incomes.

Median Household Income		Average Household Income	
Laguna Woods	\$41,701	Laguna Woods	\$58,479
Stanton	\$53,255	Stanton	\$64,452
Seal Beach	\$58,777	Garden Grove	\$73,728
Santa Ana	\$59,575	Buena Park	\$75,608
Anaheim	\$59,809	Anaheim	\$76,880
Garden Grove	\$60,954	Santa Ana	\$77,072
Buena Park	\$62,500	Westminster	\$77,495
Westminster	\$63,355	Costa Mesa	\$82,999
Fullerton	\$64,657	Fullerton	\$85,634
La Habra	\$66,461	La Habra	\$86,907
<b>Overall Service Area</b>	<b>\$76,514</b>	<b>Overall Service Area</b>	<b>\$101,871</b>

Source: 2010 US Census Estimates by Nielsen Claritas

- **Laguna Woods** had both the lowest median and average household income. This is because the majority of residents, or almost **84%** of the population, are older adults who have retired from the work-force.
- **Santa Ana** had the third lowest median and average household income, even though the city had the highest average household size.

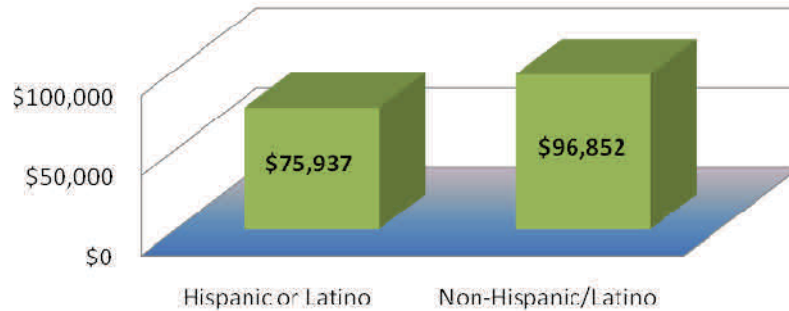




The table below presents the median household income by race/ethnicity in the UC Irvine Healthcare countywide service area.

- Hispanic/Latino households had considerably lower median household incomes in the service area compared to non-Hispanic/Latino households.

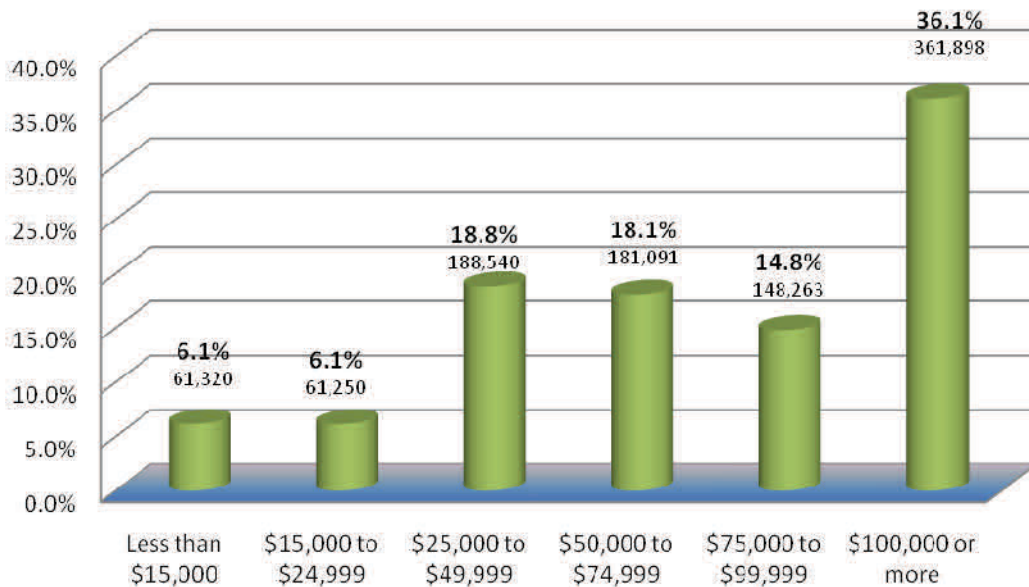
**Figure 3: Median Household Income by Race/Ethnicity: UC Irvine Healthcare Countywide Service Area, 2010**



Source: 2010 US Census Estimates by Nielsen Claritas

The figure below provides the income distribution of all households (1,002,362) in the UC Irvine Healthcare countywide service area.

**Figure 4: Income Distribution of Households: UC Irvine Healthcare Countywide Service Area, 2010**



Source: 2010 JS Census Estimates by Nielsen Claritas

- Almost one in three** households in the UC Irvine Healthcare countywide service area (**31.0%**) had an income of less than \$50,000.
  - 12.2%** (122,570) of all service area households had an annual income of less than \$25,000.
- Laguna Woods** had the highest proportion of households with annual incomes below \$50,000 (**59.0%** or 7,559).
- 47.3%** (3,961) of Stanton Households, **42.0%** (34,177) of Santa Ana Households, **44.2%** (5,667) of Seal Beach Households, and **42.0%** (34,177) of Anaheim Households had annual incomes below \$50,000.

**Racial/Ethnic Median Household Income, 2010:**

California

\$47,841  
Hispanic  
\$68,696  
Non-Hispanic

Los Angeles

\$44,608  
Hispanic  
\$64,353  
Non-Hispanic

Orange County

\$58,262  
Hispanic  
\$84,322  
Non-Hispanic

Riverside County

\$49,086  
Hispanic  
\$64,007  
Non-Hispanic

San Bernardino County

\$50,826  
Hispanic  
\$60,293  
Non-Hispanic

San Diego County

\$47,690  
Hispanic  
\$70,493  
Non-Hispanic

Santa Clara County

\$67,933  
Hispanic  
\$96,840  
Non-Hispanic

### Percent of Adults 25+ with Bachelor's Degree and Higher by Select Cities, 2010:

22.5% (47,979)  
Anaheim

23.0% (11,874)  
Buena Park

18.1% (19,506)  
Garden Grove

21.8% (8,230)  
La Habra

10.9% (21,216)  
Santa Ana

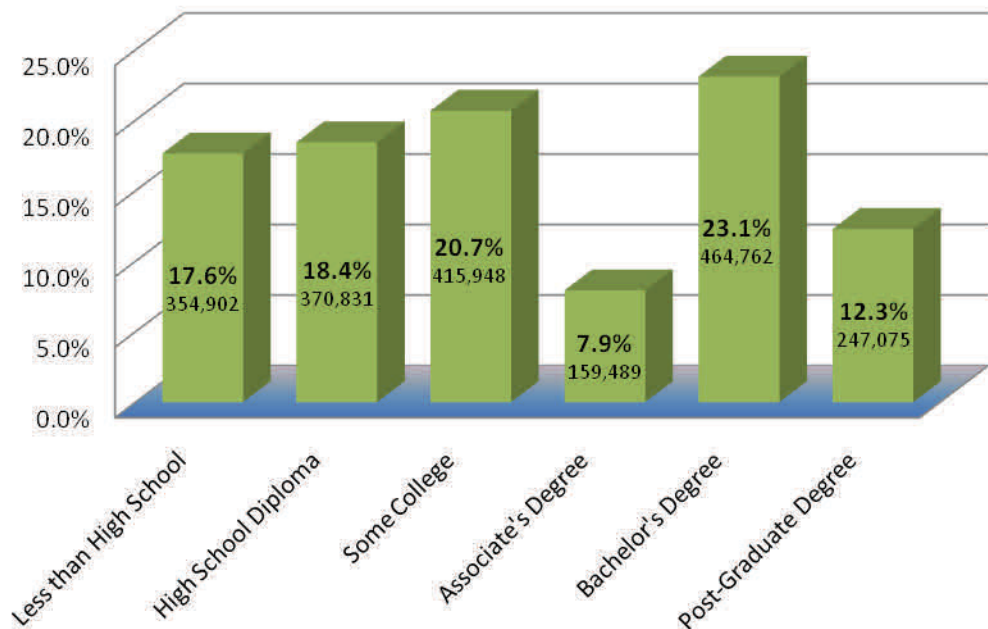
14.4% (3,352)  
Stanton

21.0% (12,605)  
Westminster

## Education Achievement Level

A college education is a significant component in obtaining individual economic viability in Orange County, and it is important to the county's economy as well. The figure below presents the education attainment levels of adults age 25 and older in the UC Irvine Healthcare countywide service area in 2010 (2,013,007 people).

Figure 5: Educational Attainment of Adults (Age 25+): UC Irvine Healthcare Countywide Service Area, 2010



Source: 2010 US Census Estimates by Nielsen Claritas

- **17.6%** of residents ages 25 and older had less than a high school diploma. Over **half** of adults 25+ in Santa Ana had less than a high school degree (**49.6%** or 105,055).
- **32.4%** (5,943) of Stanton adults 25+, **27.7%** (30,462) of Garden Grove adults 25+, and **27.7%** (62,296) of Anaheim adults 25+ had less than a high school degree.
- **35.4%** (711,837) of service area adults 25+ had at least a bachelor's degree.

## Employment Status and Unemployment Rate

According to the Bureau of Labor Statistics, the labor force is made up of all employed and unemployed individuals ages 16 and older. Those who are not in the labor force include retired individuals, students, homemakers, those taking care of children or other family members, and those who are not looking for work (discouraged workers). The unemployment rate is an important indicator of economic well-being. While official sources report that the US economy is now recovering from this historic recession, the unemployment rate shows that the downturn is still affecting thousands of Orange County residents. The November 2010 Orange County unemployment rate, which corresponds to the UC Irvine Healthcare Medical Center service area, was **9.3%** according to the State of California, [Employment Development Department](#). This is in marked contrast to the average unemployment rate of **3.9%** in 2007. While the countywide unemployment rate dropped slightly in December 2010 to **8.9%**, it is clear that the economic recession has had a toll on many residents. During that month, the unemployment rates for service area communities ranged from **2.9%** in Foothill Ranch to **14.2%** in Stanton.

The table below presents the 10 cities in the service area with the highest unemployment rates in 2010.

City	2007 (Average)	2008 (Average)	2009 (Average)	2010 (Average)
Stanton	6.4%	8.5%	14.4%	15.2%
Santa Ana	6.3%	8.5%	14.1%	15.0%
Laguna Woods	5.4%	7.3%	12.3%	13.1%
Anaheim	5.0%	6.8%	11.5%	12.2%
Buena Park	4.9%	6.6%	11.2%	11.9%
Garden Grove	4.9%	6.6%	11.2%	11.9%
La Habra	4.4%	6.0%	10.1%	10.8%
Fullerton	4.4%	5.9%	10.1%	10.7%
La Palma	4.3%	5.9%	10.0%	10.6%
Westminster	4.3%	5.9%	10.0%	10.6%
Orange County	3.9%	5.3%	9.0%	9.6%

Source: State of California, Employment Development Department

- The unemployment rate in Laguna Woods may diverge from other service area communities because of a large older adult population; almost **85%** of the population was 65 years and older in 2010. Since many of those individuals are retired, the labor force for Laguna Woods is expected to be much smaller than similarly populated cities: out of an estimated average of 2,600 Laguna Woods residents who were in the labor force in 2010, an estimated average of 300 were unemployed in 2010.
- According to 2010 Nielsen Claritas estimates, **66.8%** (895,615) of employed individuals 16+ years had a white collar job, and **19.7%** (264,661) had a blue collar job. **13.5%** (181,378) of employed individuals 16+ years had a service and farm worker job.

Although data is not available on the local level, there are race disparities in the unemployment rate statewide. The BLS examines employment status of individuals by race, showing that unemployment is less common among Asians and more common among Hispanic/Latinos and Blacks or African Americans. In 2009 the average unemployment rate in California was **11.3%**.

- The California unemployment rate for Asian individuals in 2009 was **8.9%**.
- The California unemployment rate for white individuals in 2009 was **11.3%**.
- The California unemployment rate for Black or African Americans in 2009 in **14.3%**.
- The California unemployment rate for Hispanic/Latinos in 2009 was **14.7%**.

The [U-6 unemployment rate](#), an alternative BLS measure, widens the definition of unemployment by including those who are marginally attached to the work force, or those not “actively” looking for work; an important subset of the marginally attached are discouraged workers who have given up finding work due to discrimination from employers, lack of training or education, lack of success in finding work, or the belief that there is no work in their field. U-6 also counts individuals who cannot find enough work, such as those who work part-time for economic reasons and those who are underemployed. The BLS captures the underemployment rate for California over the 4<sup>th</sup> Quarter of 2009 to the 3<sup>rd</sup> Quarter of 2010 (October 2009 to September 2010), which was **22.1%** or **one in five** individuals in California being underemployed. The official unemployment rate in California for that time period was **12.1%**. This suggests that underemployment may also be common in Orange County.

### Unemployment Rates, 2010 (Employment Development Department)

**12.4%**  
California

**12.6%**  
Los Angeles County

**8.9%**  
Orange County

**14.7%**  
Riverside County

**14.3%**  
San Bernardino County

**10.6%**  
San Diego County

**12.8%**  
Santa Clara

## Renters in the Community Benefits Service Area

Housing is a basic and universal necessity; it protects us from the elements and provides us with safety, warmth and comfort. Housing consumes a large share of a family's budget and, particularly in Orange County, also props up the area's cost of living. According to the [US Department of Housing and Urban Development](#), a household should spend no more than **30 percent** of its income on housing, so that there is enough income left for necessities such as food, clothing, transportation, and medical care. The [American Community Survey](#) determines the percent of gross income that households spend on mortgages or rent. The ACS estimated that there were 975,967 total Orange County (UC Irvine Healthcare countywide service area) households in 2009. **39.9%** (389,030) were renting households; of the households that provided further information, **10.1%** spent between 30 to 34.9 percent of their gross income on rent, and **44.2%** spent 35 percent or more of their gross income on rent. **60.1%** (586,937) of the households owned their homes; **76.0%** (445,966) of those households were paying a mortgage.

The chart below presents the 2009 numbers/proportion of renting households in selected cities within the UC Irvine Healthcare countywide service area, as well as the proportion of renting households that have a gross rent of 35 percent or more of annual household income (GRAPI). Please note that not all households provided GRAPI information.

**Table 6: Percent of Households that Rent and Gross Rent as Percentage of Household Income (GRAPI) by City: UC Irvine Healthcare Countywide Service Area, 2009**

City in Service Area	Renting Households		Renting Households with GRAPI of 35 Percent or More*	
	Number of Renting Households	Percent of All Households in City	Number of Renting Households	Percent of Renting Households
Anaheim	50,997	51.7%	25,059	51.4%
Buena Park	9,907	44.6%	4,692	49.4%
Costa Mesa	21,024	56.7%	5,281	44.3%
Fullerton	19,473	44.7%	8,385	45.8%
Garden Grove	19,534	45.9%	9,349	51.1%
Huntington Beach	27,735	37.0%	10,655	39.6%
Irvine	36,529	47.2%	11,818	34.6%
Lake Forest	7,932	30.6%	2,761	19.2%
Mission Viejo	5,727	18.2%	2,850	50.2%
Newport Beach	15,930	45.2%	5,366	9.6%
Orange	16,507	39.2%	6,797	42.0%
Santa Ana	38,329	52.9%	17,476	47.0%
Tustin	11,416	47.1%	4,487	40.0%
Westminster	11,270	44.3%	5,576	52.9%
Yorba Linda	3,891	17.3%	1,469	40.5%
<b>Orange County</b>	<b>389,030</b>	<b>39.9%</b>	<b>164,737</b>	<b>44.2%</b>

Source: US Census Bureau, 2009 American Community Survey

- In the cities of Westminster, Anaheim, Garden Grove, and Mission Viejo, over half of renting households that provided GRAPI information spent at least 35 percent of their annual household income on rent.

In the cities of Anaheim, Garden Grove, Mission Viejo, and Westminster, more than half of renting households spent at least 35 percent of their annual household income on rent.



Hispanics/Latinos have higher percent of renters than Asians and whites.

**American Community Survey 2009: Service Area Renters by Race/Ethnicity**

- **57.2%** of Hispanic/Latino households rented their homes in 2009; of those households where GRAPI could be computed, **60.3%** of households spent at least 30 percent of their annual household income on rent.
- **42.7%** of non-Hispanic Asian households rented their homes in 2009; of those households where GRAPI could be computed, **57.6%** of households spent at least 30 percent of their annual household income on rent.
- **31.3%** of non-Hispanic white households rented their homes in 2009; of those households where GRAPI could be computed, **49.9%** of households spent at least 30 percent of their annual household income on rent.

**Fair Market Rents and the Living Wage**

In order for a household to spend no more than 30 percent of its gross income on household costs household members would need to be earning a living wage. Many households do not earn a living wage and spend more than the recommended amount on housing. The high cost of living in Orange County can make it difficult for families to adhere to this guideline, forcing them to forgo important needs like good nutrition and health care, or even saving for the future, just so that they can keep a roof over their heads.

The [Fair Market Rent](#) is the dollar amount of rent at the 40th percentile of the standard-quality housing unit rent distribution, and includes the cost of utilities except for telephone, internet and cable. From 2006 to 2008, the fair market rents in Orange County, corresponding to the UC Irvine Healthcare Medical Center service area rose steadily, with a slight drop occurring in 2009. Rents rose again in 2010.

Number of Bedrooms	2006	2007	2008	2009	2010
<b>1 Bedroom</b>	\$1,161	\$1,238	\$1,330	\$1,296	\$1,336
<b>2 Bedroom</b>	\$1,392	\$1,485	\$1,595	\$1,546	\$1,594

Source: US Department of Housing and Urban Development, Fair Market Rent Datasets, 2006-2010

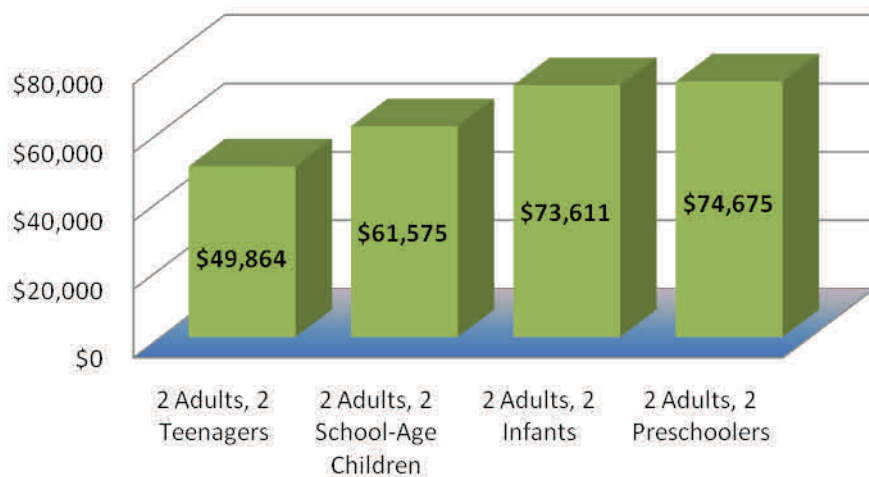
For 2009, the living wage for a two-bedroom apartment is **\$29.73/hr**, or yearly earnings of approximately **\$61,840** (monthly earnings of \$5,153). In the countywide UC Irvine Healthcare countywide service area, **40.3%** (400,777) of households in 2009 had an annual household income of less than \$60,000; this suggests that a substantial proportion of service area households lived below the living wage in 2009 (although this includes households owning their homes). The living wage in 2010 increased to **\$30.66** or **\$63,760** annually. The typical hourly wage for common service jobs are markedly less than the hourly wages needed to afford a two-bedroom unit in Orange County. For example, if one household member worked as a janitor and earned an hourly wage of **\$11.14**, and another worked as a retail salesperson earning **\$12.65** each hour, the combined wage of **\$23.79** (translating to an annual income of **\$49,483**) would still fall short of actual housing costs.

## Self-Sufficiency Standard

The poverty levels presented in the section below are those reported by the American Community Survey, which uses the FPL to determine poverty. Using the FPL to determine poverty greatly underestimates the extent of poverty in the county. The [Self-Sufficiency Standard](#) is an alternative measure of economic self-sufficiency, which is the idea that a household can meet its needs without government or private assistance. The Self-Sufficiency Standard is a measure that calculates the estimated income it would take for a household or individual to live adequately in a county without outside help. In particular, it takes into consideration all of the expenses that face a typical household, primarily housing, food, transportation, out-of-pocket medical expenses, the tax burden, and miscellaneous spending.

The Self-Sufficiency Standard is adjusted for regional differences in prices and the number and ages of children in the household, whereas the federal poverty is fixed. The FPL for a family of four is \$22,050 in 2010, but using the self-sufficiency standard, an income considered to be self-sufficient can vary significantly even within households of the same size, as illustrated in the following figure.

**Figure 6: Annual Self-Sufficiency Income for a 2 Adult, 2 Child Household in Orange County, 2008**



- A household with 2 adults and 2 teenagers living in Orange County would need \$49,864, and if the adolescents were instead preschool-age children, then the household would need \$74,675 to be self-sufficient, with child care costs for both preschoolers accounting for the difference.

The cost of living in Orange County is relatively high, so using the FPL to calculate poverty is not necessarily the most appropriate measure for determining need, even though this is what is used by many government programs to determine eligibility, and information of poverty using the FPL is the most widely available and easily accessible. There would be more economic insecurity in Orange County if the Self-Sufficiency Standard were instead used as the guideline for measurement. The lowest self-sufficiency annual income level for a two-adult household with two teenagers is **\$49,894**, which is more than twice the federal poverty standard. A family of four with this income would be disqualified from eligibility for many government programs because the family earns too much to receive support from the public safety net and yet too little to pay for all its necessities.

**2010 Federal  
Poverty Income:**  
(US Dept. of Health and  
Human Services)

**\$10,830  
1-Person  
Household**

**\$22,050  
4-Person  
Household**

## Poverty

The 2009 federal poverty levels (FPL) described a family of four living below the FPL as having an annual household income of \$21,200. Estimates of families and individuals living in poverty are provided by the [American Community Survey](#). It is important to realize that the US Census Bureau’s definition of poverty does not consider the family’s location, varying only according to the size of the family and the ages of the members.

**Table 8: Poverty Rates of Individuals by City:  
UC Irvine Healthcare Countywide Service Area, 2009**

City in Service Area	Children (0-17 Years)	Adults (18-64 Years)	Older Adults (65+ Years)	Overall Poverty Rate (All Ages)
Anaheim	24.3%	10.7%	10.3%	14.6%
Buena Park	12.6%	9.6%	8.3%	10.2%
Costa Mesa	22.4%	12.7%	11.8%	12.7%
Fullerton	13.6%	11.6%	3.6%	11.3%
Garden Grove	22.0%	13.4%	15.5%	15.8%
Huntington Beach	11.2%	7.4%	4.4%	7.8%
Irvine	7.3%	10.8%	7.1%	9.7%
Lake Forest	4.0%	3.0%	2.4%	3.2%
Mission Viejo	3.4%	3.6%	2.9%	3.5%
Newport Beach	9.4%	3.0%	4.1%	8.4%
Orange	11.5%	7.8%	6.2%	8.5%
Santa Ana	26.7%	17.5%	9.3%	19.8%
Tustin	12.7%	6.6%	4.8%	8.3%
Westminster	17.3%	11.2%	13.3%	13.3%
Yorba Linda	0.7%	2.9%	4.6%	2.5%
<b>Orange County</b>	<b>15.2%</b>	<b>9.6%</b>	<b>6.9%</b>	<b>10.7%</b>

Source: US Census Bureau, 2009 American Community Survey

- Santa Ana had the highest percent of individuals in poverty in 2009; Santa Ana also had the highest proportion of children and adults 18-65 living in poverty. Garden Grove had the highest percent of older adults in poverty.
- There were an estimated **317,324** total people in the service area living under the poverty line.

### American Community Survey 2009: Service Area Poverty Rate of All Individuals by Race/Ethnicity

- **17.3%** of Hispanic/Latino individuals in Orange County lived in poverty during 2009.
- **10.6%** of non-Hispanic Asian individuals in Orange County lived in poverty during 2009.
- **5.8%** of non-Hispanic white individuals in Orange County lived in poverty during 2009.

**Poverty Rate of All Individuals, 2009**  
[\(American Community Survey\)](#)

**14.2%**  
**California**

**16.1%**  
**Los Angeles County**

**10.7%**  
**Orange County**

**13.9%**  
**Riverside County**

**17.0%**  
**San Bernardino County**

**12.6%**  
**San Diego County**

**9.1%**  
**Santa Clara**

**Percent of Older Adults, 2010:****11.5% (4,332,876)**  
California**11.0% (1,113,374)**  
Los Angeles County**11.7% (362,274)**  
Orange County**11.4% (247,060)**  
Riverside County**8.7% (180,249)**  
San Bernardino County**11.4% (354,524)**  
San Diego County**11.3% (206,034)**  
Santa Clara County

## Seniors

The senior population of the UC Irvine Healthcare countywide service area makes up **11.7%** (363,516) of the total UC Irvine Healthcare countywide population. The older adult population estimate in this section differs from the 362,274 presented earlier in **Table 1** (Demographic Overview) due to different estimation methods by Nielsen Claritas to obtain 2010 US Census population counts.

While overall the gender distribution in the service area was even, the senior population has a higher percentage of females than males, with a male/female ratio of 0.76. **43.3%** (157,550) of residents 65+ were male and **56.7%** (205,966) of residents 65+ were female. The following table shows the growth of the senior population from 2000 to 2010, and the projected growth from 2010 to 2015.

Age Group	2000 Census	2010 Estimate	% Growth from 2000 to 2010	2015 Projection	% Projected Growth from 2010 to 2015
<b>65-74</b>	149,296	199,233	33.4%	244,004	22.5%
<b>75-84</b>	98,265	114,606	16.6%	124,104	8.3%
<b>85+</b>	34,168	49,677	45.4%	55,406	11.5%
<b>Total Seniors</b>	<b>281,729</b>	<b>363,516</b>	<b>29.0%</b>	<b>423,514</b>	<b>16.5%</b>

Source: 2000 Census data from Nielsen Claritas. 2010 Census estimates and 2015 projections by Nielsen Claritas.

The table below presents the 10 service area communities with the highest proportion of older adults.

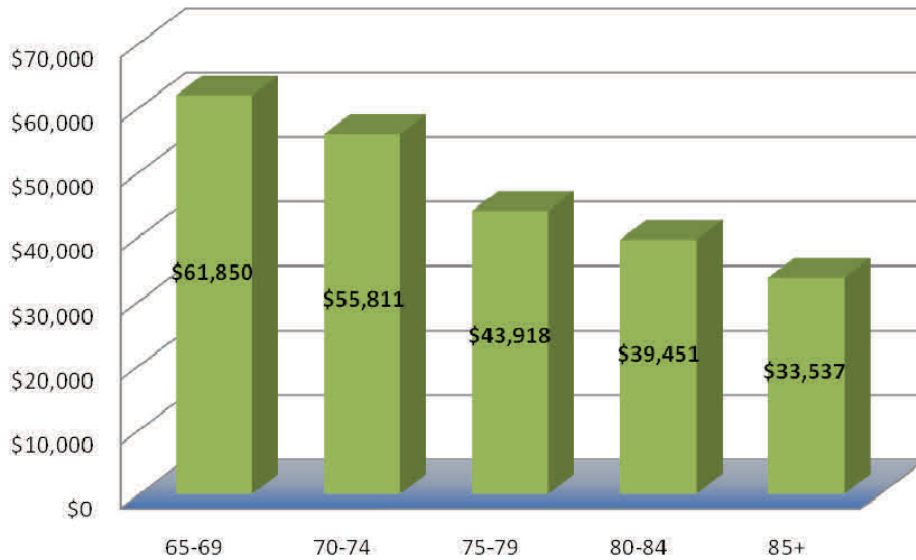
City/Community in Service Area	Estimated Population of Older Adults	Estimated Total Population of City/Community	Percent of Older Adults in City/Community
<b>Anaheim</b>	34,822	367,405	9.5%
<b>Santa Ana</b>	26,994	368,646	7.3%
<b>Huntington Beach</b>	25,397	194,350	13.1%
<b>Irvine</b>	20,894	221,604	9.4%
<b>Garden Grove</b>	19,704	173,373	11.4%
<b>Fullerton</b>	17,360	134,590	12.9%
<b>Orange</b>	16,696	145,559	11.5%
<b>Laguna Woods</b>	16,072	18,983	84.7%
<b>Newport Beach</b>	15,874	84,349	18.8%
<b>Mission Viejo</b>	13,553	94,614	14.3%

Source: 2010 US Census Estimates by Nielsen Claritas

- Anaheim had the highest number of older adults in its city, and Laguna Woods had the highest proportion of older adults in the city.

The following figure shows the 2009 estimated median household income for seniors (65+) by age of the householder, or head of household. In the UC Irvine Healthcare countywide service area there were 193,733 households with seniors as the head of the household, comprising **19.6%** of the total number of households served by the hospital. The median household income for older adults 65+ steadily declined with age, as demonstrated by the figure below.

**Figure 7: Median Household Income of Older Adults (65+) by Age of Householder: UC Irvine Healthcare Countywide Service Area, 2009**



\*The 2010 US Census Bureau Estimates provided by Nielsen Claritas do not provide detailed information on this indicator.  
Source: 2009 US Census Estimates by Nielsen Claritas

As adults age, their health needs may increase as their income resources dwindle. Paying for needed medical care can become especially challenging if they need long term care or specialty medical care, since government programs, such as Medicare, may not provide funds that are sufficient to meet these urgent needs.



**Median Household Incomes for Adults 65-69 and 85+ Years by Selected City, 2009:**

**\$64,831 to \$32,500**  
**Tustin**

**\$79,140 to \$39,522**  
**Irvine**

**\$70,685 to \$35,138**  
**Huntington Beach**

**\$103,237 to \$61,488**  
**Newport Beach**

**\$90,610 to \$46,731**  
**Mission Viejo**

**\$48,733 to \$28,069**  
**Santa Ana**

**\$50,625 to \$30,515**  
**Westminster**

**\$63,864 to \$40,382**  
**Fullerton**

**\$79,259 to \$47,279**  
**San Clemente**

**\$47,520 to \$33,947**  
**Buena Park**



## Healthy People 2020 Objective

Increase to **100%**  
the proportion of  
people with health  
coverage by 2020.

# Access to Health Care

Access to healthcare is the ability to make use of health care services to ensure the overall well being of an individual. Having access allows a person to treat illness, injuries, and chronic diseases, as well as participate in preventive measures to protect and ensure future health. For children, an important preventative measure is routine immunizations to guard against communicable diseases. A major component of access is health coverage which encompasses the following: primary, mental/behavioral, vision, dental, and prescription coverage.

## Rising Unemployment and the Loss of Health Care Coverage

Harsh economic conditions have presented threats to the health of the county's residents; the unemployment rate has risen drastically from a low of **3.7%** in January 2007 to **9.3%** in November of 2010. As health care coverage is commonly linked to employment, increasing unemployment is connected to the dramatic loss of health care coverage, as suggested by [American Community Survey](#) (ACS) data estimating the rate of health coverage in communities with populations of 65,000 or greater. From 2007 to 2009, the rate of adults without health care coverage more than **doubled** for adults and increased nearly **three-fold** for children, reversing the positive gains made during the period 1998-2007. 2009 data for the UC Irvine Healthcare countywide service area is presented on the following page for available cities and all of Orange County (encompassing the hospital's entire service area).



- Residents (of all ages) in Santa Ana were almost **twice (20.1% vs. 10.4%)** as likely not to have health care coverage as the general population of Orange County.
- Children in the following cities had higher rates of non-coverage than the overall county estimate: Anaheim, Costa Mesa, Garden Grove, Orange, and Santa Ana.
- Adults (18-64) in the following cities had higher rates of non-coverage than the overall county estimate: Anaheim, Costa Mesa, Garden Grove, Orange, Santa Ana, and Tustin.
- Older adults (65+) in the following cities had higher rates of non-coverage than the overall county estimate: Anaheim, Buena Park, Garden Grove, and Irvine.
- Children in Newport Beach had the lowest rate of non-coverage (**0.8%** or an estimated 105).
- Adults (18-64) in Yorba Linda, were **three times (7.7% vs. 23.4%)** less likely to lack health care coverage than adults countywide

<b>Table 1: Percent of Individuals Without Health Care Coverage by Available Cities: UC Irvine Healthcare Countywide Service Area, ACS 2009</b>			
<b>City</b>	<b>0-17 Years</b>	<b>18-64 Years</b>	<b>65+ Years</b>
<b>Anaheim</b>	11.8% 11,391	31.3% 65,728	4.6% 1,375
<b>Buena Park</b>	9.4% 1,878	23.3% 11,611	3.9% 359
<b>Costa Mesa</b>	11.5% 2,616	27.7% 21,810	1.7% 148
<b>Fullerton</b>	7.5% 5,697	18.3% 15,707	0.6% 82
<b>Garden Grove</b>	13.0% 5,506	34.6% 36,016	5.9% 1,119
<b>Huntington Beach</b>	4.9% 2,002	16.0% 19,981	2.0% 522
<b>Irvine</b>	7.2% 3,042	10.8% 15,891	6.3% 1,222
<b>Lake Forest</b>	5.9% 1,016	11.3% 5,776	6.8% 481
<b>Mission Viejo</b>	2.5% 626	11.6% 6,662	0% 0
<b>Newport Beach</b>	0.8% 105	9.8% 5,122	0.8% 116
<b>Orange</b>	11.5% 3,794	28.0% 24,496	0% 0
<b>Santa Ana</b>	20.1% 21,824	47.4% 98,821	4.4% 847
<b>Tustin</b>	8.0% 1,648	23.7% 11,057	4.5% 239
<b>Westminster</b>	8.8% 2,116	21.1% 11,372	0.8% 90
<b>Yorba Linda</b>	2.5% 421	7.7% 3,232	0% 0
<b>Overall Service Area</b>	<b>10.4%</b> 78,738	<b>23.4%</b> 448,175	<b>2.4%</b> 8,260

\* Please note that the 2009 ACS does not have data available for cities with populations less than 65,000.  
Source: US Census Bureau, 2009 American Community Survey

**Population Without Health Coverage, 2009:**

[California Health Interview Survey Orange County](#)  
**5.8% (46,000)**  
**0-17 Years**

**22.6% (447,000)**  
**18-64 Years**

**1.7% (6,000)**  
**65+ Years**

[California](#)  
**4.9% (481,000)**  
**0-17 Years**

**20.9% (4,901,000)**  
**18-64 Years**

**0.9% (38,000)**  
**65+ Years**

[American Community Survey Orange County](#)  
**10.4% (78,738)**  
**0-17 Years**

**23.4% (448,175)**  
**18-64 Years**

**2.4% (8,260)**  
**65+ Years**

[California](#)  
**9.5% (890,998)**  
**0-17 Years**

**24.4% (5,595,750)**  
**18-64 Years**

**1.8% (72,600)**  
**65+ Years**

**Trend of Lack of Coverage, Orange County and California:** [CHIS](#)

**Children 0-17 Years**

9.7% (OC)  
9.4% (CA)  
2001

9.6% (OC)  
7.1% (CA)  
2003

8.2% (OC)  
6.4% (CA)  
2005

3.6% (OC)  
5.7% (CA)  
2007

5.8% (OC)  
4.9% (CA)  
2009

**Adults 18+ Years**

16.5% (OC)  
16.5% (CA)  
2001

19.0% (OC)  
16.6% (CA)  
2003

17.6% (OC)  
16.1% (CA)  
2005

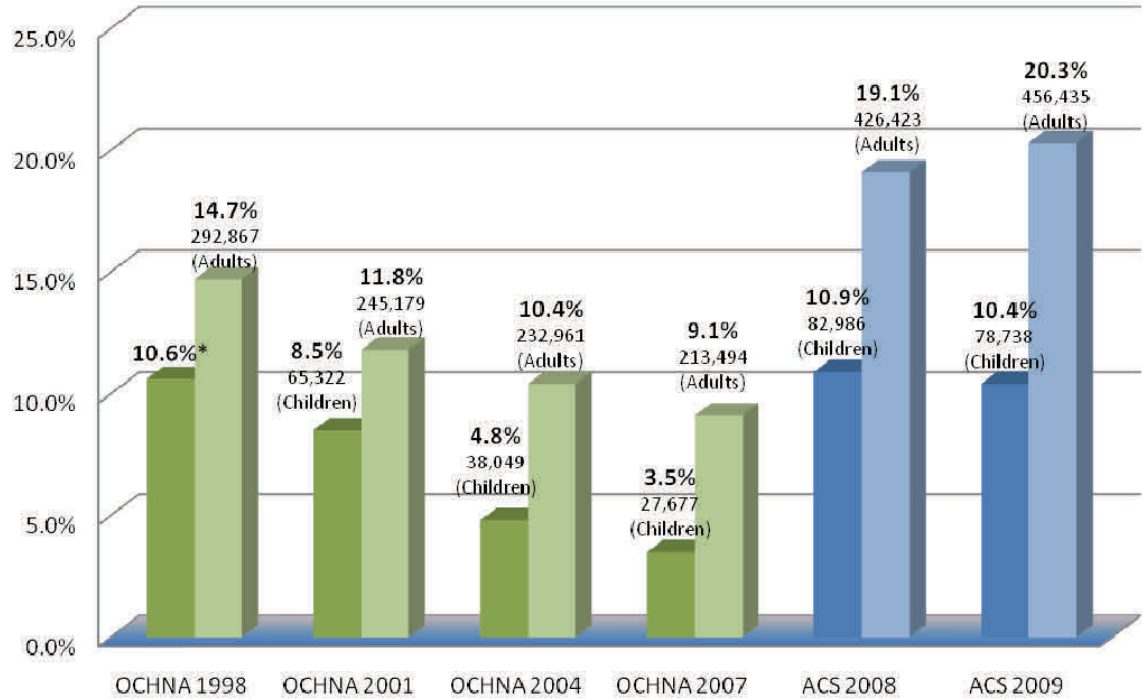
15.9% (OC)  
16.0% (CA)  
2007

19.6% (OC)  
17.9% (CA)  
2009

**Trends in Health Care Coverage Status**

As evidenced by the figure below, both adults and children made substantial gains in health care coverage from 1998 through 2007. Beginning in 2008, the [American Community Survey](#) (ACS) included questions on health care coverage status; the resulting data show that the estimated proportion of both adults and children without health care coverage in Orange County has increased considerably from the low levels in 2007.

**Figure 1: Children 0-17 and Adults 18+ Without Health Care Coverage by Year: UC Irvine Healthcare Countywide Service Area, OCHNA 1998-2007\*\* and ACS 2008-2009**



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.  
\*\*The 1998 OCHNA survey was adult only; the population estimate (80,271) of children is based on adult weights.  
Source: US Census Bureau, 2008 and 2009 American Community Survey (Children 0-17 Years and Adults 18+ Years).

- From 1998 to 2007, children in the UC Irvine Healthcare countywide service area without health care coverage declined by **67.0%**; during the same time period, the population of children served grew by **4.5%**.
- From 1998 to 2007, adults without health care coverage in the UC Irvine Healthcare countywide service area declined by **38.1%**; within the same time period, the adult population grew by **16.2%**.
- While the decline of both children and adults without health care coverage from 1998 to 2007 is notable, it has been demonstrated that the economic downturn has considerably negated these positive developments in the past three years. The 2009 ACS estimate of uncovered children is almost **three times (3.5% vs. 10.4%)** the child estimates for 2007 and the adult rate of non-coverage has more than **doubled (20.3% vs. 9.1%)** during the same time period.



## Types of Health Coverage: OCHNA 2007

The table below presents the proportion of children and adults in the UC Irvine Healthcare countywide service area who lacked coverage for specific types of coverage.

Table 2: Individuals Without Specific Types of Coverage: UC Irvine Healthcare Countywide Service Area, OCHNA 2007				
Lack of Coverage by Type:	Children (0-17 Years)		Adults (18+ Years)	
	Percent	Population Estimate	Percent	Population Estimate
Primary Health Care Coverage	3.5%	27,677	9.1%	213,494
Prescription Health Coverage	8.4%	65,615	15.9%	361,841
Dental Health Coverage	18.6%	144,334	30.4%	697,472
Vision Health Coverage	24.7%	187,725	31.5%	711,479
Mental Health Coverage	25.3%	157,855	28.4%	515,252

- Approximately, **one** out of every **three** adults in the UC Irvine Healthcare countywide service area lacked dental, vision, and mental health care coverage.
- Approximately **one** in **four** children in the UC Irvine Healthcare countywide service area lacked vision and mental health care coverage in 2007.

Approximately **one** in **four** service area children lacked vision and mental health coverage in 2007.

Approximately **one** in **three** service area adults lacked dental, vision, and mental health coverage in 2007.



**Percent of Individuals Without Health Coverage by Race:** [\(American Community Survey, 2009\)](#)

**Asian**

13.9% (638,136)  
California

18.2%(233,325)  
Los Angeles

15.4% (76,078)  
Orange County

15.3% (18,075)  
Riverside

16.6% (19,614)  
San Bernardino

11.5% (35,631)  
San Diego

9.0% (49,593)  
Santa Clara

**Hispanic/Latino**

28.9%(3,911,292)  
California

31.9%(1,498,129)  
Los Angeles

32.2% (331,599)  
Orange County

29.1% (272,908)  
Riverside

27.2% (261,085)  
San Bernardino

30.5% (283,778)  
San Diego

22.9% (106,594)  
Santa Clara

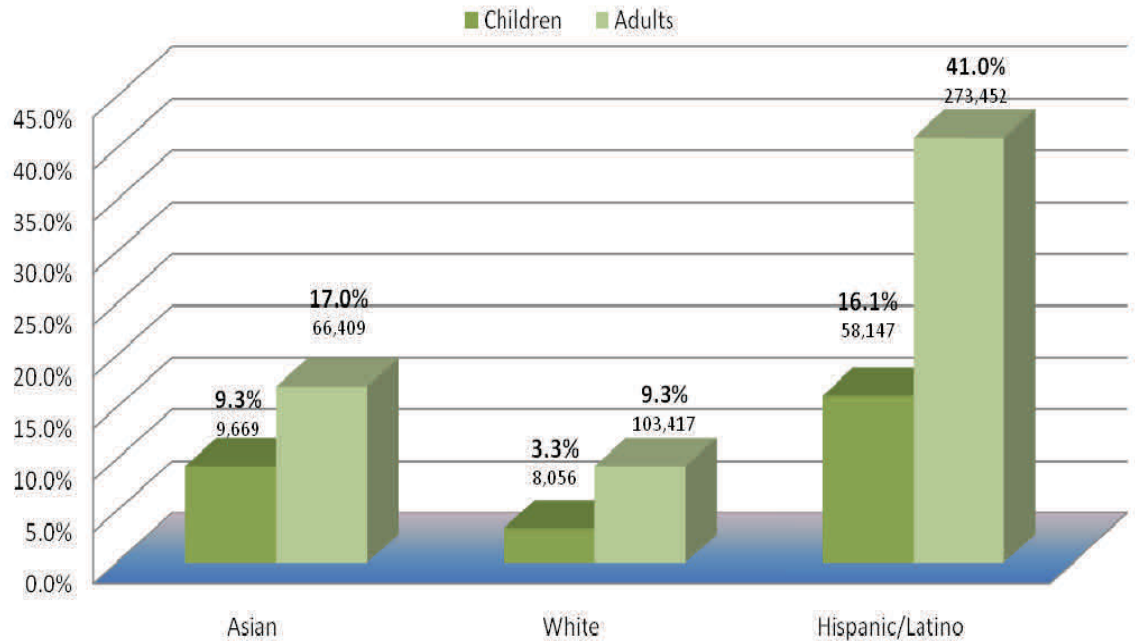
## Demographics and Health Care Coverage in the UC Irvine Healthcare Countywide Service Area

It is well recognized that income, race, and age are determining factors in an individual's health coverage status. Generally households with an annual income under \$25,000 are less likely to have health care coverage; those over \$50,000 are more likely. Racial/ethnic minorities are less likely; whites are more likely. Younger adults are less likely to have coverage, while those over 65 are more likely due to the availability of Medicare. The sections below examine the available demographic characteristics of those without coverage from the 2009 American Community Survey.

### Race/Ethnicity

Race/ethnicity is a common factor in determining who is likely to have health coverage. In general, racial/ethnic minorities are less likely to have coverage than whites. In the UC Irvine Healthcare countywide service area, this trend is also visible. In 2009 almost **one in three (32.2%** or an estimated 331,599) Hispanic/Latinos (all ages) in the county lacked health care coverage, and **15.4%** (76,078) of Asians lacked health coverage. Non-Hispanic whites had the lowest proportion of individuals without health care coverage (**8.2%** or 111,473). The figure below presents the UC Irvine Healthcare countywide service area (county-wide) proportion of those who lacked coverage from ACS 2009.

**Figure 2: Children and Adults Without Health Care Coverage Within Race/Ethnicity: UC Irvine Healthcare Countywide Service Area, ACS 2009**



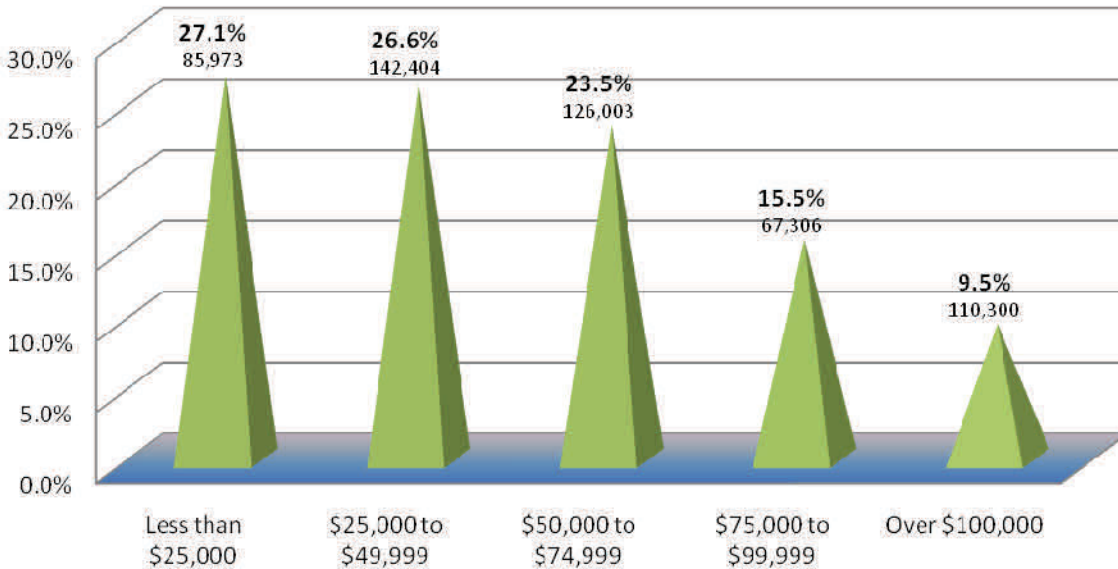
Source: US Census Bureau, 2009 American Community Survey

- Hispanic/Latino children and adults were the most likely to lack health care coverage out of all three racial/ethnic categories. Hispanic/Latino adults were more than **twice** as likely to lack coverage as Asian adults, and more than **four times** as likely to lack coverage as white adults.

## Income

Income is often closely related with health care coverage status. In this depressed economic climate, more families have been pushed into lower income levels from job losses or reductions in employment benefits. The following table presents individuals (adults and children) without health care coverage and their corresponding household income levels in the UC Irvine Healthcare countywide service area.

**Figure 3: Individuals (All Ages) Without Health Care Coverage Within Annual Household Income Level: UC Irvine Healthcare Countywide Service Area, ACS 2009**



Source: US Census Bureau, 2009 American Community Survey

- There is a clear pattern concerning household income level and whether an individual has health care coverage. As income increases, the likelihood of having health care coverage increases as well.
- Countywide, over **one in four** individuals from households with annual incomes below \$50,000 lacked health care coverage.



**Percent of Individuals Without Coverage by Household's Annual Income:**  
[\(American Community Survey, 2009\)](#)

Less than \$25,000

**25.5% (1,458,201)**  
**California**

**30.0% (515,116)**  
**Los Angeles**

**27.1% (85,973)**  
**Orange County**

**27.0% (89,100)**  
**Riverside**

**27.8% (100,054)**  
**San Bernardino**

**26.2% (113,361)**  
**San Diego**

**18.0% (30,843)**  
**Santa Clara**

\$100,000 or More

**8.6% (949,072)**  
**California**

**11.0% (286,033)**  
**Los Angeles**

**9.5% (110,300)**  
**Orange County**

**10.7% (57,707)**  
**Riverside**

**11.1% (51,989)**  
**San Bernardino**

**7.4% (68,668)**  
**San Diego**

**6.5% (55,337)**  
**Santa Clara**

**Percent of Individuals Without Coverage by FPL:**  
*(American Community Survey, 2009)*

**Under 100% FPL**

**29.7% (1,520,651)**  
**California**

**33.7% (524,317)**  
**Los Angeles**

**34.9% (110,709)**  
**Orange County**

**33.8% (98,042)**  
**Riverside**

**30.5% (102,157)**  
**San Bernardino**

**31.9% (119,171)**  
**San Diego**

**24.3% (38,036)**  
**Santa Clara**

**100% to 199% FPL**

**29.6% (2,083,280)**  
**California**

**33.6% (717,930)**  
**Los Angeles**

**33.2% (166,586)**  
**Orange County**

**30.3% (138,372)**  
**Riverside**

**29.2% (127,720)**  
**San Bernardino**

**30.7% (156,550)**  
**San Diego**

**25.3% (56,895)**  
**Santa Clara**

**Health Coverage Status by Poverty Level**

The table below presents the percent of children and adults without health care coverage within each Federal Poverty Level (FPL). The FPL in 2009 for a four-person household was **\$22,050**; for a one-person household it was **\$10,830**.

Percent of FPL	Children 0-17	Adults 18-64	65+
<b>Under 100%</b>	18.3% 20,511	48.6% 88,264	8.3% 1,934
<b>100%- 199%</b>	17.8% 27,766	48.0% 136,920	3.1% 1,900
<b>200%- 299%</b>	12.2% 14,292	31.7% 82,453	3.0% 1,571
<b>300%- 399%</b>	7.4% 6,817	25.8% 62,667	2.3% 1,086
<b>400% +</b>	2.2% 5,710	8.3% 76,765	1.1% 1,769

Source: US Census Bureau, 2009 American Community Survey

- The closer a person was to poverty, the more likely he or she lacked health care coverage.
- Most children and adults under 100% FPL will probably qualify for some kind of government coverage.
- Close to **one in five** children, and **one in two** adults (18-64) under 199 FPL, lacked health care coverage.
- For both children and adults, lack of health care coverage decreased with each increase in the FPL.

**Age**

The table below provides the proportions of individuals in each age group who did not have health coverage in the UC Irvine Healthcare countywide service area. The table may reveal insights into the types of health needs that individuals may have: For example, a younger uncovered population as a whole has entirely different health demands than an older, potentially less healthy age group.

Age Group	Percent	Population Estimate
<b>0 to 5 Years</b>	8.9%	22,848
<b>6 to 17 Years</b>	11.2%	55,890
<b>18 to 24 Years</b>	31.8%	279,427
<b>25 to 34 Years</b>	30.6%	134,336
<b>35 to 54 Years</b>	20.8%	184,152
<b>55 to 64 Years</b>	13.2%	40,805
<b>65+ Years</b>	2.4%	8,260

Source: US Census Bureau, 2009 American Community Survey

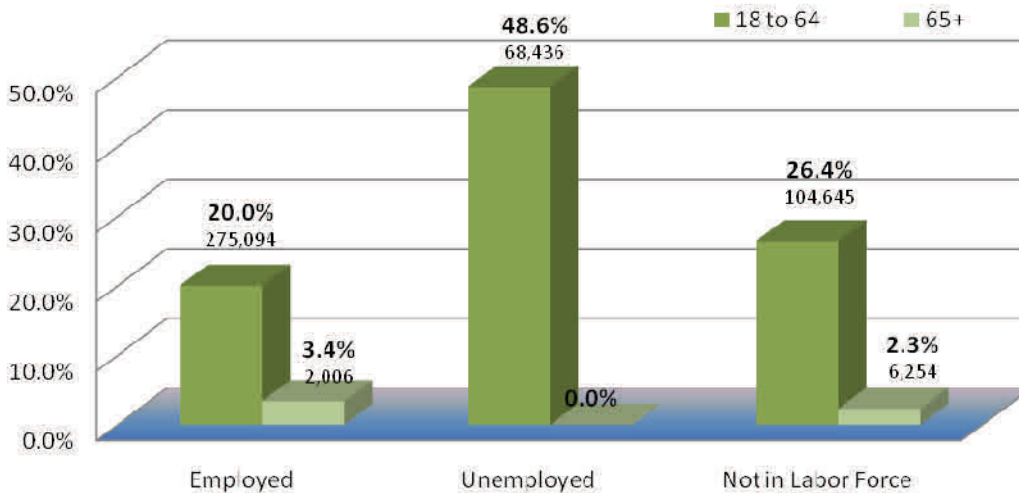
- Older adults 65+ had the lowest rates of non-coverage (**2.4%** or an estimated 8,260), while those in the age group 18-24 had the highest rate of non-coverage (**31.8%** or an estimated 279,427).
- **20.3%** (43,710) of children 0-5 in the UC Irvine Healthcare countywide service area had public health care coverage, which may include Medi-Cal or Healthy Families. **54.5%** (205,275) of older adults (65+) had Medicare coverage, while an additional **2.8%** (10,619) had Medi-Cal coverage.



## Adults Without Health Care Coverage *Within* Employment Status

According to the [Employment Development Department](#) the unemployment rate in Orange County was **9.3%** (148,900) in November 2010. This figure does not include “discouraged workers” or “under-employed” individuals, so it is likely the rate is actually higher. The figure below displays adults without health care coverage *within* employment status. Individuals not in the labor force include students, homemakers, individuals confined to an institution, such as a nursing home or prison, individuals in the armed forces, retired individuals and anyone not actively seeking employment.

**Figure 4: Adults Without Coverage *Within* Employment Status: UC Irvine Healthcare Countywide Service Area, ACS 2009**



Source: US Census Bureau, 2009 American Community Survey

- Close to half (**48.6%** or an estimated 68,436) of unemployed adults (18 to 64) lacked health care coverage.
- **One in five (20%** or an estimated 275,094) of employed adults (18 to 64) lacked health care coverage.
- **One in four (26.4%** or an estimated 104,645) of adults (18 to 64) not in the labor force, lacked health care coverage.

## Barriers to Health Care Coverage (OCHNA 2007)

In 2007 **3.5%** (27,677) of children were without health care coverage; the cost of coverage was the number one barrier with **43.0%** (10,605) of parents reporting this as the reason their child was without coverage. Since then, the economic situation has clearly darkened for many families; job losses, reduced household incomes, and cuts in state and federal health care programs, have contributed to the current proportion (**10.4%** or an estimated 78,738) of children without health care coverage. Similar to the children, the number one reason adults gave for not having coverage was cost as well (**39.6%** or an estimated 93,227). The following bullet points describe some of the common barriers that are well-known to have an impact on whether individuals have health care coverage.

- Language issues
- Undocumented immigration status for children and/or parents
- High cost of services or inability to pay premiums
- Job loss of parent/guardian

**Percent of Individuals (16+) in Labor Force Without Coverage by Employment Status:** ([American Community Survey, 2009](#))

### Employed

**20.1% (3,293,245)**  
California

**26.8% (1,159,668)**  
Los Angeles

**19.3% (277,100)**  
Orange County

**22.9% (194,512)**  
Riverside

**22.2% (177,094)**  
San Bernardino

**18.2% (243,650)**  
San Diego

**13.5% (114,080)**  
Santa Clara

### Unemployed

**47.3% (954,168)**  
California

**51.2% (272,075)**  
Los Angeles

**47.4% (68,436)**  
Orange County

**51.8% (70,001)**  
Riverside

**50.0% (65,226)**  
San Bernardino

**48.3% (67,148)**  
San Diego

**38.5% (37,043)**  
Santa Clara

Some common barriers that are well-known to affect access to coverage include:

- Language issues
- Undocumented immigration status for children and/or parents
- High cost of services or inability to pay premiums
- Job loss of parent/guardian
- Limited availability of low-income clinics
- Cutbacks in public programs due to the recession

The top four reasons parents gave for their child being without coverage are presented in the table below.

Table 5: Top 4 Parent Reasons for Why Child Was Without Coverage: UC Irvine Healthcare Countywide Service Area, OCHNA 2007	
Could Not Afford to Pay Premiums	43.0%
Became Ineligible Because of Age or Left School	12.0%
Spouse or Parent Lost Job or Changed Employers	9.0%
Became Divorced or Separated	8.2%

- **43.0% (10,605)** reported their child was without health care coverage because they could not afford to pay the premiums. Of these:
  - **39.6% (4,148)** had a household income between \$25,000 and \$49,999.
  - **32.2% (3,369)** had a household income of \$75,000 or more.
  - **59.7% (5,228)** were Hispanic/Latino.
  - **36.1% (3,160)** were white.
  - **37.7% (4,001)** parents reported an education level of less than college.

The following table presents the top three reasons adults were without health care coverage.

Table 6: Top 3 Responses for the Main Reason Adults Lack Health Care Coverage: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Reasons	Percent	Population Estimate
Cost/Cannot Afford Premiums	39.6%	93,227
Lost Job or Changed Employers	26.5%	62,360
Employer Does Not Offer/Stopped Offering	8.1%	19,165

- **39.6% (93,227)** of adults reported cost as the main reason why they are without health care coverage. Of these:
  - **41.9% (36,119)** had a household income of \$25,000 to \$49,999.
  - **34.2% (29,484)** had a household income of less than \$25,000.
  - **62.6% (52,987)** were Hispanic/Latino.
- **37.5% (34,947)** were between the ages of 35 and 44.

The inability to pay premiums is often the main reason adults are without health care coverage. All adults, regardless of their coverage status, were asked what monthly health care coverage premium would they be able to afford.

(Note: choices were offered in descending order, allowing respondents to stop at the first perceived affordable choice.)

Table 7: Adults' Ability to Pay Monthly Premiums: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Monthly Premium	Percent	Population Estimate
\$41 and up per month	67.4%	1,474,910
\$31 to 40 per month	9.9%	217,054
\$21 to 30 per month	5.9%	128,517
\$11 to 20 per month	5.3%	115,629
\$5 to 10 per month	4.7%	101,756
Cannot Afford Any of the Above	6.9%	150,165
<b>Total</b>	<b>100.0%</b>	<b>2,188,031</b>

- **6.9% (150,165)** of adults reported they could not afford to pay any of the premium options offered.
  - **36.1% (3,160)** were white.
  - **29.8% (43,339)** of these adults were age 65 or older.
- Of the adults who could afford a premium of a particular amount, **15.9%** (345,902) reported that that they could not pay a monthly premium over \$30.00 (equivalent to a dollar a day).

The 2007 OCHNA survey asked several questions regarding barriers to health care. One such question was whether the parent had delayed getting treatment for their child in the past 12 months. **4.3%** (34,066) of parents in the UC Irvine Healthcare countywide service area responded they had. **One in four (28.4%** or an estimated 9,298) listed cost as the reason. Another barrier to health care is the availability of services when needed. **One in three (33.4%** or an estimated 222,948) respondents reported their child's usual source of care was not open evenings or on the weekends; **37.0%** (658,420) of adults reported the same about their provider. Not having access to services when needed may increase the likelihood of utilizing the ER for non-emergency purposes.

An estimated **150,165** service area adults reported that they could not even afford to pay a monthly premium of \$5 to \$10. [\(OCHNA 2007\)](#)



Americans' Satisfaction with Health Care Coverage: (Kaiser Family Foundation, August 2009)

Rating of overall health insurance coverage among those with health insurance nationwide—

36% Excellent

54% Good

5% Not so Good

4% Poor

## Satisfaction with Health Care Plan (OCHNA 2007)

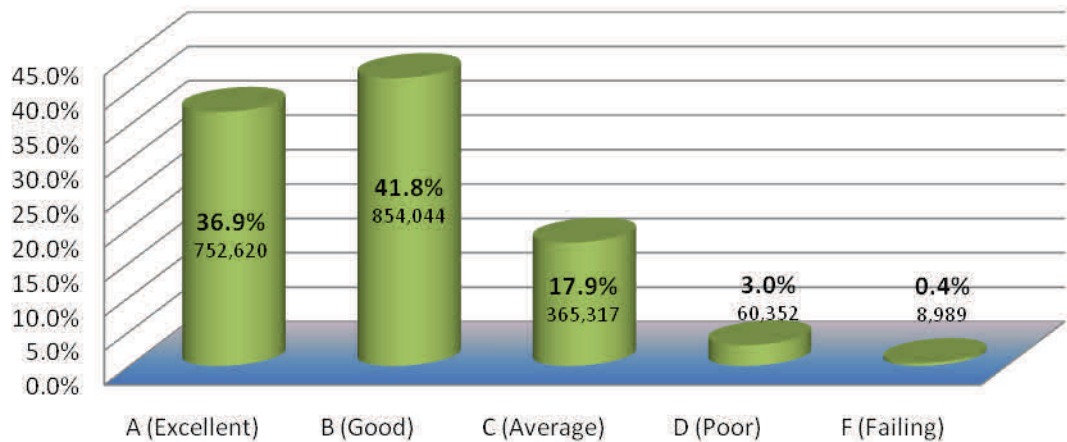
Even though a child or adult may have health care coverage, there is no guarantee he or she will be able to receive all needed health services. This may be due to inadequacies in the health coverage plan, expensive co-pays or not being able to find a provider that the individual feels confident in or comfortable with. Any one of these factors can influence how a person views their health plan, the quality of their care, services received, and the health care professional.

Overall most respondents were satisfied or very satisfied (89.7% or an estimated 675,218) with their child's health care plan; however, 4.0% (30,291) stated they were dissatisfied or very dissatisfied. There was very little variation in race/ethnicity or income for those that were dissatisfied. Of those dissatisfied, 60.5% (18,330) reported *out-of-pocket costs* as the reason for their dissatisfaction. The following table lists the top three reasons parents were dissatisfied or very dissatisfied with their child's health care plan.

Reason	Percentage
Out-Of-Pocket Costs (Premiums and Co-Pays)	60.5%
Health Benefits Do Not Cover What Child Needs	13.8%
Do Not Like Quality of Care or Doctor/Health Care Provider	10.2%

The following figure illustrates the letter grade (A-F) adults gave their health care plan.

Figure 5: Letter Grade Adults Gave Their Current Health Plan: UC Irvine Healthcare Countywide Service Area, OCHNA 2007



- 3.4% (69,341) of adults rated their health plan as poor or failing.
- Close to **one in five** (17.9% or an estimated 365,317) adults rated their health care plan as just average.
- *Within* race/ethnicity, Vietnamese adults were the least likely to rate their plan excellent (17.0% or an estimated 16,660) and the most likely to rate their plan as poor or failing (5.6% or an estimated 5,466).
- White adults were the most likely to rate their health plan excellent (43.2% or an estimated 474,629).

The following table presents the top four changes adults would like to have in their health care plan.

Table 9: Top 4 Changes Adults Would Like to Have in Their Health Care Plan: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Changes on Health Care Plan	Percent	Population Estimate
Lower Costs (premiums, deductibles, co-pays, and out-of-pocket expenses)	38.7%	565,858
Choice of Doctors	10.4%	151,674
Referral to a Specialist	5.6%	82,054
Prescription Coverage	5.2%	75,324

- **38.7%** (565,858) of adults would like lower costs associated with their health care plan. Of these:
  - *Within* race/ethnicity, **over half (51.1 %)** or an estimated 66,047) of other Asian or Pacific Islanders; **46.3%** (31,396) of Vietnamese; **37.5%** (296,613) of white and **37.5%** (148,047) of Hispanic/Latino adults chose lower costs as the most important change they would like to make to their health care plan.
  - *Within* income, **42.6%** (127,087) of adults with a household income in between \$50,000 and \$75,000 chose cost as the most important change they would like to make to their health care plan; only **23.4%** (17,051) of adults in the income category of *less than* \$25,000 found cost to be the most important change they would like to make.

### Adult Satisfaction with the Quality of Care Received

**91.3%** (1,784, 955) of adults reported being satisfied or very satisfied with the quality of care they received from their doctor; **4.1%** (80,142) reported being dissatisfied or very dissatisfied. Of the dissatisfied, *within* race/ethnicity, Hispanic / Latino adults were the most likely to be dissatisfied (**7.3%** or an estimated 41,476) while other Asian or Pacific Islanders were the least likely to be dissatisfied (**1.5%** or an estimated 2,296).



Many adults would like to see lower costs associated with their health care plan.

**All Orange County  
Medi-Cal  
Beneficiaries by  
Age, Dec. 2010:**  
[\(California Department of  
Health Care Services\)](#)

**225,135**  
**0-18 Years**

**149,515**  
**19-64 Years**

**63,736**  
**65+ Years**

**Proportion of all  
Medi-Cal  
Beneficiaries  
Statewide by  
County, Dec. 2010:**  
[\(California Department of  
Health Care Services\)](#)

**32.1%**  
**Los Angeles  
County**

**6.0%**  
**Orange County**

**5.2%**  
**Riverside County**

**6.3%**  
**San Bernardino  
County**

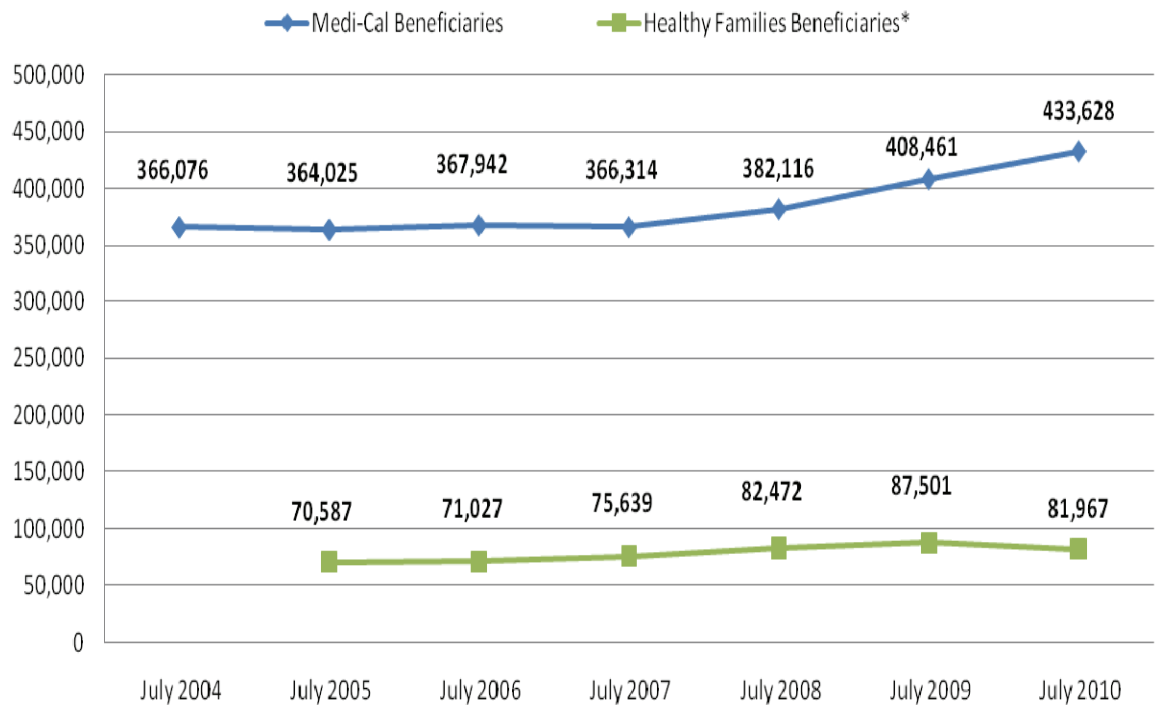
**5.8%**  
**San Diego County**

**3.5%**  
**Santa Clara County**

## Scope of the Safety Net in the Service Area

The sustained nature of the economic downturn has led to an increased reliance on public safety net programs in Orange County and all across California. Since July of 2007, before the beginning of the recession, there has been an overall increase in the numbers of beneficiaries in the Medi-Cal and Healthy Families programs in the UC Irvine Healthcare countywide service area, according to numbers provided by the State of California [Department of Health Care Services](#) and [Managed Risk Medical Insurance Board](#). The numbers include all beneficiaries, including Medi-Cal and Healthy Families members not covered through CalOptima (e.g. fee for service or limited scope Medi-Cal).

**Figure 6: Total Number of Medi-Cal and Healthy Families Beneficiaries:  
UC Irvine Healthcare Countywide Service Area, July 2004-2010**



\*Countywide data for 2004 was unavailable.

Source: State of California, Department of Health Care Services, Research and Analytic Studies Section, Medi-Cal Beneficiary Pivot Profiles; Managed Risk Medical Insurance Board, Healthy Families Enrollments

- From July 2005, the numbers of Medi-Cal beneficiaries has been steadily rising, with a noteworthy increase from July 2009 to July 2010, which coincides with the economic downturn. Despite the increasing needs, there was a cut back in many Medi-Cal services beginning in July 2009. Eliminated benefits included: adult preventive dental services; optometric and optician services; audiology and speech therapy services; psychological services; chiropractic services; podiatric services; and acupuncture.
- While the proportion of the countywide UC Irvine Healthcare countywide service area children in Healthy Families has been decreasing since July 2009, there was a continuous increase from July 2005 to July 2009. The decrease from 2009 to 2010 could have been attributed to the Healthy Families enrollment freeze in fall of 2009.
- As of December 2010, there were **438,399** Medi-Cal beneficiaries in the countywide service area; this includes **57,344** individuals who received benefits due to an undocumented immigration status, accounting for **13.1%** of all Medi-Cal beneficiaries in the county during that month. Medi-Cal provides limited benefits such as breast or cervical cancer treatments, emergency services, and pregnancy-related services for this sub-population.

## Healthy Families Enrollments (December 2010)

As of December 2010, **82,571** Healthy Families recipients (children between 0-18 years) lived in the UC Irvine Healthcare countywide service area, corresponding to all of Orange County; they lacked private health coverage, but did not qualify for no-cost Medi-Cal and are US citizens, nationals, or qualified aliens residing in California. The table below presents the population of Healthy Families members by the 10 most populous UC Irvine Healthcare countywide service area/Orange County cities for children.

Table 10: Healthy Families Enrollments by Most Populous Service Area City: UC Irvine Healthcare Countywide Service Area, December 2010	
City in Service Area	Number of People
Anaheim	13,688
Costa Mesa	3,173
Fullerton	3,786
Garden Grove	7,896
Irvine	3,038
Huntington Beach	2,531
Mission Viejo	1,621
Orange	3,419
Santa Ana	18,856
Westminster	3,600

Source: Managed Risk Medical Insurance Board, Healthy Families Enrollments

- Over **one in five (22.8%)** Healthy Families recipients in Orange County resided in Santa Ana.

## CaliforniaKids

Effective 11/1/2010, **CaliforniaKids**, a program that offers access to primary and preventive health care services for children who do not qualify for state-sponsored programs due to their immigration status, has increased their premiums to \$75 per member, per month for all new enrollments. Also effective 01/01/2011, premiums were increased for current members to \$75 and vision coverage no longer was available. CaliforniaKids currently serves **2,358** children in the county.

## CalOptima Enrollments in the Service Area (August 2010)

### Full Scope or Share of Cost Medi-Cal Enrollments

Medi-Cal is a state and federally funded safety net health care program that provides needed health coverage and services for those with limited income and resources. The scope of Medi-Cal benefits range from full (free) and share-of-cost Medi-Cal to limited-scope Medi-Cal. CalOptima is a county-organized managed care plan that generally oversees full or share-of-cost Medi-Cal in Orange County. There were a total of **353,185** CalOptima Medi-Cal members in the UC Irvine Healthcare countywide service area in August 2010 (includes those who listed PO Box addresses).

**Healthy Families Enrollments by County, Dec. 2010:**  
[\(Managed Risk Medical Insurance Board\)](#)

**222,458**  
 Los Angeles County

**82,571**  
 Orange County

**75,832**  
 Riverside County

**63,598**  
 San Bernardino County

**72,052**  
 San Diego

**32,499**  
 Santa Clara

**CalOptima Medi-Cal Membership by Age, Aug. 2010:**  
(CalOptima)

**38.0% (134,296)**  
**0-10 Years**

**19.8% (69,985)**  
**11-20 Years**

**24.8% (87,529)**  
**21-64 Years**

**61,375 (17.4%)**  
**65+ Years**

**353,185**  
**Total Medi-Cal CalOptima Membership in August 2010**

The table below presents 10 most populous service area cities with their CalOptima Medi-Cal membership.

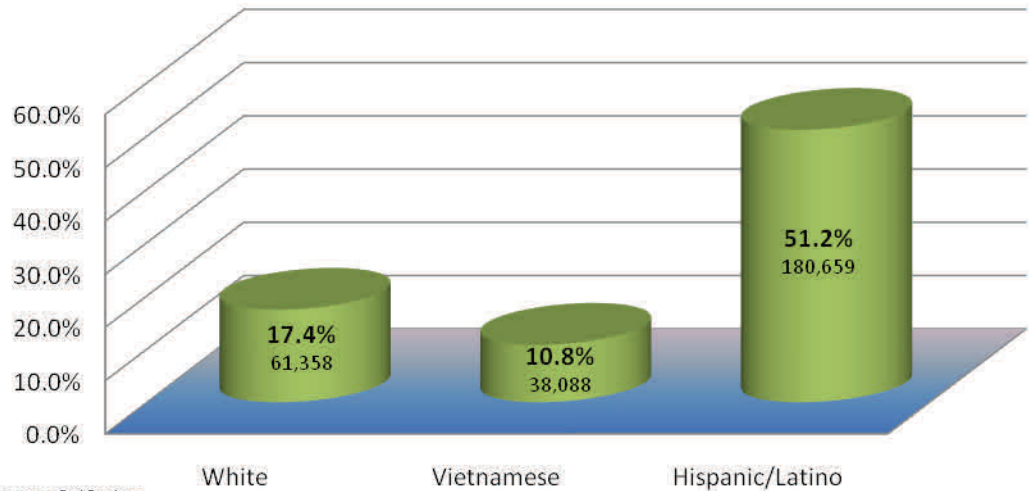
Table 11: CalOptima Medi-Cal Enrollments by Most Populous Service Area City: UC Irvine Healthcare Countywide Service Area, August 2010			
City in Service Area	Number of People	City in Service Area	Number of People
Anaheim	64,672	Huntington Beach	12,752
Costa Mesa	11,403	Mission Viejo	4,984
Fullerton	14,619	Orange	16,123
Garden Grove	37,082	Santa Ana	80,936
Irvine	10,205	Westminster	20,337

Source: CalOptima

- The 10 cities were homes to **77.3%** of all CalOptima Medi-Cal members. Over **one in five (22.9%)** members resided in Santa Ana.

The figure below presents the race/ethnic distribution of CalOptima Medi-Cal membership for the key race/ethnic groups in Orange County.

**Figure 7: Race/Ethnic Distribution of CalOptima Medi-Cal Members: UC Irvine Healthcare Countywide Service Area, August 2010**



Source: CalOptima

- Over **half** of CalOptima Medi-Cal members in the UC Irvine Healthcare countywide service area were Hispanic/Latino.

**Healthy Kids**

The [Healthy Kids Program](#) is low-cost insurance for children and teens not eligible for no-cost Medi-Cal or the Healthy Families Program administered by CalOptima. The program is open to individuals 18 years and younger who live in California and are US citizens or legal residents. Individuals must also meet the income guidelines. However, CalOptima reports that the Healthy Kids Program will be ending on February 28, 2011 due to funding challenges.

- In the UC Irvine Healthcare countywide service area there were a total of **570** Healthy Kids members in August 2010.



### Medical Services Initiative

The [Medical Services Initiative](#) (MSI) program is the county safety net program which provides medical care to medically indigent adults (18 to 64 years) under the Coverage Initiative (CI) Program in Orange County, which was initiated in September 2007. Under the CI, coverage was expanded to include primary and preventive services. CI allowed the MSI program to create a medical home network of physicians and clinics that were previously providing uncompensated care to indigent adults in Orange County, giving enrollees access to a comprehensive care delivery system with primary and preventive services provided at private and clinic settings.

The MSI program determined that there were a total of **34,508** MSI members at the beginning of August 2010 in the UC Irvine Healthcare countywide service area, using eligibility date information from May 2010. The table below presents the number of MSI members by the 10 most populous service area cities.

- MSI members in the 10 cities comprised **76.5%** of total membership.

Table 12: MSI Enrollments by Most Populous Service Area City: UC Irvine Healthcare countywide Service Area, August 2010	
City in Service Area	Number of People
Anaheim	4,889
Costa Mesa	1,437
Fullerton	1,436
Garden Grove	4,820
Irvine	1,021
Huntington Beach	1,531
Mission Viejo	437
Orange	1,332
Santa Ana	6,147
Westminster	3,351

Source: County of Orange, Health Care Agency, Medical Services Initiative Program

Financial eligibility for the MSI program is based on Medi-Cal criteria, with an income cap at 200% of the Federal Poverty level.

Proof of Orange County and US citizenship or legal permanent residency is required.



**Healthy  
People 2020  
Objective**

Increase to 100% the proportion of children 0-17 years with a source of ongoing care.

The service area did not meet the HP 2020 Objective

No usual place to go when in need of medical advice or when child is sick (0-17): [\(CHIS 2009\)](#)

7.8% (765,000)  
California

8.3% (225,000)  
Los Angeles County

11.6% (91,000)  
Orange County

7.5% (44,000)  
Riverside County

7.0% (41,000)  
San Bernardino County

6.2% (50,000)  
San Diego County

3.0%\* (30,000)  
Santa Clara County

\*Statistically unstable data estimate.

# Health Care Utilization

The degree to which all types of health care services are used depends on a number of environmental, social, and economic factors that exist within a community. Such factors include the availability and affordability of medical services offered, the health care system’s organizational structure, and individual or community beliefs and attitudes about utilizing health services. Furthermore, while good health is the primary objective of utilization, the interactions between patient and provider is integral to the overall process of accessing health services.

## Note

The majority of the analysis in this section pertains to **OCHNA 2007 survey data** when the economic outlook was much more favorable. As suggested by the American Community Survey, the picture has darkened considerably. This means that there are many more individuals who are currently unable to access needed health care services.

## Child (0-17) Utilization of Health Care Services: OCHNA 2007

### Sources of Health Care

The majority (**84.7%** or an estimated 662,804) of parents identify the doctor’s office or an HMO provider as the source of their child’s health care. As for the type of provider utilized, **68.8%** (481,547) of parents sought services from a general practitioner. **79.6%** (624,511) of parents utilized one place as their source of care for their child, **16.1%** (126,626) reported two places, **3.1%** (23,935) reported three places, and a few (**1.1%** or an estimated 9,245) reported more than four places for their child’s source of care. Since the data is based on the OCHNA 2007 survey, this does not take into account the dramatic changes occurring from the economic downturn that has currently left many families unable to utilize various health care services. The following table lists the top five locations children were taken for routine health care.

Location	Percent	Population Estimate
Doctor’s Office or HMO	84.7%	662,804
Community Clinic	4.7%	36,530
Free Clinic*	2.9%	22,624
Urgent Care Center*	2.5%	19,436
Hospital Outpatient Center*	2.3%	18,063

\* Categories have too few respondents for further statistical analysis.

- **85.6%** (221,564) of children in the UC Irvine Healthcare countywide service area saw their health care provider in a doctor’s office or HMO facility.
  - **63.4%** (356,927) of these children had household incomes over \$75,000, followed by another **16.9%** (95,439) that had a household income of \$50,000 to \$75,000.
  - **77.1%** (497,937) of these children had employer-based coverage, **11.6%** (75,179) had a government plan, and **8.6%** (55,266) had an individually purchased plan.
  - There were no significant differences between racial/ethnic groups or age groups as it relates to the children who saw their health care provider in a doctor’s office or HMO facility.
- A small fraction **0.8%** (6,157) of children in the UC Irvine Healthcare countywide service area utilized the ER for routine health care.

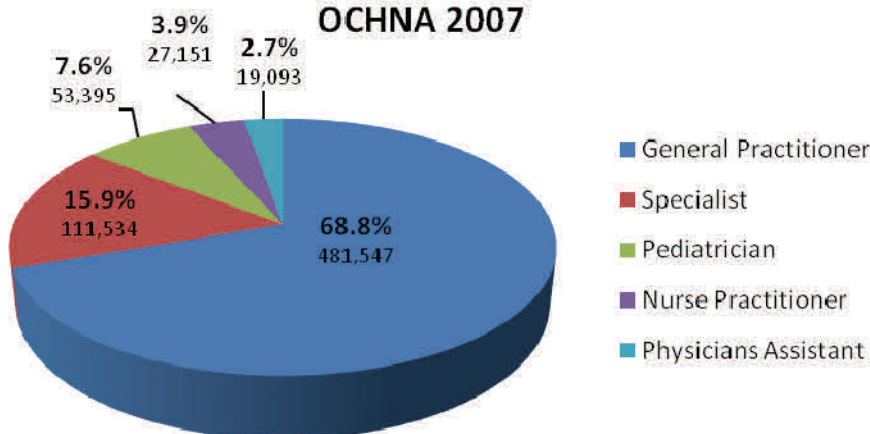
## Usual Source of Care

A usual source of care is any medical facility a person views to be his or her regular site of care. Having a regular site of care helps to ensure the consistency of care the child receives as the provider will be familiar with the child's medical history. However, the growth in the proportion of children without health coverage in 2008 and 2009 may suggest that fewer children currently have a usual source of care.

- In the UC Irvine Healthcare countywide service area, **79.6%** (624,511) of children had a usual source of care. **16.1%** (126,626) frequented two sites of care, and **4.2%** (33,180) frequented three or more sites.
- The top three reasons the **20.4%** (159,805) of parents gave for not having a usual source of care for their child were:
  - Parent likes different places for child's health care needs (**21.4%**).
  - Lack of evening or weekend services (**19.1%**).
  - Child seldom or never gets sick (**17.4%**).

An important aspect of parents' utilization of health care services is choosing an appropriate provider for their child's needs. The figure below provides the top five practitioners that children visited on their last appointment.

**Figure 1: Top 5 Responses for Type of Practitioner Child Visited on Last Appointment: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- **15.9%** (111,534) of children in the UC Irvine Healthcare countywide service area visited a specialist on their last appointment.
  - *Within race/ ethnicity*, white children were **twice** as likely (**17.5%** or an estimated 40,251) to have visited a specialist, than Other Asian or Pacific Islander children (**8.3%** or an estimated 4,592).
- There were no significant differences to report concerning income or age group of the children who last visited a specialist.

### Type of Usual Source of Care for Child (0-17): [\(CHIS 2009\)](#)

#### California

**64.5% (6,335,000)**  
**Doctor's Office/ HMO/Kaiser**

**26.3% (2,581,000)**  
**Community Clinic/ Government Clinic/ Community Hospital**

**0.6% (55,000)**  
**Emergency Room/ Urgent Care**

**0.8% (79,000)**  
**Some Other Place/ No One Place**

**7.8% (765,000)**  
**No Usual Source of Care**

#### Orange County

**67.0% (524,000)**  
**Doctor's Office/ HMO/Kaiser**

**20.3% (159,000)**  
**Community Clinic/ Government Clinic/ Community Hospital**

**0.3%\* (2,000)**  
**Emergency Room/ Urgent Care**

**0.8%\* (6,000)**  
**Some Other Place/ No One Place**

**11.6% (91,000)**  
**No Usual Source of Care**

\*Statistically unstable data estimate.

**Number of Doctor Visits in the Past Year for Child (0-17):** [CHIS 2009](#)

**California**

10.2% (1,004,000)  
0 Visits

23.0% (2,262,000)  
1 Visit

47.6% (4,671,000)  
2-4 Visits

14.0% (1,372,000)  
5-8 Visits

3.2% (315,000)  
9-12 Visits

1.9% (191,000)  
13+ Visits

**Orange County**

16.2% (127,000)  
0 Visits

25.8% (202,000)  
1 Visit

42.1% (329,000)  
2-4 Visits

11.2% (88,000)  
5-8 Visits

4.7%\* (37,000)  
9+ Visits

\*Statistically unstable data estimate.

**Frequency of and Reasons for Primary Health Care Visits**

Medical professionals recommend regular health care visits even for children with no health issues; these are often referred to as well child check-ups. These visits are instrumental to ensuring a child is not harboring a disease or illness they or their parents might be unaware of. Early detection of disease or illness often allows for better treatment options.

- **90.4%** (709,094) of children in the UC Irvine Healthcare countywide service area had visited their doctor within the past year; an additional **8.6%** (67,580) of children in the UC Irvine Healthcare countywide service area had visited their doctor within the past two years, bringing the total to **99.0%** within the two year time frame.
  - There was little variation in race/ethnicity, income, or age groups regarding frequency of visits.

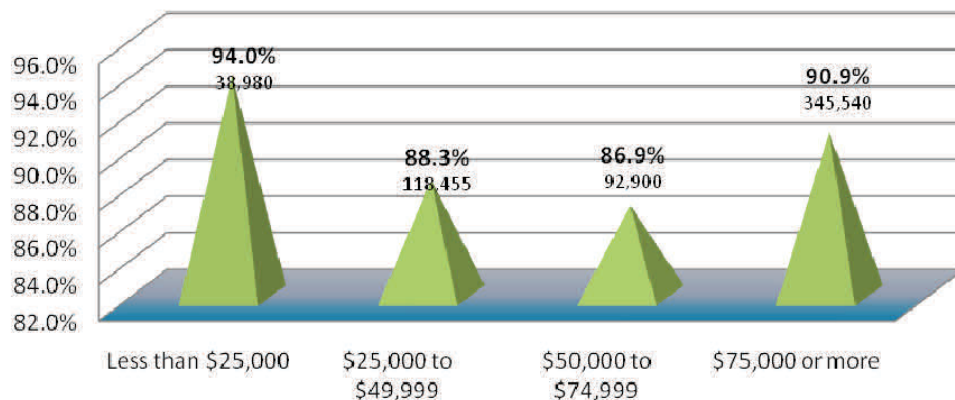
The following table lists the top five reasons given by parents for their child's visit to a doctor in the past year.

Reason	Percentage	Percent
<b>Routine Check-up</b>	61.3%	431,580
<b>Acute Illness (e.g. Flu)</b>	21.9%	154,062
<b>Treatment for a Chronic Disease</b>	5.3%	37,607
<b>Treatment of an Injury</b>	4.9%	34,601
<b>Immunization</b>	2.2%	15,660

- The majority of visits (**61.3%** or an estimated 431,580) to a doctor were for routine care.
- Some of the **21.9%** of visits to a doctor for acute illness may have been prevented had the child had a flu vaccination.

The following figure depicts the **90.4%** of children who had visited a doctor in the past year *within* household income level.

**Figure 2: Children Who Visited a Doctor in the Past Year Within Household Income Level: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- Children with a household income of less than \$25,000 were the most likely to have visited a doctor in the past year.
- **75.7%** (23,984) of children in this income category had government health care coverage, such as CalOptima or Health Families; by contrast, only **0.4%** (1,478) of children with a household income over \$75,000 had government health care coverage.



## Quality and Accessibility of Primary Health Care

**94.8%** (671, 178) of parents in the UC Irvine Healthcare countywide service area reported they were either *satisfied* or *very satisfied* with the quality of care their child received on his/her last visit; **3.7%** (26,271) were neutral and only **1.5%** (10,613) reported being *dissatisfied* or *very dissatisfied*.

Having access to health care when a child needs it is a topic of concern for parents who often find themselves in an ER when their regular source of care is not available. Parents were asked if their child's health care provider offered evening or weekend hours.

- **One in three (33.4%** or an estimated 222,948) health care providers *do not* offer evening or weekend hours.

## Barriers to Health Care Utilization

Some common barriers to health care utilization include: cost, health care coverage, transportation, personal and community beliefs, language, and parental unawareness of the importance of routine checkups. More importantly, cost and health care coverage status remains a barrier to obtaining needed health care services for a child, and have become even more pronounced in the current economic climate. In 2007, OCHNA estimated that **3.5%** (27,677) of children in Orange County were without health care coverage. As discussed in the previous access to coverage section, the ACS estimates that in 2009, the rate of children without health care coverage dramatically increased **threefold** to **10.4%** (78,738); the rate today is likely to be even higher due to the continued economic crisis.

It is generally recommended that children have an annual routine exam. In the UC Irvine Healthcare countywide service area, **9.6%** (75,019) of children had not visited their doctor in the past year for a routine exam. The most common response parents gave as to why their child had not been to the doctor was there *was no need to go since the child was not ill* (**80.2%** or an estimated 59,998). Cost, however, was a barrier for **4.5%** (3,332) of children.

Parents were asked if they delayed or did not get treatment for their child.

- **4.3%** (34,066) of parents in the UC Irvine Healthcare countywide service area reported that they had.

Another barrier to the utilization of health care services is their availability when needed. When a primary place of health care is not open in the evenings or weekends, access becomes difficult, and increases the likelihood that an ER will be utilized for a non-emergency.

- **33.4%** (222,948) of parents indicated their child's primary place for care is not open evenings or on weekends.

## Adult (18+) Utilization of Health Care Services

### Source of Care

In the UC Irvine Healthcare countywide service area, **90.7%** (2,090,010) of adults had some form of health care coverage in 2007. The majority (**83.2%** or an estimated 1,903,459) of adults had a usual source of care, and most adults utilized the services of either a general practitioner (**62.7%** or an estimated 1,227,157) or a specialist (**27.3%** or an estimated 534,137). Due to the economic downturn and the associated loss of coverage, it is expected that there are fewer adults with a usual source of care. Since the data is based on the OCHNA 2007 survey, this does not take into account the dramatic changes occurring from the economic downturn that has currently left many families unable to utilize various health care services.

## Healthy People 2020 Objective

Reduce to **9.0%** the proportion of individuals who are unable to obtain or delay in obtaining necessary medical or dental care or prescription medicines.

Delayed or didn't get prescription medication for child (0-12): [\(CHIS 2009\)](#)

**5.0% (494,000)**  
California

**7.1%\* (56,000)**  
Orange County

Delayed or didn't get other medical are for child (0-17): [\(CHIS 2009\)](#)

**5.1% (500,000)**  
California

**6.0% (47,000)**  
Orange County

\*Statistically unstable data estimate.



**Healthy People 2020 Objective**

Increase to **89.4%** the proportion of adults 18-64 and to **100%** the proportion of adults 65+ with a source of ongoing care.

The service area did not meet the HP 2020 Objective

No usual place to go when in need of medical advice or when adult is sick (18+): [CHIS 2009](#)

**7.8% (765,000)**  
California

**8.3% (225,000)**  
Los Angeles County

**11.6% (91,000)**  
Orange County

**7.5% (44,000)**  
Riverside County

**7.0% (41,000)**  
San Bernardino County

**6.2% (50,000)**  
San Diego County

**3.0%\* (30,000)**  
Santa Clara County

\*Statistically unstable data estimate.

The table below lists the top five locations adults in the UC Irvine Healthcare countywide service area went to for routine health care.

Table 3: Top 5 Responses for Location of Adult's Usual Source of Routine Health Care: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Location	Percent	Population Estimate
Doctor's Office or HMO	78.0%	1,768,688
County or Community Clinic	5.9%	134,102
Urgent Care Center	4.6%	104,986
Hospital Outpatient Dept.	4.0%	90,963
Emergency Room	2.1%	46,828

- **78.0%** (1,768,688) of adults in the UC Irvine Healthcare countywide service area saw their health care provider in a doctor's office or HMO facility. Of these:
  - *Within* income, **86.3%** (762,440) of adults with a household income over **\$75,000** reported the doctor's office as their usual source of care, compared to only **51.4%** (207,136) of adults with a household income below \$25,000.
  - **72.4%** (1,039,711) of adults had employer-based coverage, **14.4%** (207,136) had Military coverage, and **8.6%** (123,188) had an individually purchased plan.
  - *Within* race/ethnicity, **66.3%** (541,445) of white adults had employer-based health care coverage compared to **87.4%** (293,356) of Hispanic/Latino adults.
    - **18.1%** (120,279) of Hispanic/Latino adults utilized community or free clinics for their health care needs.
- **2.1%** (46,828) of adults utilized the ER for routine health care. There were no significant differences between race/ethnicity and who utilized an ER.

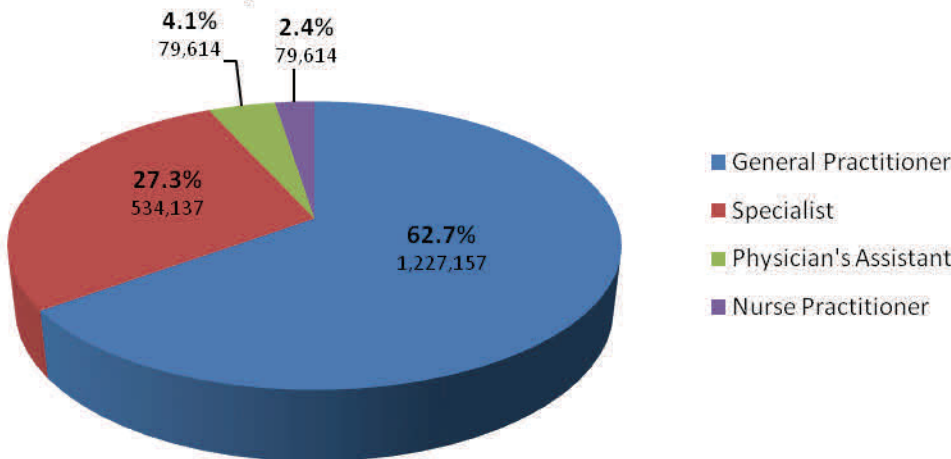
**Usual Source of Care**

A usual source of care is any medical facility a person views to be his or her regular site of care. Having a regular site of care helps to ensure the consistency and continuity of care the individual receives and provides a safe and comfortable environment in which to discuss medical concerns. However, the growth in the proportion of adults without health coverage in 2008 and 2009 may suggest that fewer adults currently have a usual source of care.

- In the UC Irvine Healthcare countywide service area, **83.2%** (1,903,459) of adults reported they did have a usual source of care.
- The top three reasons given for the **16.8%** (385,526) of adults in the UC Irvine Healthcare countywide service area that did not have a usual source of care are as follows:
  - They seldom or never get sick (**47.1%** or an estimated 142,981).
  - They like to go to different places for care (**7.6%** or an estimated 23,015).
  - Cost of medical care (**7.4%** or an estimated 22,569).

The figure below provides the top four practitioners that adults visited on their last appointment.

**Figure 3: Top 4 Adult Responses for Type of Practitioner Visited on Last Appointment: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



Some adults may have unique and complicated medical needs arising from chronic conditions that require seeking health care from a specialist.

- **27.3%** (534,137) of adults in the UC Irvine Healthcare countywide service area reported their last visit was with a specialist. Of these:
  - Close to **one in four (24.2%** or an estimated 127,533) of adults 65+ saw a specialist on their last appointment.
  - **63.8%** (340,620) of adults were female, compared to **36.2%** (193,517) for males.
  - Only **12.2%** (69,966) of Hispanic/ Latinos last visited a specialist compared to **35.1%** (356,113) of white adults.

**Frequency of and Reasons for Primary Health Care Visits**

**85.8%** (1,969,539) of adults in the UC Irvine Healthcare countywide service area had visited their doctor within the past year; only **1.3%** (29,677) of adults had *not* visited their doctor for five years or more.

The top three reasons why **14.2%** (326,278) of adults in the UC Irvine Healthcare countywide service area had *not* visited their doctor for a routine checkup in the past year are as follows:

- **65.8%** (212,952) of adults reported there was *no reason to go (no problems or illnesses)*.
- **13.6%** (44,137) of adults reported *cost/ no health coverage*.
  - *Within race/ethnicity, 31.9%* (6,574) of Vietnamese adults reported *cost/ no health coverage* as the reason they had not visited a doctor in over a year.
- **4.1%** (13,175) of adults responded that they *did not think of it*.

**Type of Usual Source of Care for Adult (18+):**  
[\(CHIS 2009\)](#)

California

**60.0% (16,518,000)**  
Doctor's Office/  
HMO/Kaiser

**21.4% (5,883,000)**  
Community Clinic/  
Government Clinic/  
Community  
Hospital

**1.3% (358,000)**  
Emergency Room/  
Urgent Care

**0.9% (235,000)**  
Some Other Place/  
No One Place

**16.5% (4,554,000)**  
No Usual Source of  
Care

Orange County

**62.1% (1,429,000)**  
Doctor's Office/  
HMO/Kaiser

**19.9% (459,000)**  
Community Clinic/  
Government Clinic/  
Community  
Hospital

**0.8%\* (19,000)**  
Emergency Room/  
Urgent Care

**1.7%\* (39,000)**  
Some Other Place/  
No One Place

**15.4% (355,000)**  
No Usual Source of  
Care

\*Statistically unstable data estimate.

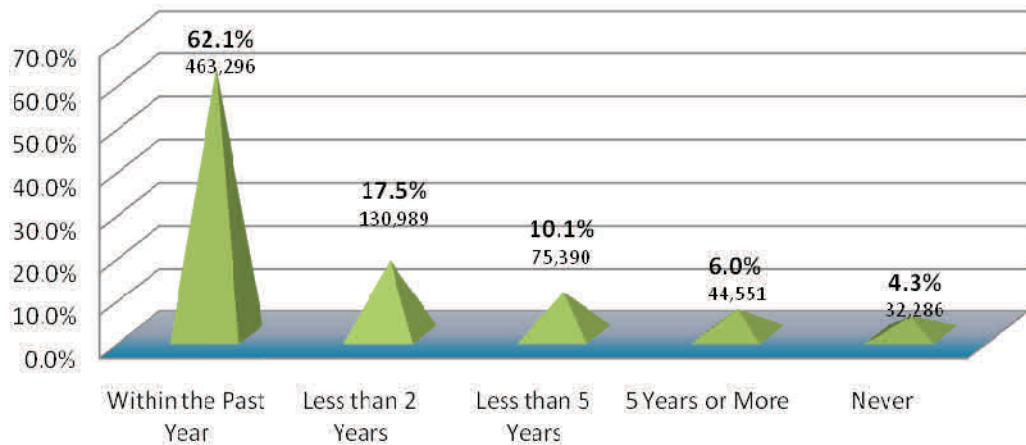
**Number of Doctor Visits in the Past Year for Adults (18+):** [CHIS 2009](#)

California

- 19.7% (5,420,000)  
0 Visits
- 19.5% (5,360,000)  
1 Visit
- 35.5% (9,783,000)  
2-4 Visits
- 13.6% (3,751,000)  
5-8 Visits
- 6.2% (1,710,000)  
9-12 Visits
- 5.5% (1,522,000)  
13+ Visits

While there has been some debate surrounding the necessity of annual physical exams lately, many doctors still feel they are beneficial screening tools for many diseases, including, high cholesterol, high blood pressure, and diabetes. In addition, the yearly exam provides an opportunity for the patient to discuss any current concerns they may have regarding their health. The figure below presents the frequency of adult visits to their doctor for a routine check-up.

**Figure 4: Adult Frequency of Visits for Routine Check-up: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- **One in ten adults (10.3%** or an estimated 76, 837) in the UC Irvine Healthcare countywide service area have *not* had routine check-up in over five years.

The following table presents adult utilization of specialty health care services. This question was only asked of individuals who indicated they had health impairments (population estimate of 310,897).

Orange County

- 20.8% (480,000)  
0 Visits
- 19.3% (445,000)  
1 Visit
- 34.4% (791,000)  
2-4 Visits
- 13.4% (308,000)  
5-8 Visits
- 5.1% (116,000)  
9-12 Visits
- 7.0% (161,000)  
13+ Visits

Table 4: Adult Utilization of Specialty Health Care Services: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Service	Percent	Population Estimate
Home Health Care	17.2%	52,324
Physical Therapy	33.5%	102,170
Occupational Therapy*	10.9%	32,738
Skilled Nursing Home*	5.0%	15,515
Clinical Services for Acute Rehabilitation*	7.9%	23,584
Adult Day Care*	1.5%	4,622
Mental Health Services	11.7%	35,612

\* Categories have too few respondents for further statistical analysis.

- **17.2%** ( 52,324) of adults in the UC Irvine Healthcare countywide service area utilized home health care services, of these:
  - **81.1%** (42,440) were age 45 or older.
  - **64.0%** (33,499) were male.
- **33.5 %** (102,170) of adults with an impairment in the UC Irvine Healthcare countywide service area utilized physical therapy, of these:
  - *Within* race/ethnicity, **63.0%** (35,202) of Hispanic/Latino adults utilized this service.
  - **55.0%** (56,154) were male.

## Quality and Accessibility of Primary Health Care

The quality and accessibility of primary health care are factors that influence health care utilization. A person may be discouraged to seek care from their usual health care site if they feel they receive inadequate care or if they find their health care location to be out-of-reach. This section explores the opinions UC Irvine Healthcare countywide service area adults expressed regarding their primary health care experience.

When asked how satisfied they were with their health care provider, **91.3%** (1,784,955) of adults in the UC Irvine Healthcare countywide service area reported being satisfied or very satisfied; however, a small percentage (**4.1%** or an estimated 80,142) of adults reported being dissatisfied or very dissatisfied. Of these:

- **54.2%** (41,476) were Hispanic/Latino; they were overrepresented in this distribution as their population composition was only **29.6%** of the UC Irvine Healthcare countywide service area.

Adults in the UC Irvine Healthcare countywide service area were asked how often their doctor offered choices about their health care or treatments.

- **16.0%** (309,401) of adults reported their doctor *never* offered choices.
  - *Within race/ethnicity*, Hispanic/Latinos and Vietnamese adults were **twice** as likely as white adults to report *never* being offered choices (**23.0%**, **22.3%** and **11.1%**, respectively).
  - **34.0%** (45,726) of adults with a household income below \$25,000 reported they were *never* offered choices compared to only **12.4%** (93,375) of adults with a household income of \$75,000 or more.

Adults in the UC Irvine Healthcare countywide service area were also asked how easy their doctor made it for them to discuss any questions or concerns they had regarding their health and/or health care.

- **5.4%** (98,520) of adults reported that their doctor *never* made it easy for them to discuss questions or concerns. Of these:
  - **53.6%** (50,473) were Hispanic/Latino.
  - **52.7%** (40,492) had a household income below \$25,000.
  - **82.4%** (76,907) had less than a college education.

## Perceived Discrimination

People who feel discriminated against in the health care setting often report feelings of being treated with disrespect, being looked down upon, and/or receiving unfair treatment. As such, discrimination is typically one of the key factors contributing to disparities in health care utilization. The following questions examine UC Irvine Healthcare countywide service area adults' perception of discrimination while interacting with their health care provider. Survey respondents were asked to think about their health care experiences in the past 12 months and recall if they were ever treated unfairly for any reason or if they were not provided with all the available treatment options.

- **9.0%** (175,112) of adults in the UC Irvine Healthcare countywide service area reported they felt discriminated against in the health care setting.

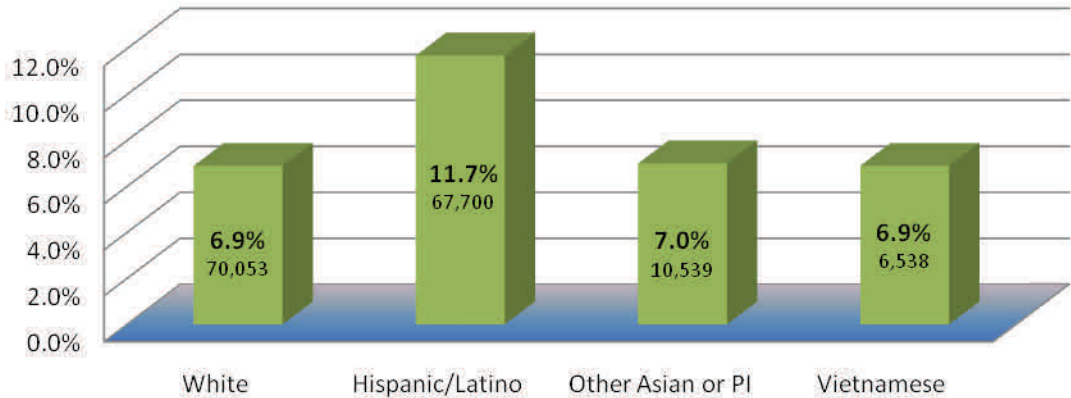
**4.1% (80,142)**  
**Percent of service area adults reporting being dissatisfied or very dissatisfied with their health care provider.**  
[\(OCHNA 2007\)](#)

Individuals who feel discriminated against in their health care setting may feel discouraged to seek care for future medical concerns.

9.0% of service area adults felt discriminated against in the health care setting.

The following figure displays the 9.0% of adults who felt discriminated against *within* each race/ethnicity.

**Figure 5: Adults Who Felt Discriminated Against:  
UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- *Within* race/ethnicity, Hispanic/Latino adults were the most likely to feel discriminated against.

The top three reasons adults gave for feeling discriminated against are as follows:

- **20.9%** (29,282) of respondents felt it was their type of insurance (Medi-Cal, HMO, etc.).
- **15.4%** (21,496) of adults reported they were discriminated against due to their income level.
- **3.0%** (4,220) of adults felt it was their age.

Finally, respondents were asked if the reasons that they felt discriminated against were enough to determine how they sought health care services for themselves or someone in their family.

- **74.3%** (100,952) of adults in the UC Irvine Healthcare countywide service area reported it would determine how they sought health care services.
  - **84.0%** of females indicated it would affect how they sought services compared to **64.2%** of males.
  - **82.7%** of white adults compared to **52.7%** of Vietnamese adults stated it would affect their decision making process.

### Barriers to Health Care Utilization

This section explores the reasons that may have prevented health care utilization for an adult. Some common barriers to health care utilization include: cost, health care coverage, transportation, personal and community beliefs, language, and unawareness of the importance of routine checkups. More importantly, cost and health care coverage status remains a barrier to obtaining needed health care services for adults, and have become even more pronounced in the current economic climate. In 2007, OCHNA estimated that **9.1%** (27,677) of Orange County adults were without health care coverage. As discussed in the previous access to coverage section, the ACS estimates that in 2009, the rate of adults without health care coverage dramatically increased **twofold** to **20.3%** (456,435); the rate today is likely to be even higher due to the continued economic crisis.



Adults were asked how long it had been since they last visited their doctor.

- **13.8%** (320,096) of adults in the UC Irvine Healthcare countywide service area had not visited their doctor in over a year. Of these:
  - **21.3%** (11,913) of adults with a household income under \$25,000 had not visited their doctor within a year.
  - Over **one quarter (26.7%** or an estimated 26,047) had a high school education or less.
  - **One in three (30.9%** or an estimated 35,549) were in the age group of 25-34.

The top three reasons stated for not seeing a doctor in over a year include the following:

- **65.8%** (212,952) of adults reported they did not feel a need to go (no problems or illness).
- **13.6%** (44,137) of adults reported *cost or having no health care coverage* as the reason they had not been to a doctor in over a year.
- **4.1%** (13,175) of adults stated *they did not think of it*.

Like children, adults need access to health care services when the need arises. The OCHNA 2007 survey asked adults if their health care provider had services available in the evenings or weekends.

- **37.0%** (658,420) of adults in the UC Irvine Healthcare countywide service area reported that their provider did not offer health care services in the evenings or on weekends.

## Community Clinic Encounters at the UC Irvine Family Health Centers

Community health centers make up a sizable chunk of the public safety net and are becoming increasingly important as more individuals face economic obstacles to health care. Individuals in underserved populations may perceive community health clinics as the primary setting for health care due to the affordability and quality of the services provided. Nationwide, the [National Association of Community Health Centers](#) estimates that over **18 million** “low income and marginalized people” receive health care in community health centers. The consequences of the economic downturn, such as reduced incomes, unemployment, and the loss of health care coverage, are pushing more people to consider community clinics for low/no-cost primary health care. In Orange County, there are over 30 free and/or low-cost clinics, with five of them offering dental services for both children and adults. In addition, there are 16 public clinics which meet specific needs, such as birth control, pregnancy testing, childhood immunizations, physical examinations for teens and children, refugee health services, etc.

### Healthy People 2020 Objective

Reduce to **9.0%** the proportion of individuals who are unable to obtain or delay in obtaining necessary medical or dental care or prescription medicines.

Delayed or didn't get prescription medication for adult (18+):  
[\(CHIS 2009\)](#)

**9.3% (2,570,000)**  
California

**8.7%\* (201,000)**  
Orange County

Delayed or didn't get other medical care for adult (18+): [\(CHIS 2009\)](#)

**15.1% (4,166,000)**  
California

**14.1% (325,000)**  
Orange County

\*Statistically unstable data estimate.

The table below presents utilization trends (encounters) at the UC Irvine Family Health Centers in Anaheim and Santa Ana from 2004 to 2008.

**Table 5: Encounters at the UC Irvine Family Health Center Clinics: 2004-2008**

Location	2004	2005	2006	2007	2008
<b>UC Irvine Family Health Center – Anaheim</b>	23,210	23,532	22,660	18,804	19,202
<b>UC Irvine Family Health Center – Santa Ana</b>	75,160	67,116	63,984	57,457	55,925
<b>Total</b>	98,370	90,648	86,624	76,261	75,127

Source: UCI Family Health Center

- In 2008 there were **6,152** patients at the Anaheim clinic and **15,509** patients at the Santa Ana clinic.
- **61.7%** (3,798) of patients at the Anaheim clinic and **64.4%** (9,986) of patients at the Santa Ana clinic were Hispanic/Latino.
- **86.4%** (5,313) of patients at the Anaheim clinic and **89.6%** (13,900) of patients at the Santa Ana clinic were in the under 100% FPL category.
- **67.4%** (4,145) of patients at the Anaheim clinic and **61.8%** (9,585) of patients at the Santa Ana clinic had Medi-Cal coverage (including Medi-Cal managed care coverage).

The number of encounters at the UC Irvine Family Health Centers have been gradually decreasing from 2004 to 2008.

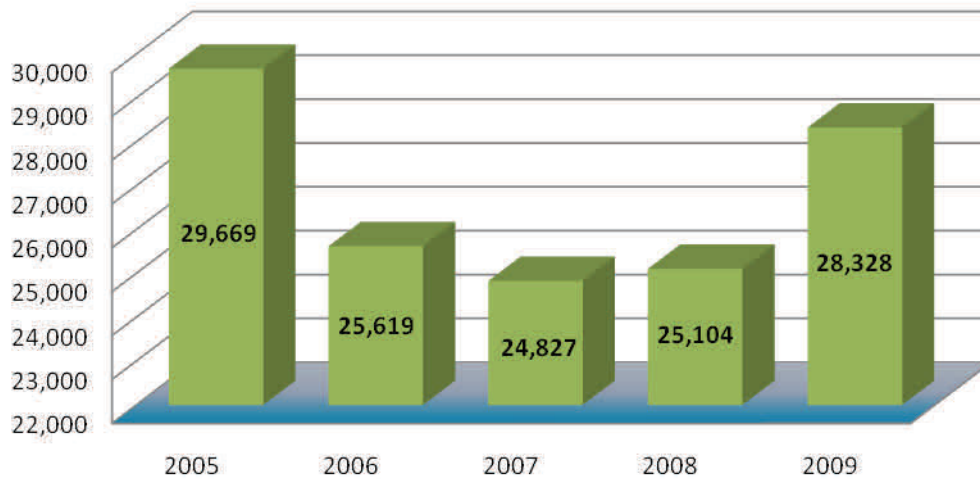


## Emergency Room Utilization

### ER Encounters at UC Irvine Medical Center: All Individuals

The widespread loss of health coverage may play a role in increasing utilization at hospital emergency departments (ED). Without coverage, some may not be able to afford the treatments to manage their disease, leading to an escalation of symptoms which take them to the ED. The figure below presents the total number of yearly ED encounters at the UC Irvine Healthcare countywide during 2005 to 2009 from the [Office of Statewide Health Planning and Development \(OSHPD\)](#) quarterly ED profile reports. These ED encounters either resulted in a routine discharge, transfer to another facility, or discontinuation of care. Countywide, the vast majority of ED encounters result in a routine discharge; in 2008, the most recent countywide data available, almost **95%** (543,832) of ED encounters in Orange County hospitals resulted in routine discharges. Overall **94.7%** (126,513) of ED encounters from 2005 to 2009 at the hospital resulted in routine discharges.

**Figure 6: Total Yearly Emergency Department Encounters: UC Irvine Medical Center, 2005-2009**



Source: Office of Statewide Health Planning and Development (OSHPD) ED Reports

- From January to September 2010 there were **19,195** ED encounters at the hospital; **93.0%** (19,195) resulted in a routine discharge.
- There was a noteworthy increase of **12.8%** in the number of ED encounters at the hospital from 2008 to 2009, which may have coincided with the economic downturn. However, from 2005 to 2006 there was a **13.7%** drop in ED use; the 2009 numbers are lower than 2005 utilization levels.
- In 2009 **92.6%** (26,226) of ED encounters in UC Irvine Medical Center resulted in routine discharges.

ED Encounters in Orange County and Percent Resulting in Routine Discharges: [OSHPD](#)

**577,504 (94.6% routine discharge) 2005**

**566,604 (93.0% routine discharge) 2006**

**566,311 (91.4% routine discharge) 2007**

**574,529 (94.7% routine discharge) 2008**

**Self Pay and Medi-Cal ED Encounters in Orange County:**  
(OSHPD)

**Medi-Cal**

**15.4% (88,933)**  
**2005**

**15.2% (86,089)**  
**2006**

**15.8% (89,536)**  
**2007**

**16.9% (97,261)**  
**2008**

**Self-Pay**

**14.6% (84,537)**  
**2005**

**14.1% (80,092)**  
**2006**

**12.4% (70,292)**  
**2007**

**13.1% (75,433)**  
**2008**

The table below displays the percent of ED encounters by Self-Pay patients (includes those without coverage, those who were applying to charity care, those paying with cash, or those who did not have health coverage at the time of service) and by Medi-Cal patients.

	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Medi-Cal</b>	33.6% 9,975	29.2% 7,472	30.3% 7,531	29.9% 7,516	30.3% 8,573
<b>Self-Pay</b>	26.3% 7,796	26.1% 6,680	23.7% 5,887	23.1% 5,811	22.3% 6,326

Source: Office of Statewide Health Planning and Development (OSHPD) ED Reports

- From January to September 2010 **31.0%** (6,406) of encounters were by Medi-Cal patients and **20.5%** (4,237) of encounters were by Self-Pay patients.
- From 2005 to 2009 there has been an overall decrease in the percent of ED encounters with Self-Pay patients. There has been an increasing number of ED encounters by Medi-Cal patients.

The table below presents the five most common *primary diagnosis* groups of the **28,328** ED

<b>Primary Diagnosis Group</b>	<b>Percent</b>	<b>Number of ED Encounters</b>
<b>Symptoms</b>	36.5%	7,542
<b>Injuries/Poisonings/Complications</b>	23.5%	4,858
<b>Musculoskeletal System</b>	12.6%	2,604
<b>Respiratory System</b>	10.4%	2,139
<b>All Pregnancies</b>	10.2%	2,103

Source: Office of Statewide Health Planning and Development (OSHPD) ED Reports

**Emergency Room Utilization: Children 0-17 Years (OCHNA 2007)**

Parents in the UC Irvine Healthcare countywide service area were asked how many times they took their child to the emergency room (ER) in the past year; what prompted them to seek treatment, and why they chose the ER over other sources of care. All results are based on the 2007 OCHNA survey.

- **20.1%** (151,365) of children in the UC Irvine Healthcare countywide service area visited an ER in 2007. Of these:
  - **17.2%** (129,327) visited the ER once in 2007.
  - **2.0%** (15,195) visited twice.
  - The remaining **0.8 %** (6,813) of children visited the ER three or more times.

The following table lists the top five reasons parents gave for why treatment was sought at the ER for their child.

Table 8: Top 5 Reasons for Utilizing the ER: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Reason	Percent	Population Estimate
Injury	26.7%	39,111
Fever	9.2%	13,416
Flu	7.4%	10,897
Laceration/Wound	6.7%	9,838
Infection	5.6%	8,155

- Over **one** in **four** trips to the ER was for an injury.
- Utilization of flu vaccines could prevent **7.4%** of children from needing the services of an ER.

The reasons given for utilizing the ER were varied.

- **33.3%** (49,422) stated it was the *fastest way to get care*.
- **24.1%** (35,708) *needed services after hours or on a weekend*.
- **13.1%** (19,378) *were told by their doctor to go to an ER*.

The fact that close to **one** in **four** children utilized the services of an ER because their usual place of care was not open, demonstrates the need for extended hours at primary care locations.

### Emergency Room Utilization: Adults 18+ Years (OCHNA 2007)

Adults in the UC Irvine Healthcare countywide service area were asked how many times they visited an emergency room (ER) in the past year; what prompted them to seek treatment, and why they chose the ER over other sources of care. All results are based on the 2007 OCHNA survey.

- **15.5%** (344,541) of adults in the UC Irvine Healthcare countywide service area visited the ER in 2007. Of these:
  - **9.9%** (226,707) of adults visited once.
  - **2.5%** (58,552) of adults visited twice.
  - **2.6%** (59,283) of adults visited 3 or more times.
  - **2.0%** (15,195) visited twice.
- Other Asian or Pacific Islander adults were the *least* likely to utilize an ER (**6.7%** or an estimated 13,242); while white adults, were the *most* likely (**16.1%** or an estimated 188,863).

**Child (0-17) Visiting ER in the Past Year:**  
[\(CHIS 2009\)](#)

**18.0% (1,770,000)**  
**California**

**13.8% (108,000)**  
**Orange County**

**Adult (18+) Visiting ER in the Past Year:**  
[\(CHIS 2009\)](#)

**17.5% (4,816,000)**  
**California**

**19.2% (443,000)**  
**Orange County**



The following table lists the top five reasons adults gave for why they sought treatment at the ER.

Table 9: Top 5 Reasons for Utilizing the ER: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Reason	Percent	Population Estimate
Pain*	12.0%	39,713
Injury*	11.6%	38,284
Heart/Chest Pains*	10.9%	36,197
Broken Bones*	6.8%	22,616
Bleeding*	5.6%	18,684

\* Categories have too few respondents for further statistical analysis.

The top three reasons provided for why adults in the UC Irvine Healthcare countywide service area visited the ER are as follows:

- **37.2%** (126,615) of adults stated it was the *fastest way to get care*.
- **19.2%** (65,374) of adults *needed services after hours or on weekends*.
- **9.7%** (32,990) of adults *were told by their doctor to go*.

### 2006-2008 Emergency Department Visits: Orange County Health Care Agency—Orange County Geographic Health Profile 2011

The data for this section comes from the California Office of Statewide Health Planning and Development (OSHPD) Emergency Department Visits Data for the period 2006- 2008. The non-public dataset includes de-identified records of visits to all Orange County hospital emergency departments in addition to all ED visits by Orange County residents to either OC or non-OC facilities. In the dataset the principal diagnosis for a visit is identified using the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). ICD-9-CM is the official system of assigning codes to diagnoses and procedures associated with hospital utilization in the United States. We utilized 4 of the 5 possible digits in the ICD-9 code to group principal diagnoses. When a visit to an emergency department results in the patient being admitted to the same hospital, this visit is not included in the OSHPD ED visits dataset. Instead, it is included in the OSHPD Patient Discharge (PD) data. Thus, to get the complete picture of visits to emergency departments, all such visits that resulted in an admission were merged in the present analysis with the ED visits dataset. Insufficient data indicates areas where the total number of cases was low (e.g., 3-year average < 5) or the ZIP code population was small resulting in unstable rates.

On average OC residents made 699,828 ED visits during the study period. Some residents may have visited an ED more than once and so these data are not unduplicated counts. Additionally, about 12% (n = 97,123) of the visits to emergency departments in Orange County were by patients who did not reside in OC.

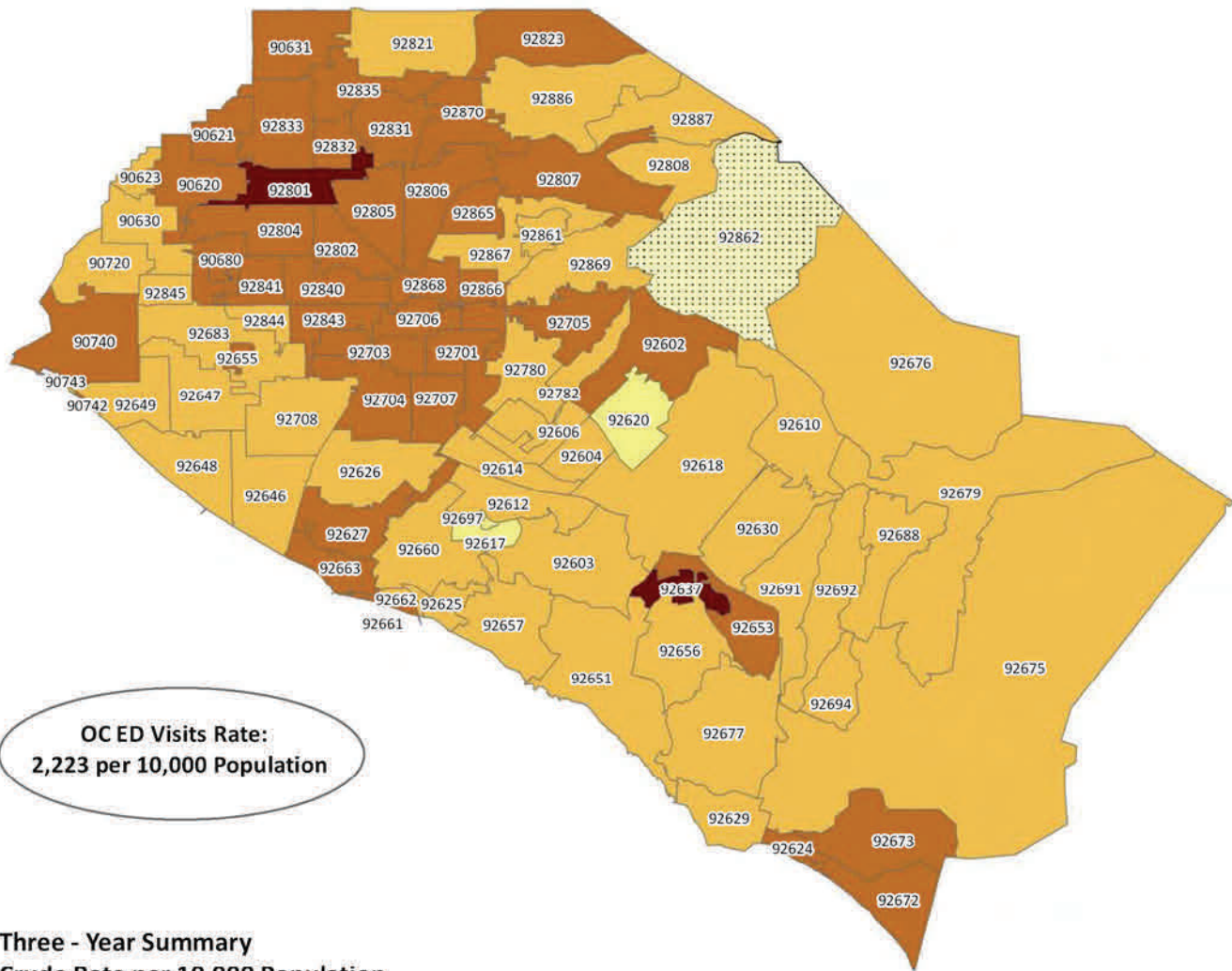
44.6% the nearly 700,000 annual visits to EDs by OC residents could have been avoided or otherwise treated in a primary care setting. In contrast, 15.3% of all ED visits were classified as unavoidable. Nearly one-in-four 23%: were injury-related and 3.8% were classified as Psychiatric, Drug, or Alcohol-related. The remaining 13.2% were unclassified, meaning they could not be assigned to a particular group.

The most common reason for going to the ER was because it was the fastest way to get care for pain or injury.

### Reason for Emergency Department Visit (2006-2008)

Major Disease Category	Total	3-Year Average	Percent
Injury and Poisoning (800-999)	483,458	161,153	23.0%
Symptoms, Signs, and Ill-Defined Conditions (780-799)	422,779	140,926	20.1%
Diseases of the Respiratory System (460-519)	202,579	67,526	9.6%
Diseases of the Digestive System (520-579)	153,532	51,177	7.3%
Diseases of the Genitourinary System (580-629)	112,535	37,512	5.4%
Diseases of the Circulatory System (390-459)	111,463	37,154	5.3%
Diseases of the Nervous System And Sense Organs (320-389)	106,136	35,379	5.1%
Diseases of the Musculoskeletal System and Connective Tissue (710-739)	101,318	33,773	4.8%
Mental Disorders (290-319)	76,875	25,625	3.7%
Diseases of the Skin and Subcutaneous Tissue (680-709)	76,663	25,554	3.7%
Complications of Pregnancy, Childbirth, and the Puerperium (630-677)	64,327	21,442	3.1%
Factors Influencing Health Status and Contact With Health Services (V01-V88)	60,765	20,255	2.9%
Infectious and Parasitic Diseases (001-139)	56,865	18,955	2.7%
Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorders (240-279)	39,729	13,243	1.9%
Neoplasms (140-239)	14,156	4,719	0.7%
Diseases of Blood and Blood-Forming Organs (280-289)	9,815	3,272	0.5%
Certain Conditions Originating In the Perinatal Period (760-779)	5,362	1,787	0.3%
Congenital Anomalies (740-759)	1,126	375	0.1%
<b>Total</b>	<b>2,099,483</b>	<b>699,828</b>	<b>100%</b>

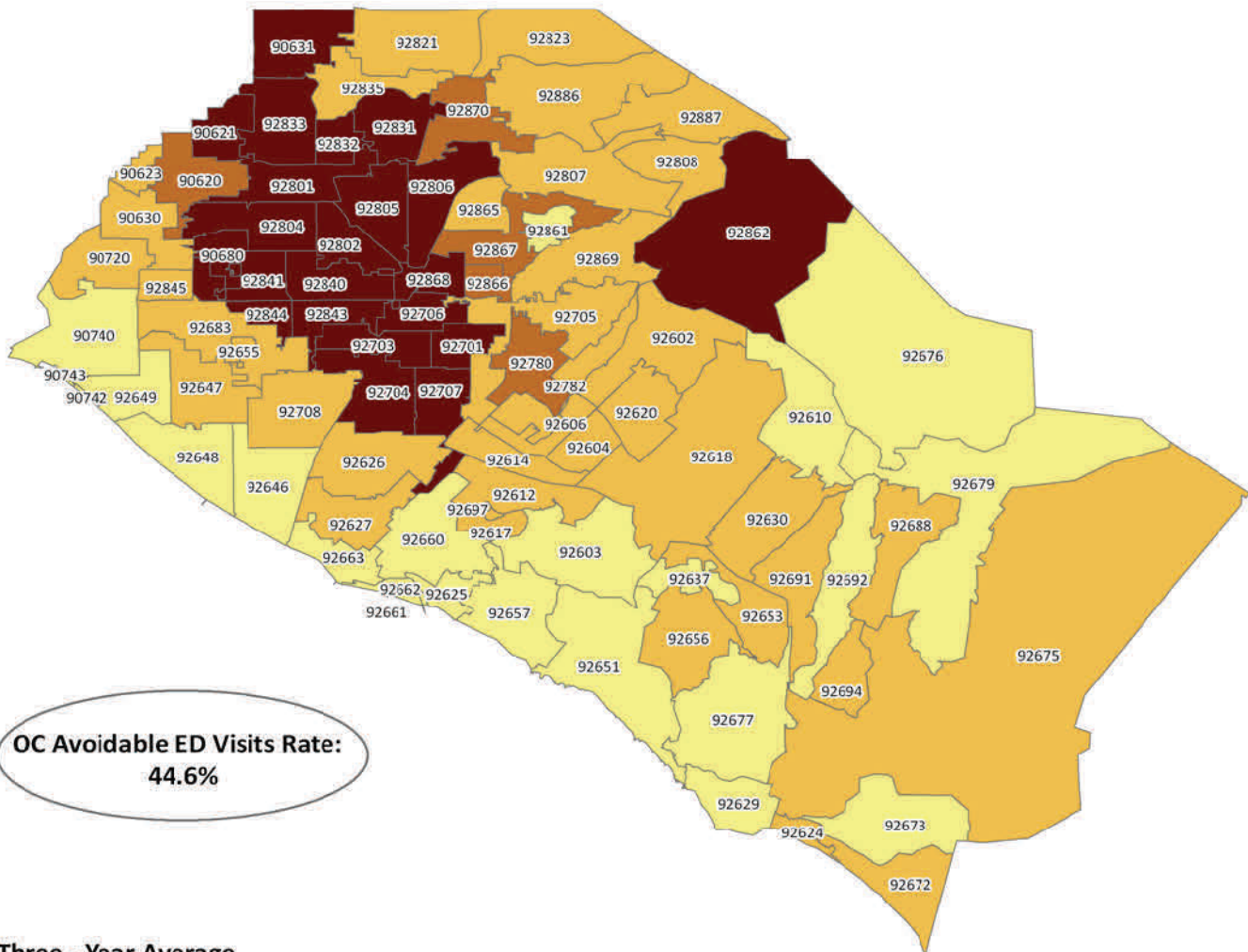
# Orange County Emergency Department Visit Rates by ZIP Code of Residence (2006-2008)



Data Source: 2006-2008 California Office of Statewide Health Planning and Development - Emergency Department Data



## Orange County Percent of Avoidable ED Visits by ZIP Code of Residence (2006-2008)



**Three - Year Average  
Percent of Avoidable ED Visits**

- 32.9% - 39.5%
- 39.6% - 44.6%
- 44.7% - 45.9%
- 46.0% - 51.7%

# Mental Health Access and Utilization

Mental health is not simply the absence of mental illness, but a more comprehensive state of mental well-being and functioning. Strong mental health is important for an individual to be able to care about self, others, and society. Poor mental health, however, deters individuals from achieving their goals and participating in rewarding activities, and also hurts their ability to respond positively to hardship. A severe enough illness can also be disabling, preventing a person from completing basic tasks and from being self-reliant. It may be difficult to comprehend the devastation of mental illness because symptoms are generally not physical. The misunderstanding of and stigma associated with mental illness can deter individuals from seeking treatment, leaving those who need help to go without treatment.

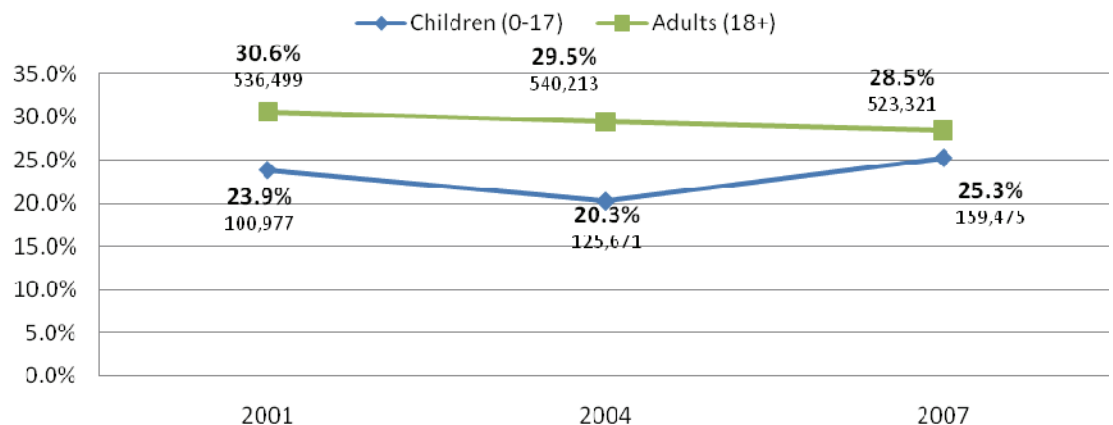
## Note

The majority of the analysis in this section pertains to **OCHNA 2007 survey data** when the economic outlook was much more favorable. As suggested by the American Community Survey, the picture has darkened considerably. This means that there are many more individuals who are currently unable to access needed mental/behavioral health services.

## Access to Mental/Behavioral Health Coverage

The figure below displays the percentage of children (0-17 years) and adults (18+ years) without mental health coverage over the survey years.

**Figure 1: Trend of Children and Adults Without Mental Health Coverage: UC Irvine Healthcare Countywide Service Area, OCHNA 2001-2007**



- The percentage of adults with no mental health coverage has been steadily declining over the years. The percentage of adults with *no* mental health coverage decreased by **6.9%**.
- Though the total number of children without coverage increased by **60.0%** from 2001 to 2007, this is due to a growth in the total population. Looking at percentage growth would provide a more accurate indicator of mental health coverage trends. The percentage of children with *no* mental health coverage increased by **5.9%** from 2001 to 2007.
- While we do not have data on the percent of children and adults that currently lack mental/behavioral coverage, it is expected that this proportion has too increased. Mental health benefits are oftentimes part of the health coverage or employment benefits package. With the dramatic loss of health coverage among Orange County residents, it follows that there has been an accompanying loss of mental health coverage in the population; almost **13%** of Orange County children and **24%** of Orange County adults lacked health coverage in 2009. It is probable that an even greater fraction of children and adults lacked mental/behavioral health coverage for that year.

**159,475**  
The number of service area children without mental/behavioral health coverage. (OCHNA 2007)

**523,321**  
The number of service area adults 18+ without mental/behavioral health coverage. (OCHNA 2007)



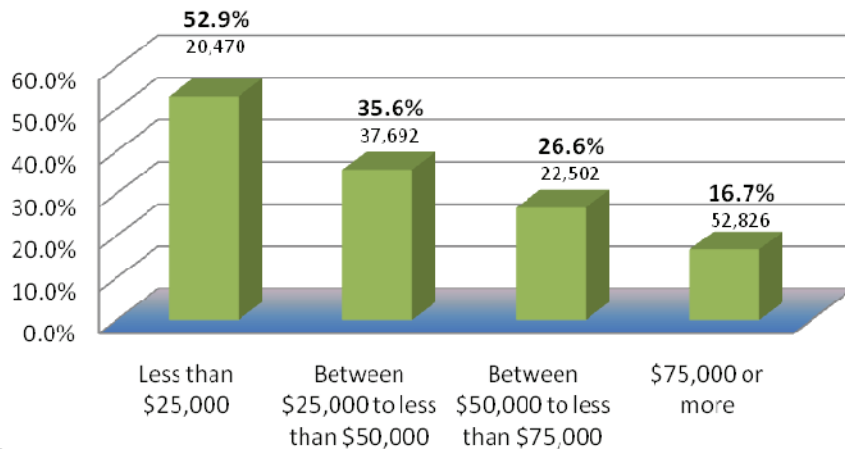
## Demographics of Adults & Children without Mental/Behavioral Health Coverage

The following figures will provide the demographic breakout of adults and children with no mental/behavioral health coverage by income and ethnicity.

### Income: Children (0-17) and Adults (18+)

The following figure breaks out the percentages of children with no mental health coverage by household annual income.

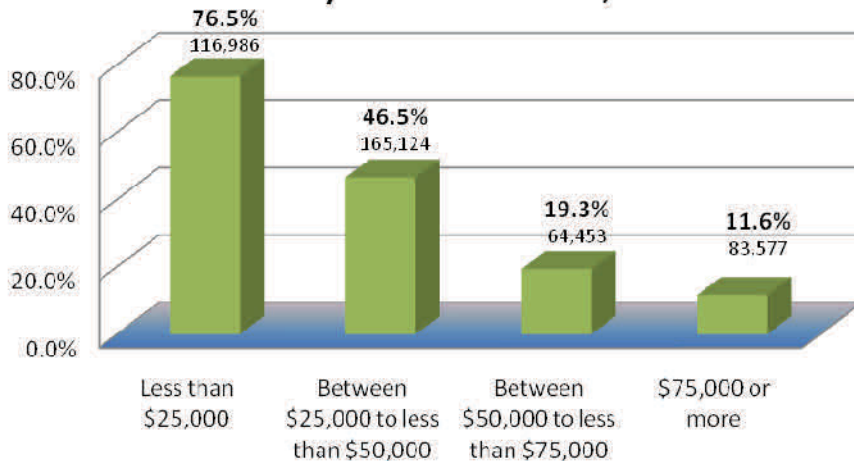
**Figure 2: Children (0-17) with No Mental Health Coverage *within* Income Categories: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



Chi-square=106.7, p<0.001

The following figure shows the percentages of adults with no mental health coverage within various income categories.

**Figure 3: Adults (18+) with No Mental Health Coverage *within* Income Categories: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



Chi-square=432.1, p<0.001

- Children in households with lower levels of annual income are more likely to not have mental health coverage than children in households with higher levels of annual income.

Good emotional health allows a person to control his or her thoughts, feelings and behaviors, even in the face of distress or grief that may arise from a death in the family, a personal crisis, or other stressful circumstances.

*“Nothing is at last sacred but the integrity of your own mind.”*  
—Ralph Waldo Emerson

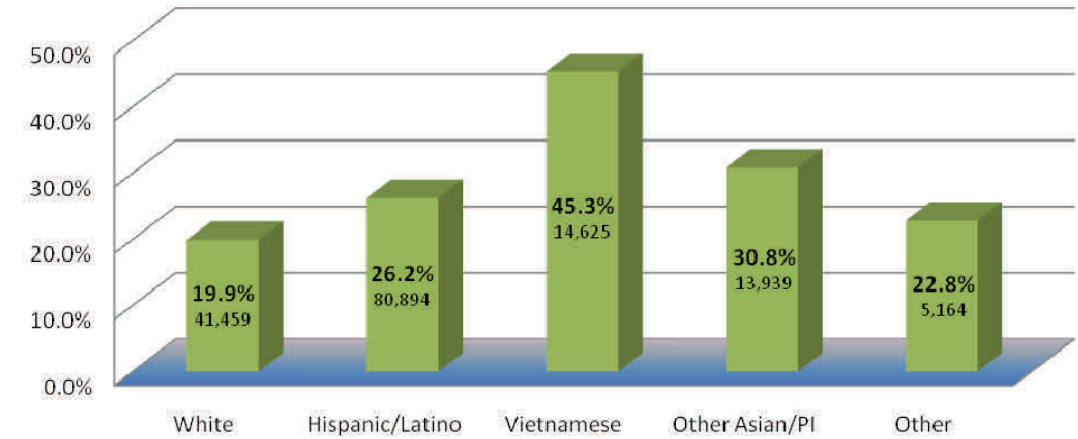
- Adults in higher income categories have much higher rates of mental health coverage than those in lower income categories. **76.5%** of adults who have a household annual income of less than \$25,000 did not have mental health coverage, whereas only **11.6%** of adults who have an annual household income of \$75,000 were without coverage for mental health.

About half of all Vietnamese adults and children in Orange County did not have mental health coverage. (OCHNA 2007)

### Race/Ethnicity: Children (0-17) and Adults (18+)

The following figure displays the percentage of children with no mental health coverage in 2007 by race/ethnicity.

**Figure 4: Children (0-17) with No Mental Health Coverage *within* Race/Ethnicity: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**

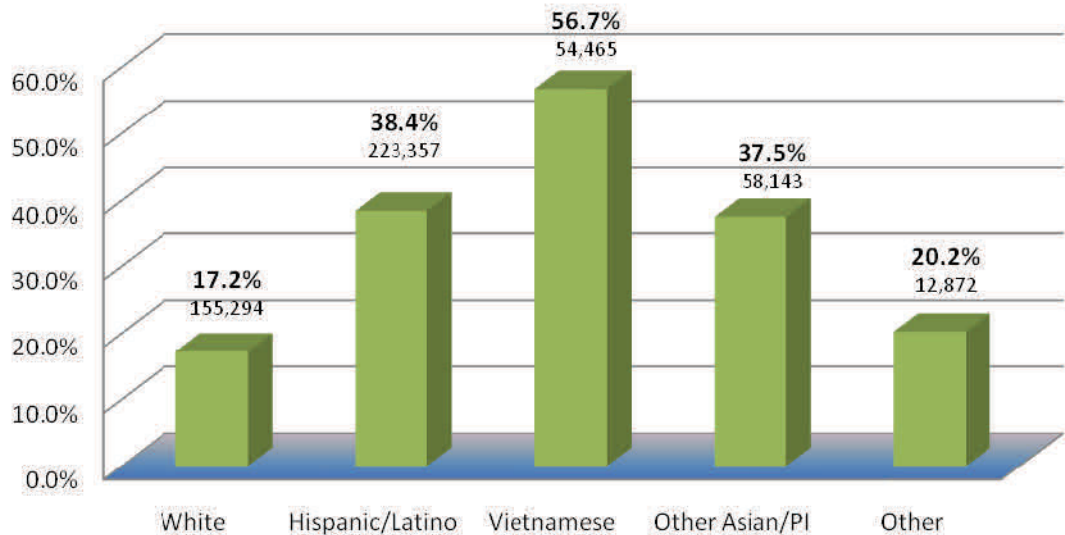


Chi-square=98.344, p<0.001

- Vietnamese have the lowest rates of mental health coverage. Almost **half** of Vietnamese children do not have any coverage for mental health services.

The following figure breaks out the percentages of adults with no mental health coverage in 2007 by race/ethnicity.

**Figure 5: Adults (18+) with No Mental Health Coverage *within* Race/Ethnicity: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



Chi-square=320.9, p<0.001

- **56.7%** of Vietnamese adults did not have mental health coverage.
- There were also high percentages of Hispanics/Latinos and other Asians/Pacific Islanders going without mental health coverage.

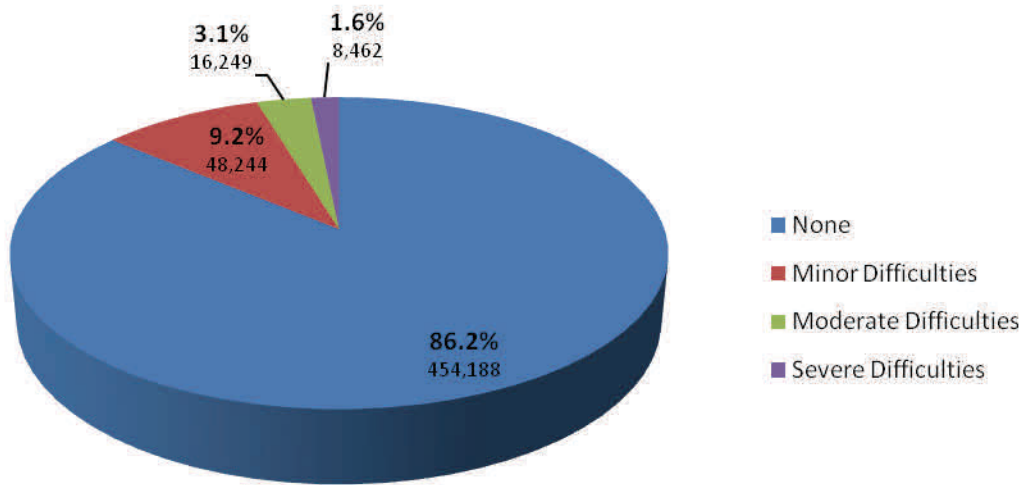
## Mental Health of Children (6-17)

Questions concerning mental and behavioral health were asked only of parents of children ages 6 to 17. The parents of children ages 0 to 5 were not asked mental health questions, except for questions on mental health coverage.

### Parents' Perceptions of Mental Health Status of Their Child

Parents of children aged 6 to 17 were asked if they perceived any problems with their child's emotions, concentration, behavior, or ability to get along with others.

**Figure 6: Mental/Behavioral Health Difficulties of Children (6-17) reported by Parents: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- 13.8% (72,955) of parents perceived that their child had a mental/behavioral difficulty of some degree (minor, moderate, or severe).

### Weight Status and Mental Health

Children who are overweight/at risk of overweight may be more vulnerable than healthy weight children to develop mental health problems.

- Of children who were at a healthy weight, 11.8% (29,803) of parents reported that their child had problems with his/her emotions, concentration, behavior, or ability to get along with others. 21.5% (11,871) of parents of overweight children indicated the same (Chi-square=26.327, p=0.002).

### Commonly Diagnosed Mental and Behavioral Disorders

An estimated 5.6% (30,939) of children in the UC Irvine Healthcare countywide service area have been diagnosed with a mental or behavioral disorder. 30.9% (9,336) of the parents/guardians of these children reported that their child's symptoms placed a great burden on the family.

**Note:** The OCHNA 2007 survey restricted questions on mental/emotional health to children ages 6-17 due to the difficulties in diagnosing mental and behavioral disorders in younger children.

**Burden of a Child's Mental Health Diagnosis on Orange County Families:**  
[\(OCHNA 2007\)](#)

**30.9%**  
**A Great Deal**

**44.1%**  
**A Little**

**25.1%**  
**Not At All**

## Healthy People 2020 Objective

Increase to **75.8%** the proportion of children with mental health problems who receive treatment

Teen (12-17) Received Psychological or Emotional Counseling in the Past Year: [CHIS 2009](#)

**9.5% (324,000)**  
California

**8.7%\* (23,000)**  
Orange County

The following table shows the most common diagnoses

Diagnosis	Percentage	Population Estimate
<b>Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD)</b>	38.9%	12,576
<b>Mood Disorder (Depressive or Bipolar Disorders)</b>	18.3%	5,921
<b>Autism</b>	13.6%	4,385

- Almost **4 out of 10** diagnoses of a mental problem is ADD/ADHD.

## Seeking Mental Health Care for Children

### Primary Care

In the UC Irvine Healthcare countywide service area, an estimated **7.5%** (39,609) of parents with children aged 6 to 17 years old talked to their primary health care provider to discuss their child's emotional or behavioral problem during the past 12 months.

The higher the degree of a difficulty, the more likely the parent was to consult a doctor or other health care professional (Chi-square=361.5,  $p<0.001$ ).

- **59.0%** (14,572) of parents who perceived their child's mental/behavioral problem as moderate or severe had consulted with a health care provider about it during the past 12 months, whereas only **25.5%** (12,171) of parents who perceived their child's emotional problem as minor had sought consultation with a health professional.

### Schools

In the UC Irvine Healthcare countywide service area, an estimated **13.4%** (70,790) of parents spoke with school teachers or personnel regarding their child's problems in emotions, concentration, behavior, or ability to get along with others.

## Treatment for Children

Of the children whose parents had reported talking to a health care provider about the child's behavioral problem, **33.0%** (13,548) were prescribed medication for their difficulties.

**51.7%** (21,266) received treatment other than, or in addition to, medication for the child's difficulties with emotions, concentration, behavior, or ability to get along with others.

- **87.2%** (18,448) had received treatment within the past 12 months.
- **76.5%** (16,308) of children were still receiving treatment at the time of the survey.

Of children who received any treatment for their mental health problems:

- **40.7%** (8,573) received treatment from a mental health therapist in a private practice,
- **27.6%** (5,808) received help from the child's school psychologist or counselor, and
- **22.8%** (4,798) received help from a family doctor or pediatrician.

## Examining Reasons for Underutilization

In the UC Irvine Healthcare countywide service area, **48.3%** (19,895) of the parents who spoke with a health care professional about their child’s emotional and behavioral difficulties did not seek treatment or help for their child’s problem. **57.6%** (11,330) of these parents did not receive help because they felt that their child did not need professional help, and **25.7%** (5,052) of these parents had reported that there was no reason to seek professional help because of no obvious problems.

## Mental Health of Adults (18+)

### Poor Mental Health Days

The number of days each month a person is prevented from engaging in daily activities, such as work and self-care, is an indicator of the extent that poor mental health can disable function.

# of Poor Mental Health Days	Percent	Population Estimate
<b>0</b>	81.5%	1,872,712
<b>1-6</b>	11.7%	269,311
<b>7-13</b>	1.8%	40,575
<b>14-29</b>	3.0%	70,055
<b>All 30</b>	1.9%	44,717

- **18.5%** (424,659) of adults in the UC Irvine Healthcare countywide service area had at least one day of poor mental health in the past 30 days.
- **8.6%** (199,047) of adults in the UC Irvine Healthcare countywide service area were kept from doing their usual activities, such as self-care, work, or recreation, for at least one day in the past 30 days as a result of poor mental health.



Statewide Mean Number of Poor Mental Health Days for Adults 18+: [\(CDC\)](#)

**3.2 days**  
2000

**3.5 days**  
2004

**3.7 days**  
2008

**3.7 days**  
2009

Percentage of Adults 18+ With 14 or More Mentally Unhealthy Days: [\(CDC\)](#)

**9.6%**  
2000

**10.6%**  
2004

**10.7%**  
2008

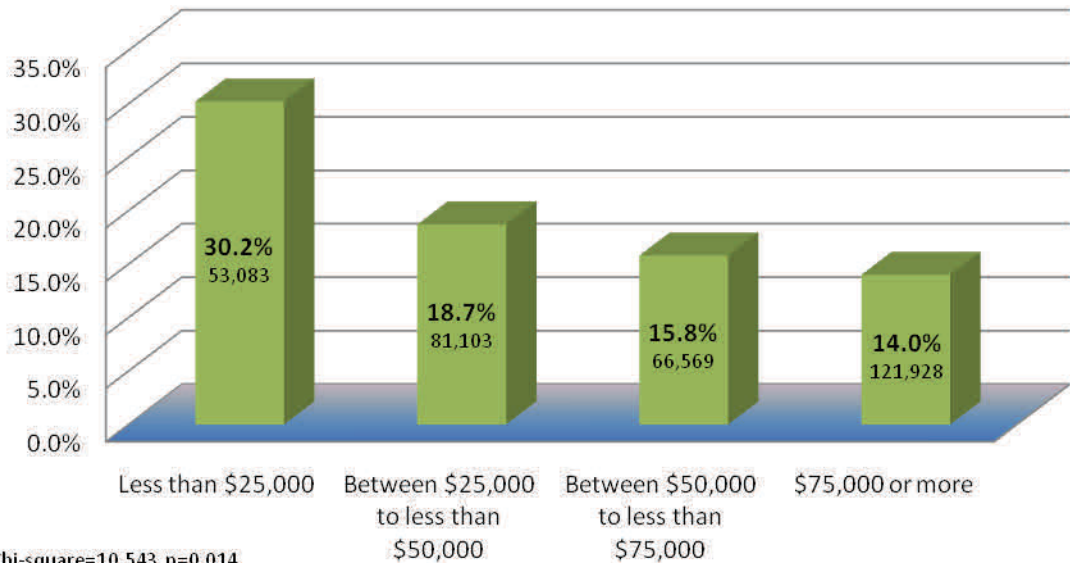
**11.0%**  
2009



## Income and Mental Health

Adults at lower income levels were more likely to express concerns about their mental health problems.

**Figure 7: Percentage of Adults with Concerns About Their Own Mental Health in the Past Year *within* Income Categories: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- **30.2%** of adults with annual income of less than \$25,000 expressed concerns about their mental health, compared to only **14.0%** of adults with annual income of \$75,000 or more.

## Unmet Mental Health Needs & Barriers to Care

In the countywide service area of UC Irvine Healthcare, **26.3%** (69,560) of adults who were told by a doctor that they had a disorder or that they should seek professional mental health care did not receive treatment or counseling.

- The most common reason for not receiving treatment is related to cost: **35.7%** (21,457) of adults who needed treatment could not receive it either because they could not afford treatment and/or they had no coverage for mental health treatment.
  - Adults who makes less than \$25,000 were less likely to have received treatment than adults in the UC Irvine Healthcare countywide service area who make \$75,000 or more (Chi-square=17.803, p<0.001). Almost half, **47.4%** (20,528), of adults who make less than \$25,000 have never received treatment for mental problems, compared to **21.7%** (17,851) of adults who make \$75,000 or more who have never received needed treatment.
- **25.9%** (15,568) simply felt that they did not need help.
- **14.2%** (8,572) did not go because there were no obvious symptoms or pain that indicated a pressing need.

Lower-income adults were more likely to express concerns about their mental health, yet less likely to receive treatment due to cost.

## Personal Concerns about Mental and Emotional Well-Being

In the UC Irvine Healthcare countywide service area, **16.3%** (365,807) of adults expressed concerns about their mental, emotional, or behavioral problems in the previous year.

- **23.3%** (84,780) of them were told by a doctor or other health care provider to seek specialty mental health care.
- Only **15.0%** (55,479) of adults who were concerned about their mental health problems actually sought professional help.

**32.9%** (119,856) of adults who had concerns about their mental health problems considered their problems severe enough to seek professional help, yet only **36.9%** (44,172) of these adults sought professional help.

Of adults who expressed concerns about their mental health in the previous year, **38.3%** (172,670) were still bothered or concerned about their emotional, mental, and/or behavioral problem, but only **31.6%** (54,470) of those adults who still had concerns were currently receiving treatment.

## Commonly Diagnosed Mental Disorders

In the UC Irvine Healthcare countywide service area, **6.8%** (158,971) of adults reported that they were diagnosed with emotional, mental, and behavioral health disorders by a doctor or other health care provider. **22.1%** (34,469) of them have never received treatment for their condition. The following table presents the most common diagnoses. Some adults indicated more than one condition.

- **47.9%** (71,142) of the diagnoses were depression, both major and chronic.

Table 3: Commonly Diagnosed Mental Disorders: UC Irvine Healthcare Countywide Service Area, OCHNA 2007		
Type of Disorder	Percentage	Estimated Value
Chronic, Mild Depressive Disorder	26.5%	39,276
Major Depressive Disorder	21.5%	31,866
Generalized Anxiety Disorder (GAD)	13.6%	20,169
Bipolar Disorder	6.2%	9,190
Panic Disorder	2.1%	3,155
Estimated Total Number of Disorders	100.0%	148,413

## Seeking Mental Health Care

In the UC Irvine Healthcare countywide service area, the OCHNA 2007 survey found that **9.2%** (214,074) of adults had a health care provider express concerns about their mental health and suggest consultation with a mental health professional.

- **6.0%** (140,414) of all adults in the UC Irvine Healthcare countywide service area sought professional help *within the previous year*.
  - **35.4%** (49,720) of these adults sought help from their family doctor.
  - **27.5%** (38,562) sought help from a psychiatrist, **17.8%** (24,983) sought help from a psychologist, and **10.2%** (14,329) sought help from a family counselor/therapist.

Adult (18+) Likely Has Had Psychological Distress in Past Year: [\(CHIS 2009\)](#)

**6.5% (1,785,000)**  
California

**7.3% (541,000)**  
Los Angeles County

**4.3% (98,000)**  
Orange County

**5.9% (86,000)**  
Riverside County

**8.4% (118,000)**  
San Bernardino County

**5.3% (120,000)**  
San Diego County

**4.8%\* (65,000)**  
Santa Clara County

\*Statistically unstable data estimate.

## Healthy People 2020 Objective

Increase to **64.6%** the percent of adults 18+ years with serious mental illness (SMI) who receive treatment.

**4.6% or 138,272 of Orange County individuals are estimated to have a serious mental illness:** ([CA Dept. of Mental Health Services](#))

**55,642 Individuals Children 0-17 Years**

**82,630 Individuals Adults 18+ Years**

**7.7% of individuals (all ages) in households at less than 200% FPL are estimated to have a serious mental illness.**

## Mental Health Services Clients—County of Orange, Behavioral Health Services

The Orange County's Behavioral Health Services provides services for eligible county residents in need of treatment for alcohol and other drug abuse and mental health care. Adults receiving services have serious and persisting mental disorders and may also have a co-occurring substance abuse disorder or impairments in their ability to function in the community. Children and youth receiving services from the agency have severe emotional disorders, such as disruptive behavior disorders, mood disorders, or adjustment or personality disorders.

It is important to realize that the numbers presented here reflect a small proportion of all psychologically distressed individuals in Orange County. Publicly-funded county mental health programs usually serve those receiving Medi-Cal coverage, those who are medically indigent, or those who receive any public funds to pay for all or part of their services.

During the 2009-2010 fiscal year (FY—July to June), there were a total of **36,106** clients receiving services from the Behavioral Services Agency in Orange County; **32.0%** (11,567) of clients were under 18 years and **68.0%** (24,449) of clients were 18 years and older.

The table below presents the 10 most common primary mental health diagnosis of clients who received services from the Health Care Agency in FY 2009-10 in the countywide UC Irvine Healthcare countywide service area.

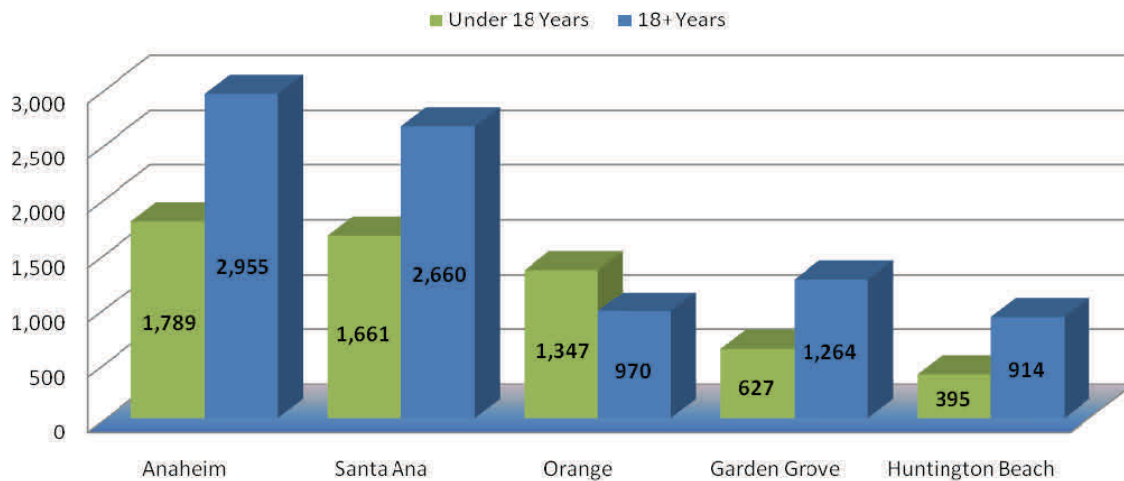
Diagnosis	Less than 18 Years	18+ Years	Total
Disruptive/Impulsive	4,106	422	4,528
Substance Related	390	3,113	3,503
Depression - Other	1,686	1,732	3,418
Adjustment Disorder	2,257	748	3,005
Bipolar Disorder	238	2,741	2,979
Major Depression	410	2,383	2,793
Schizophrenia	17	2,177	2,194
Schizoaffective	25	2,003	2,028
Mood Disorder NOS	434	990	1,424
Anxiety Disorder	698	642	1,340

Source: County of Orange, Health Care Agency, Behavioral Health Services

- More children and youth were primarily diagnosed with *disruptive/impulsive* and *adjustment disorders* than adults.

The figure below presents the five cities in Orange County with the greatest number of BHS clients. Please be aware that this represents a subset of all individuals in Orange County with psychological distress, usually individuals who are indigent and/or have government sponsored health care. There may be many more that receive services from private specialists and are excluded from this population.

**Figure 8: Top 5 Cities of Residence of Behavioral Health Services Clients: UC Irvine Healthcare Countywide Service Area, BHS FY 2009-10**



Source: County of Orange, Health Care Agency, Behavioral Health Services

- **40.4%** (14,582) of all BHS clients resided in Anaheim, Santa Ana, Orange, Garden Grove, and Huntington Beach in FY 2009-10.

### Serious Mental Illness and Emotional Disturbances

The federal [Center for Mental Health Services](#) defines adults with serious mental illness (SMI) as individuals 18 years of age or older who currently have, or had within the past year, a diagnosable mental, behavioral, or emotional disorder that leads to a functional impairment which “substantially interferes with or limits one or more major life activities.” Children with serious emotional disturbances (SED) are under 18 years and who have, or had within the past year, a diagnosable mental, behavioral, or emotional disorder that leads to a functional impairment which “substantially interferes with or limits the child’s role or functioning in family, school, or community activities.” The State of California, [Department of Mental Health](#) estimates that **4.6%** of Orange County residents, or **138,272** individuals had urgent mental health needs: **7.3%** (55,642) of youth under 18 years had a SED, and **3.7%** (82,630) of adults 18+ had a SMI.

**Other Primary Mental Health Diagnosis of Clients—All Ages:**  
[\(BHS FY 2009-10\)](#)

**1,111**  
**Psychotic—Other**

**656**  
**PTSD**

**541**  
**Neglect or Abuse**

**332**  
**Post-Partum Depression**

**134**  
**Cognitive**

**33**  
**Mental Disorder Due to Medical Condition**

**31**  
**Personality Disorder**

**29**  
**Sleeping/Eating/Pain Disorder**

**7,944**  
**The number of homeless BHS clients (all ages).**  
[\(BHS FY 2009-10\)](#)

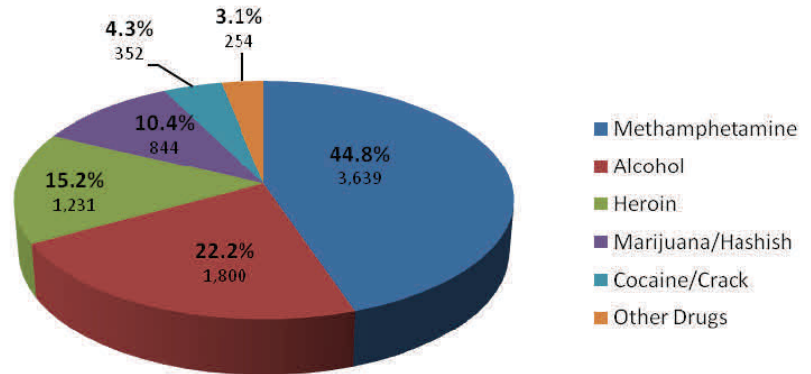
334 individuals in CalOMS from January to August 2010 were under 18 years. (BHS)

## Alcohol and Drug-Related Treatment Services—CalOMS

CalOMS Treatment is California's data collection and reporting system for alcohol and other drug treatment services. Treatment providers send client treatment data to ADP each month. The data below presents the counts of individuals receiving alcohol and drug-related treatment services from January to August 2010 for Orange County; this totaled **8,120**.

**Figure 9: Counts of Alcohol- and Drug-Related Treatment Services Provided to Individuals: UC Irvine Healthcare Countywide Service Area, CalOMS January to August 2010**

- Almost **45%** of treatment services in CalOMS were for methamphetamine abuse.



Source: County of Orange, Health Care Agency, Behavioral Health Services

The figure below presents the five cities in the service area with the greatest number of alcohol and other drug treatment admissions.

Table 5: Top 5 Cities of Residence with the Highest Number of CalOMS Counts: UC Irvine Healthcare Countywide Service Area, CalOMS January to August 2010	
City	Number of Admissions
Santa Ana	1,090
Anaheim	881
Garden Grove	383
Huntington Beach	366
Orange	353
<b>Total</b>	<b>8,120</b>

Source: County of Orange, Health Care Agency, Behavioral Health Services

- **37.8%** of treatment services in CalOMS were provided to individuals living in Santa Ana, Anaheim, Garden Grove, Huntington Beach, and Orange in August 2010.

Orange County CalOMS Admissions for All Individuals: (BHS)

11,279  
FY 2006-07

11,585  
FY 2007-08

9,329  
FY 2008-09

## Inpatient Psychiatric Care Utilization

Inpatient psychiatric care may be necessary if the mental health condition presents a threat to the patient and others, according to [Mental Health America](#). The 2007 [National Hospital Discharge Survey](#) estimated that there were **2,386,000** discharges of patients nationwide with a first-listed diagnosis of a mental disorder—**1,690,000** of those discharges received a first-listed diagnosis of psychoses, such as schizophrenic or major depressive disorders. The average length of stay for mental disorders was **7.1** days; in contrast the average length of stay for all diagnoses was **4.8** days. The average length of stay for schizophrenic disorders was **11.1**, and the average length of stay for major depressive disorders was **6.3**. The Survey is an annual mix-mode survey of general and short-stay non-federal hospitals, collecting information on 422 hospitals either manually, where hospital or US Census Bureau staff fill out forms taken from hospital records, or electronically, where the National Center for Health Statistics purchases electronic medical record data and samples these data. Diseases are coded using ICD-9 classifications, and the range of codes corresponding to mental disorders is 290-319.



The tables below present the licensed hospital bed utilization and discharge data for acute psychiatric care in Orange County from the [Office of Statewide Health Planning and Development](#) (OSHPD) annual Automated Licensing Information and Report Tracking System (ALIRTS).

Year	# of Reporting Hospitals	Licensed Beds	Patient Days	Hospital Discharges	Average Length of Stay	Total Licensed Bed Days*	Lic. Bed Occupancy Rate (%)
2001	36	620	141,644	13,697	10.3	226,300	62.6%
2003	33	568	136,656	15,547	8.8	207,320	65.9%
2005	33	453	117,708	12,939	9.1	165,345	71.2%
2007	32	518	139,047	14,183	9.8	189,070	73.5%
2009	31	473	119,794	12,816	9.3	175,598	68.2%

\*Total Licensed Bed Days refers to a theoretical capacity measure calculated by multiplying the number of licensed beds by the number of days during the year in which the license was in effect. If more than one license was in effect during the year, separate calculations are summed.

Source: State of California, Office of Statewide Health Planning and Development, Hospital Annual Utilization Data Pivot Profiles

- In 2009 **7.5%** (473) of licensed beds in the 31 Orange County hospitals were for acute psychiatric care. The principal type of service licensed for 29 of the 31 hospitals was general medical/surgical care. 1 hospital was principally licensed for long-term care (Anaheim General Hospital—Buena Park Campus accounted for **11** acute psychiatric care beds), and another hospital was principally licensed for psychiatric services (College Hospital Costa Mesa accounted for **99** acute psychiatric care beds).
- Orange County accounted for **7.1%** of all California hospital licensed beds for acute psychiatric care. Since 2001 the number of licensed beds available for the inpatient acute psychiatric care has dropped in Orange County.
- In 2009 **14.2%** (67) of Orange County's acute psychiatric care licensed beds were at the UC Irvine Medical Center. **17.1%** (67) of beds at the UC Irvine Medical Center were licensed for acute psychiatric care. The licensed bed occupancy rate at the hospital was **58.2%** during 2009. From 2001 to 2008, there were **84** licensed beds for acute psychiatric care at the hospital.
- The average length of stay in Orange County hospital beds licensed for acute psychiatric care was **9.3 days**. The average length of stay for acute psychiatric care beds at the UC Irvine Medical Center was **9.0 days**. Statewide the average length of stay in hospital beds licensed for acute psychiatric care was **7.7 days**.
- In 2009 there were a total of **269,273** discharges at the 31 Orange County hospitals; discharges from acute psychiatric care licensed beds accounted for **4.8%** of total discharges. At UC Irvine Medical Center discharges from those beds accounted for **10.0%** of all discharges (1,648 out of 16,336).

**Reason for Seeking Care from Any Health Care Provider in Past Year:** [\(CHIS 2009\)](#)

**California (out of the 10.9%)**

**92.7% (2,781,000) Mental/Emotional Problem**

**4.8% (145,000) Alcohol/Drug Problem**

**2.5% (74,000) Both**

**Orange County (out of the 8.1%)**

**82.7% (154,000) Mental/Emotional Problem**

**14.0%\* (26,000) Alcohol/Drug Problem**

**3.3%\* (6,000) Both**

\*Statistically unstable data estimate.

**Adult (18+) Obesity Trends:** [CHIS](#)\*

**California**

**19.3% (4,610,000)**  
**2001**

**20.4% (5,223,000)**  
**2003**

**21.2% (5,595,000)**  
**2005**

**22.7% (6,090,000)**  
**2007**

**24.4% (6,728,000)**  
**2009**

**Orange County**

**14.8% (298,000)**  
**2001**

**15.0% (324,000)**  
**2003**

**17.3% (382,000)**  
**2005**

**18.5% (418,000)**  
**2007**

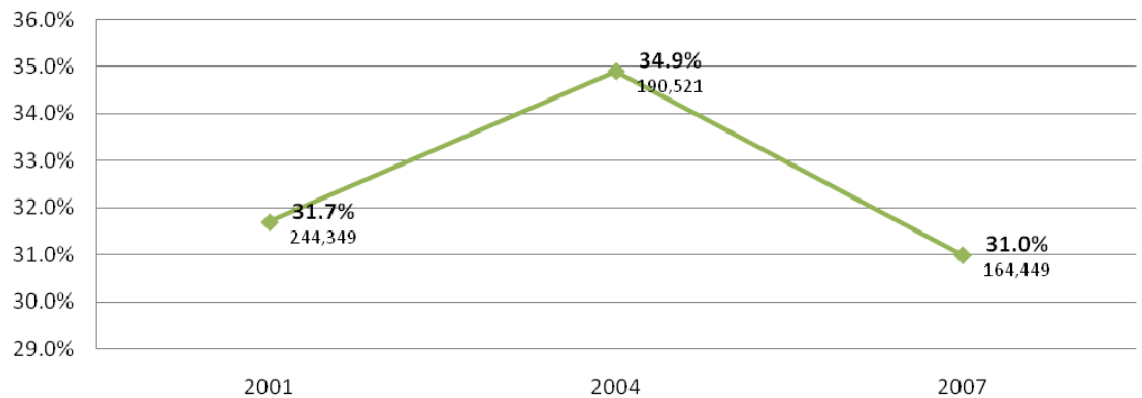
**18.2% (419,000)**  
**2009**

# Obesity, Nutrition, and Exercise

## Scope of the Obesity Crisis

Obesity has become a priority public health issue because an alarming proportion of children and adults have become heavy. The following figures examine the changes in overweight or obesity rates over the last four OCHNA survey years among children (2-17) and adults (18+) in the UC Irvine Healthcare countywide service area, which corresponds to all of Orange County. The rate of *at risk of overweight or overweight children* has in fact been declining from 2004 to 2007; this may reflect the success of various efforts initiated by the hospital and its partners to address the growing childhood obesity problem.

**Figure 1: Trend of Overweight/At Risk of Overweight Children (2-17): UC Irvine Healthcare Countywide Service Area: OCHNA 2001-2007\***



\* Child weight status was not reported for 1998 because height and weight data was not collected.

- The percentage of overweight/at risk of overweight children in the service experienced a slight increase from 2001 to 2004, and then declined again in 2007.

Table 1: Trend of Overweight/Obese Adults (18+): UC Irvine Healthcare Countywide Service Area, OCHNA 1998-2007				
1998	2001*	2004	2007	% Change from 1998-2007
44.5% 886,571	-	51.8% 1,079,511	53.5% 1,069,198	<b>20.2% increase</b>

\*Adult weight status was not reported for 2001 because height and weight data was not collected.

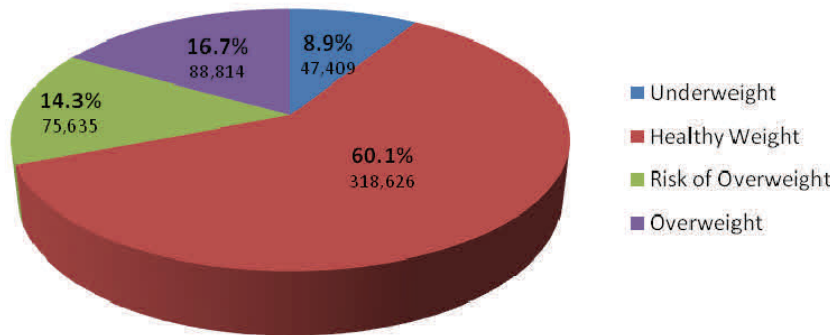
- In 2004, **51.8%** were overweight or obese in the UC Irvine Healthcare countywide service area. In 2007, the percent of overweight/obese adults in UC Irvine Healthcare countywide service area grew to **53.5%**, an increase of **3.3%**.

\*CHIS provides limited information on childhood weight status, thus the trend data is unavailable.

### Weight Status of Children (2-17) and Adults (18+) in the UC Irvine Healthcare Countywide Service Area

The BMI-for-age growth charts are applied to children and teens between 2 and 20 years of age, with percentiles providing the basis for weight status. OCHNA calculated the BMI of children 2 to 17 years and determined their weight status through the [Centers of Disease Control and Prevention](#) (CDC) growth charts with the following percentile category labels used by the National Institutes of Health (NIH): Underweight (less than the 5<sup>th</sup> percentile), Healthy Weight (5<sup>th</sup> percentile to less than the 85<sup>th</sup> percentile), Risk of Overweight (85<sup>th</sup> percentile to less than the 95<sup>th</sup> percentile), and Overweight (95<sup>th</sup> percentile or greater).

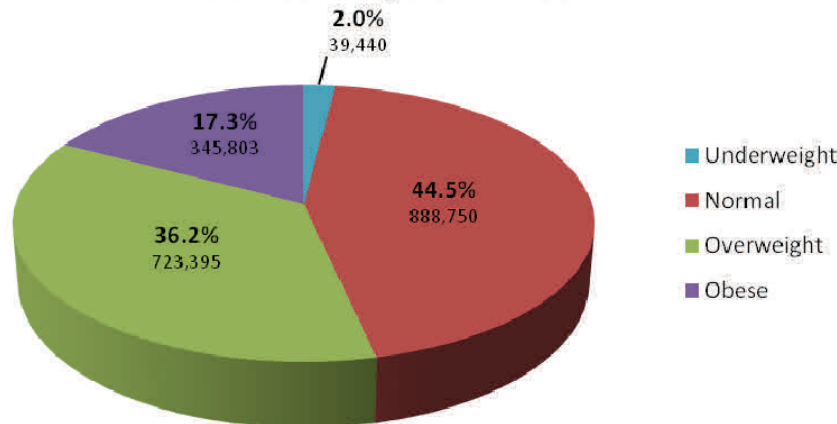
**Figure 2: Weight Status of Children (2-17): UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- The UC Irvine Healthcare countywide service area *did not meet* the Healthy People 2020 Objective of **14.6%** of children and adolescents who are overweight; **16.7%** (88,814) were overweight in 2007, **2.1** percentage points *more* than the HP 2020 Objective.

The medical definitions of the terms overweight and obese are based on the Body Mass Index (BMI) a reliable indicator of body fat level, according to the [CDC](#), which is calculated from a person’s weight and height. Adults with a BMI of 25 to 29.9 are considered overweight, while those with a BMI of 30 or greater are considered obese.

**Figure 3: Weight Status of Adults (18+): UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- Fewer than **one in five (17.3%)** of adults in the service area, which is all of Orange County, were obese.
- The UC Irvine Healthcare countywide service area met the Healthy People 2020 target for reducing the proportion of adults who are obese to **30.6%**, exceeding the target by **13.3%**.

**Note: The Healthy People 2020 goals for childhood and adult obesity have been eased considerably from HP 2010, reflecting the worsening direction of national obesity trends as more people reached unhealthy weights in the last decade.**

### Healthy People 2020 Objective

**Reduce to 14.6%** the proportion of children and adolescents (2-19 years) who are overweight by 2020.

**Healthy People 2010 Goal: 5%**  
(Note: Objective combines At Risk of Overweight AND Overweight 2-19 Year Olds)

### Healthy People 2020 Objective

**Reduce to 30.6%** the proportion of adults (20+) who are obese by 2020.

**Healthy People 2010 Goal: 15%**

## Demographics of the Overweight and Obese

It is important to consider the variations in weight status within key demographic categories to determine whether a certain group is disproportionately facing obesity.

### Age

Looking within age groups, there are variations in overweight or obesity in the UC Irvine Healthcare countywide service area.

Table 2: Weight Status of Children and Adults <i>Within Age Groups:</i> UC Irvine Healthcare Countywide Service Area, OCHNA 2007				
Children (2-17 Years)				
Weight Status	2-5 (119,388)	6-11 (162,443)	12-17 (248,653)	
Risk of Overweight	12.7%	19.6%	11.5%	
Overweight	27.6%	19.0%	10.1%	
Children: Chi square=139.5, p<0.001				
Adults (18+ Years)				
Weight Status	18-34 (465,067)	35-44 (468,905)	45-64 (688,238)	65+ (344,903)
Overweight	25.4%	40.9%	38.5%	40.1%
Obese	14.8%	14.8%	20.9%	17.4%
Adults: Chi square=56.584, p<0.001				

- Among adults in the service area, the prevalence of overweight/obese increases with age.

### Gender

There are also notable differences of weight status within gender in the UC Irvine Healthcare countywide service area, with males of all ages more likely to be overweight or obese compared to females. Females were more likely to be at healthy weight.

Table 3: Weight Status <i>Within Gender:</i> UC Irvine Healthcare Countywide Service Area, OCHNA 2007				
	Children (2-17)		Adults (18+)	
	Female (258,644)	Male (271,840)	Female (958,884)	Male (1,038,504)
Healthy Weight	65.8%	54.6%	54.8%	35.0%
Overweight or Obese	23.9%	37.8%	42.6%	63.6%

Children: Chi square=34.973, p<0.001; Adults: Chi square=79.714, p<0.001

- Among adults in the UC Irvine Healthcare countywide service area, **14.0%** of females were estimated to be obese compared to **20.3%** of males in 2007.

**Adult (18+)**  
**Overweight and Obesity Status by Gender:** [CHIS 2009](#)

#### Overweight

**California**  
**40.6% Males**  
**29.6% Females**

**Orange County**  
**41.3% Males**  
**31.2% Females**

#### Obesity

**California**  
**26.1% Males**  
**22.8% Females**

**Orange County**  
**20.9% Males**  
**15.6% Females**

## Race/Ethnicity

- White and Hispanic/Latino are the two largest race/ethnic groups in UC Irvine Healthcare countywide service area. **35.6%** (83,175) of Hispanic/Latino children (2-17) were overweight or at risk of overweight, compared to **26.4%** (52,490) of white children (2-17).
- 36.1%** (9,010) of Vietnamese children were overweight/at risk of overweight, a higher percentage than non-Vietnamese Asian children, **23.4%** (9,752) of whom were overweight or at risk.
- 55.8%** (586,890) of white adults and **60.6%** (337,564) of Hispanic/Latino adults in the UC Irvine Healthcare countywide service area were determined to be overweight or obese.
- Vietnamese adults had higher rates of obesity than other Asian/Pacific Islander adults. **53.3%** (30,963) of Vietnamese adults were overweight or obese, compared to only **30.3%** (53,400) of non-Vietnamese Asian adults.

## Annual Household Income

Income appears to be one determinant of weight status in UC Irvine Healthcare countywide service area, because poverty presents many barriers to physical activity and good nutrition. As the low-income have fewer resources, they may encounter more struggles in balancing basic household needs and caring for their families with healthy eating and behaviors.

Table 4: Weight Status <i>Within</i> Annual Household Income: UC Irvine Healthcare Countywide Service Area, OCHNA 2007				
Age	Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$74,999	\$75,000 or more
<b>Children (2-17): At Risk of Overweight or Overweight</b>	56.5% 12,907	43.3% 32,896	30.1% 24,264	28.5% 80,908
<b>Adults (18+): Overweight or Obese</b>	54.1% 87,133	60.4% 236,749	51.7% 199,486	53.0% 425,475

- The percentage of children who are overweight or obese is higher in lower-income households (Chi-square=26.887, p=0.001). Though we also see that adults reporting an annual household income of less than \$50,000 have higher percentages of overweight/obesity than those reporting \$50,000 or more, the difference is not nearly as striking, though still statistically significant (Chi-square=39.473, p<0.001).

**Adult (18+)  
Overweight/Obesity  
(combined) Status  
by Race/Ethnicity:**  
[\(CHIS 2009\)](#)

### California

**69.8% (6,239,000)  
Latino**

**57.7% (7,392,000)  
White**

**35.3% (1,248,000)  
Asian**

### Orange

**62.3% (450,000)  
Latino**

**58.6% (652,000)  
White**

**26.1% (102,000)  
Asian**

**Adult (18+)  
Overweight/Obesity  
(combined) Status  
by FPL:** [\(CHIS 2009\)](#)

### California

**59.7% (2,630,000)  
0%-99% FPL**

**53.0% (7,618,000)  
300% or More FPL**

### Orange County

**61.6% (225,000)  
0%-99% FPL**

**49.6% (625,000)  
300% or More FPL**



**Rate of PedNSS Children and Youth at/above 95th Percentile of BMI-for-Age Growth Charts:** [\(PedNSS 2008\)](#)

**California**

**17.3% 2-4 Years**  
**22.8% 5-19 Years**

**Los Angeles Metro Area**

**18.8% 2-4 Years**  
**22.8% 5-19 Years**

**Orange County**

**16.6% 2-4 Years**  
**21.2% 5-19 Years**

**Riverside County**

**14.7% 2-4 Years**  
**21.4% 5-19 Years**

**San Bernardino County**

**16.0% 2-4 Years**  
**21.3% 5-19 Years**

**San Diego County**

**16.2% 2-4 Years**  
**23.0% 5-19 Years**

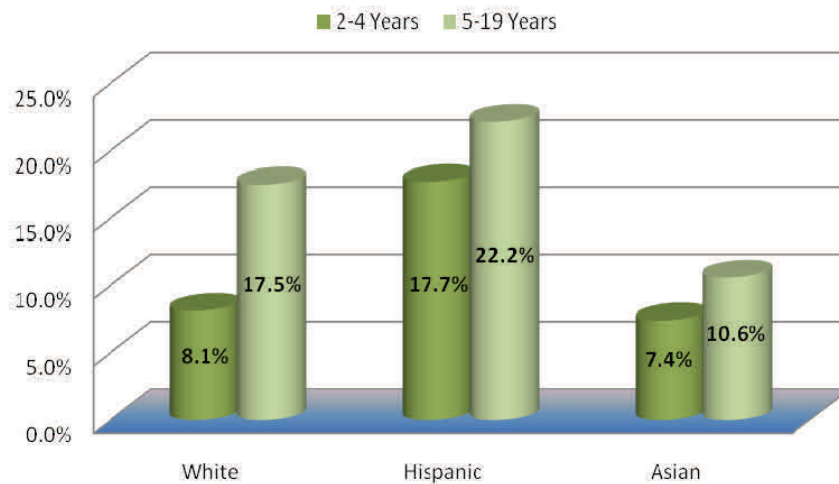
**Santa Clara County**

**16.9% 2-4 Years**  
**22.2% 5-19 Years**

## Weight Status of Low-Income Children

PedNSS is a public health surveillance system, managed by the [CDC](#), which examines low-income children around the nation on various indicators of nutritional status. In California data are collected from children who participate in the [Child Health and Disability Prevention Program](#): those who qualify include Medi-Cal recipients between birth and 21 years and non-Medi-Cal children between 0-19 years whose family incomes are equal to/below 200% of federal poverty guidelines. Among the indicators is child weight status. The figure below presents the proportion of Orange County children (corresponding to the UC Irvine Healthcare countywide service area), in the [PedNSS](#) database, that are at/above 95<sup>th</sup> percentile on the BMI-for-age growth charts within race/ethnicity. (This indicator examined **6,909** 2-4 year olds and **15,439** 5-19 year olds.) The countywide rate of PedNSS children 2-4 years in this weight category was **16.6%**; for children 5-19 years it was **21.2%**.

**Figure 4: Proportion of Children in PedNSS Database at ≥95th Percentile of BMI-for-Age Growth Charts: UC Irvine Healthcare Countywide Service Area, 2008**



Source: State of California, Department of Health Care Services, Pediatric Nutrition Surveillance System, 2008 Annual PedNSS Prevalence Reports.

- The race/ethnicity disparity of overweight or obesity remains pronounced even among children coming from households with similar incomes; Hispanic children in both age groups were the most likely to be at ≥95<sup>th</sup> of the CDC BMI-for-age growth chart.

## Consequences of Overweight and Obesity

The various negative impacts resulting from obesity can lead to considerable financial burdens on individuals, employers, and hospitals. With the growing number of children who are overweight, and adults who are obese, the financial costs continue to rise as the quality of life declines.

### Physical and Emotional Health

While there are effects on physical appearance, obesity has significant negative consequences on physical health on children and adults. In the UC Irvine Healthcare countywide service area, **9.8%** (86,449) of adults at healthy weight rated their health as fair or poor, while **13.7%** (98,175) of overweight adults and **21.2%** (72,817) of obese adults rated their health as fair or poor. The impact of unhealthy weight in the countywide UC Irvine Healthcare countywide service area is also apparent with OCHNA 2004 and CHIS 2009 survey findings on self-reported rates of common chronic diseases.

Area		Arthritis	Diabetes	Heart Disease	High Blood Pressure	High Cholesterol
UC Irvine Healthcare Service Area (OCHNA 2004)	Healthy Weight	15.4%	1.4%	3.7%	13.3%	16.1%
	Overweight or Obese	22.7%	12.6%	6.8%	32.5%	26.6%
Orange County (CHIS 2009)	Healthy Weight	n/a*	3.0%	6.2%	13.4%	n/a*
	Overweight or Obese	n/a*	11.8%	5.3%	30.0%	n/a*

\*CHIS most recently collected Arthritis and High Cholesterol data in 2005, but adult "weight" and "height" data was not collected, preventing a comparison between weight status and those particular diseases.

- Within the UC Irvine Healthcare countywide service area, the OCHNA 2004 survey estimated that overweight or obese adults had higher rates of arthritis (Chi-square=51.751, p<0.001), diabetes (Chi-square=136.2, p<0.001), heart disease (Chi-square=21.098, p<0.001), high blood pressure, (Chi-square=124.2, p<0.001), and high cholesterol (Chi-square =34.923, p<0.001), compared to healthy weight adults.

Overweight and obesity can also have emotional and social consequences:

- **15.9%** (139,293) of adults (18+) in the UC Irvine Healthcare countywide service area who were at normal or healthy weight reported having at least one poor mental health day in the past month (OCHNA 2007).
- In contrast, **30.1%** (103,043) of adults in the countywide service area who were obese reported having at least one poor mental health day in the past month (OCHNA 2007).

**Adult (18+) Diabetes Rates by Weight Status:**  
[\(CHIS 2009\)](#)

California

**3.5%**

Healthy Weight

**11.8%**

Overweight/Obese

Orange County

**3.0%**

Healthy Weight

**11.8%**

Overweight/Obese

**Adult (18+) Heart Disease Rates by Weight:**  
[\(CHIS 2009\)](#)

California

**4.8%**

Healthy Weight

**6.6%**

Overweight/Obese

Orange County

**6.2%**

Healthy Weight

**5.3%**

Overweight/Obese

**Adult (18+) High Blood Pressure Rates by Weight:**  
[\(CHIS 2009\)](#)

California

**13.4%**

Healthy Weight

**30.0%**

Overweight/Obese

Orange County

**15.6%**

Healthy Weight

**34.4%**

Overweight/Obese

**Ranking of the Most Costly Health Conditions in U.S.:**  
(MEPS 2007)

**Rank 3**  
**Heart Conditions**

**Rank 6**  
**Diabetes mellitus**

**Rank 7**  
**Hypertension**

**Rank 10**  
**Hyperlipidemia**  
(elevation of fats in blood)

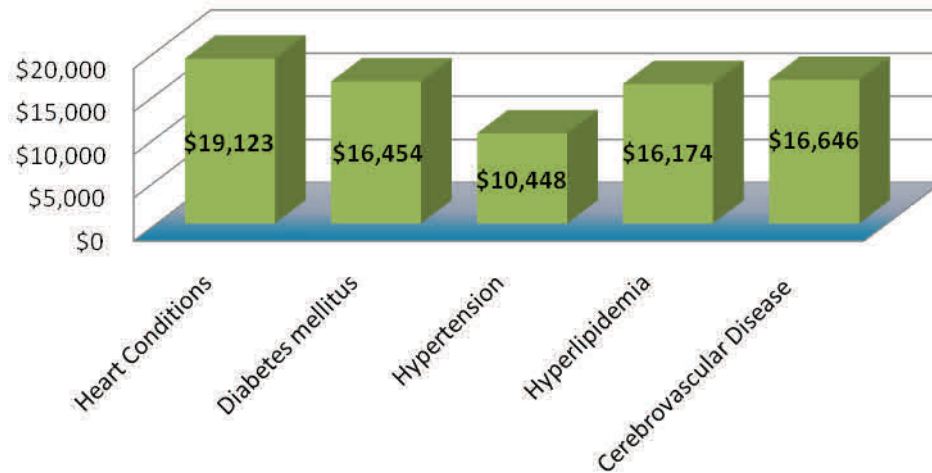
**\$2,200 to \$5,300:**  
**Reduction in Lifetime Medical Costs if an Overweight Person Sustains a 10% weight loss.** (CDC)

**Financial Impact of Obesity**

As health problems related to obesity have become more widespread, there has been an upswing in the economic costs associated with overweight and obesity. In 2006 the economic costs of obesity in California were estimated to be **\$41.2 billion**, with **\$3.3 billion** attributed to Orange County. By 2011 the projected costs of obesity in the state of California are estimated to reach **\$52.7 billion**, according to a study by the [California Center for Public Health Advocacy](#). Overweight or obese people may incur higher medical costs due to diagnostic and treatment services for health problems usually related to unhealthy weight, such as diabetes and heart disease. The [Medical Expenditure Panel Surveys](#) (MEPS) show that treatment and care for these chronic diseases can be staggering to the health care system, the individual, and the larger economy. Of the 10 most costly health conditions in 2007 in the United States, four are conditions often linked to obesity, poor nutrition, or lack of exercise.

The figure below presents the average cost of a hospital stay from selected obesity-related health conditions in 2007, determined by the [MEPS](#).

**Figure 5: Mean Cost in U.S. Per Person for Inpatient Hospital Stay by Selected Conditions**



- Care for 10 obese adults hospitalized for cardiovascular disease could cost up to **\$191,230**.

## Factors Contributing to Overweight & Obesity Nutritional Choices and Access

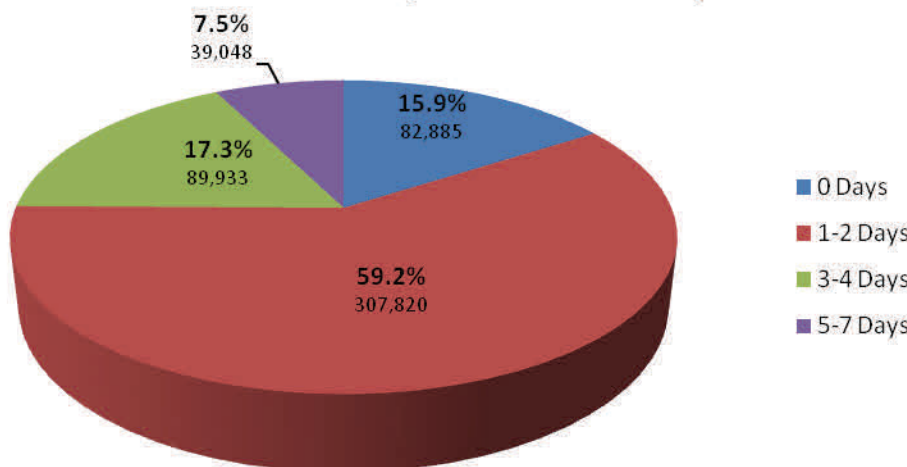
**Table 6: Main Reasons Why Adults (18+) Did Not Include 5 Servings of Fruits/Vegetables in Their Daily Diet:  
UC Irvine Healthcare Countywide Service Area, OCHNA 2007**

Reason	Percent	Population Estimate
Not in Habit, Not Used to It, or Don't Think About it	31.5%	312,025
Takes Too Much Time to Prepare and Cook	17.1%	169,561
Lack of Access or Availability	10.3%	102,123
Don't Like the Taste	8.1%	80,485
Too Expensive	5.3%	52,799
Don't Know What to Eat/Not Sure What a Serving Is	4.6%	45,319
Not Sure How to Select Fruits/Vegetables	2.8%	27,369
Other People in the Family Don't Like Them	1.5%	14,629

A large percentage of adults in this group related their reasons to issues of convenience or preference. This implies that some people simply find the nutritionally poor choices more appetizing or easier to integrate into their busy schedules than the healthier options. **5.3%** (52,799), however, indicated that fruits/vegetables were too expensive. **7.3%** (72,688) indicated

The chart below examines the fast food consumption habits of children in the UC Irvine Healthcare countywide service area, as reported by parents/guardians; the examples provided were burgers, fries, tacos, burritos, and pizza. This OCHNA 2007 survey question also included school lunches to consider the fact that many schools offer fast food options to their students.

**Figure 6: Fast Food Consumption of Children (6-17):  
UC Irvine Healthcare Countywide Service Area, OCHNA 2007**



- According to the OCHNA 2007 survey, **24.8%** (128,981) of children ages 6-17 ate fast food at least 3 times in the previous week.

### Healthy People 2020 Objective

Reduce to **29.8%** the consumption of calories from solid fats and added sugars in the diets of the population aged 2 years and older by 2020.

Number of Times Fast Food Eaten by Child (2-17) in Past Week: [CHIS 2009](#)

#### California

**28.0% (2,410,000)**  
No Times

**33.9% (2,917,000)**  
1 Time

**21.0% (1,806,000)**  
2 Times

**9.1% (784,000)**  
3 Times

**7.9% (684,000)**  
4+ Times

#### Orange County

**23.4% (163,000)**  
No Times

**34.0% (236,000)**  
1 Time

**20.7% (144,000)**  
2 Times

**9.0% (63,000)**  
3 Times

**12.9% (89,000)**  
4+ Times

**Rate of PedNSS Children and Youth with Anemia:** [\(PedNSS 2008\)](#)

**California**

**14.3% 2-4 Years**  
**12.5% 5-19 Years**

**Los Angeles Metro Area**

**13.6% 2-4 Years**  
**10.4% 5-19 Years**

**Orange County**

**12.5% 2-4 Years**  
**11.6% 5-19 Years**

**Riverside County**

**14.6% 2-4 Years**  
**12.6% 5-19 Years**

**San Bernardino County**

**14.9% 2-4 Years**  
**12.6% 5-19 Years**

**San Diego County**

**13.3% 2-4 Years**  
**11.2% 5-19 Years**

**Santa Clara County**

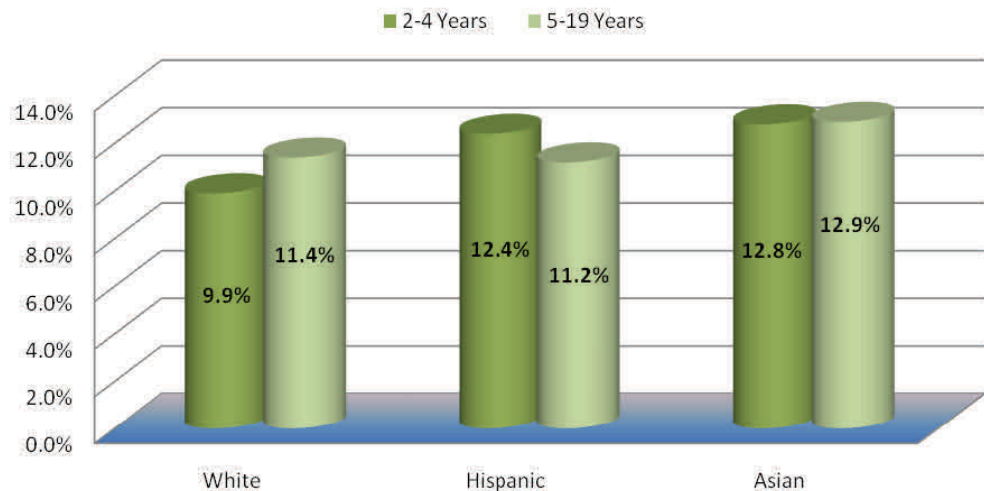
**11.7% 2-4 Years**  
**12.5% 5-19 Years**

**Anemic Children**

Lack of proper nutrition can result in anemia, or a decrease in red blood cells most commonly due to iron deficiency. Children need an average of 1 mg per day of iron. However, since children’s bodes only absorb about a tenth of the iron in their food, most children must have foods totaling about 8 to 10 mg of iron per day. Iron deficiency is easily treatable by the intake of iron supplements or iron rich foods.

Anemia, a low hemoglobin (Hb) concentration or low hematocrit (Hct) level, is defined by age and gender specific cutoff values based on the 5th percentile from the third [National Health and Nutrition Examination Survey](#). According to the [CDC](#), anemic children between 1 and 2 years have an Hb concentration less than 11.0g/dL or an Hct level less than 33.0%; anemic children between 2 and 5 years have an Hb concentration less than 11.1g/dL or an Hct level less than 33.3%. The figure below presents information from the 2008 [PedNSS](#) prevalence reports for anemia among Orange County’s low-income children: Medi-Cal recipients or children whose family incomes are at/below 200% of federal poverty guidelines. (This indicator examined **27,787** 2-4 year olds and **29,163** 5-19 year olds.) **12.5%** of Orange County PedNSS children ages 2-4 were anemic; **11.6%** of Orange County PedNSS 5-19 year olds were anemic.

**Figure 7: Proportion of Children with Anemia in PedNSS Database: UC Irvine Healthcare Countywide Service Area, 2008**



Source: State of California, Department of Health Care Services, Pediatric Nutrition Surveillance System, 2008 Annual PedNSS Prevalence Reports

- White children in the PedNSS database displayed the lowest rates of anemia; Asian and Hispanic children between 2-4 years displayed similar levels of anemia, while Asian children 5-19 years displayed the highest levels of anemia.



## Physical Activity and Outdoor Play

Public school students in grades five, seven, and nine are required to take the California Physical Fitness Test (PFT). Fitness tests administered throughout Orange County schools indicated that the number of children passing the tests has improved over the school years, although a large percentage of children and adolescents remain physically unfit. The PFT assesses students on six fitness standards: aerobic capacity, body composition, flexibility, abdominal, trunk, and upper body strength. The PFT pass rates are determined for all Orange County school districts, corresponding to the UC Irvine Healthcare countywide service area, using the California Department of Education [Dataquest](#) query system.

- In the 2008-09 school year, **34.5%** (12,355 students) of 5th graders, **43.7%** (16,182 students) of 7th graders, and **45.0%** (17,273 students) of 9th graders met all of the six fitness standards.
- In the 2007-08 school year, **32.9%** (12,003 students) of 5th graders, **42.6%** (15,902 students) of 7th graders, and **43.4%** (16,414 students) of 9th graders met all of the six fitness standards.
- In the 2000-01 school year, **25.7%** (9,918 students) of 5th graders, **32.1%** (10,919 students) of 7th graders, and **30.4%** (8,385 students) of 9th graders met all of the six fitness standards.

## Outdoor Play

The [CDC](#) recommends that a young child should play for an hour each day, preferably outside in parks and other open, safe areas because of nature's ability to "improve one's physical, mental and social health."

- Within the UC Irvine Healthcare countywide service area, **6.1%** (15,431) of children 0-5 did not play outside regularly. **55.6%** (141,122) of children ages 0-5 played outside for 1 to 2 hours per day, and **37.5%** (95,044) played outside for 3 to 6 hours per day (OCHNA 2007).

## Sedentary Activities

There has been a significant change in people's daily habits due to modern developments and conveniences that have resulted in a less active way of life for many individuals. Among children and adolescents, [several national studies](#) have shown a relationship between the hours spent watching television and being overweight. The correlation may arise from decreased physical activity and increased consumption of non-healthy foods. In the UC Irvine Healthcare countywide service area, **23.3%** (121,331) of children 6 to 17 years of age spent 3 or more hours watching TV or playing video games and **11.9%** (62,186) spent 3 or more hours using the computer or surfing the Internet on a typical day.

## Body Image and Perceived Weight

Parents in the UC Irvine Healthcare countywide service area have some difficulty in accurately assessing their child's weight, which can have important repercussions on a child's body image and health. In the OCHNA 2007 survey, parents/guardians were asked to identify the weight status of their child.

- **84.6%** (677,022) of parents/guardians said their child was about the right weight, and **9.1%** (72,587) perceived their child as being overweight.
- Perception of weight was compared to BMI (calculated from reported height, weight, age, and gender). Of the parents/guardians who perceived their child as being overweight, **75.4%** (39,348) of them were accurate in their assessment, with children having BMI falling in the overweight or at risk of overweight categories.
- Of the parents/guardians who believed that their child was about the right weight, **34.8%** (154,574) were inaccurate in their assessment, having children who were in fact determined to be underweight, overweight, or at risk of overweight. **8.0%** of children were determined to be underweight, **13.2%** were at risk of overweight, and **13.6%** were overweight.

California Physical  
Fitness Test Pass  
Rates in 2008-2009  
by District: [CDE](#)

### [Anaheim City Elementary](#)

**21.0% (574)**  
5th Grade

### [Anaheim Union High](#)

**35.8% (1,933)**  
9th Grade  
**34.8% (1,850)**  
7th Grade

### [Capistrano Unified](#)

**40.0% (1,520)**  
5th Grade  
**49.3% (1,884)**  
7th Grade  
**57.2% (2,165)**  
9th Grade

### [Garden Grove Unified](#)

**26.4% (933)**  
5th Grade  
**40.2% (1,506)**  
7th Grade  
**43.8% (1,625)**  
9th Grade

### [Irvine Unified](#)

**42.8% (855)**  
5th Grade  
**57.8% (1,157)**  
7th Grade  
**68.2% (1,483)**  
9th Grade

### [Santa Ana Unified](#)

**25.1% (1,017)**  
5th Grade  
**31.6% (1,306)**  
7th Grade  
**30.9% (1,232)**  
9th Grade

***“Eat to live, not  
live to eat.”  
—Benjamin  
Franklin***

Adults also were not completely accurate when asked to evaluate their own weight status. Based on the OCHNA 2007 survey, **56.0%** (1,295,723) of adults in the countywide service area described themselves as being about the right weight. Of the adults who perceived themselves to be a healthy weight, **32.0%** (365,764) of adults were in fact determined to be overweight or obese, using BMI calculated from self-reported height, weight, and gender.

### **Family Dynamics and Child Weight Status**

There are numerous studies that examine how parents and family dynamics can contribute to childhood overweight and obesity. A 2008 article in the [Journal of the American Academy of Political and Social Sciences](#) uses three levels of parental influences to illustrate the complicated nature of this relationship: parental feeding practices regulating a child's eating behavior and intake, general parental behaviors shaping child attitudes and behaviors, and family functioning and stability at home. Such parental feeding practices as limiting access to certain foods, using treats as rewards, deciding portion sizes, and prompting a child to eat or to “finish the plate,” could cause children to develop unhealthy eating habits. Parental behaviors can also mold child attitudes or eating practices, such as the quality of the foods available at home and parental eating habits. According to two articles in the Journal of the American Dietetic Association, children who were asked to describe eating patterns reported having more healthy eating habits if their parents ate fruits and vegetables and had low dietary fat intake (Tibbs et al. 2001; Fisher et al. 2002). The last level of parental influence is the least studied, however the article suggests that poor family functioning and parental style could cause stress or chaos in the household, “which then contributes to poor development and control of dietary habits in a child.”

A 2009 article based on a longitudinal study from 1991 to 1995 in the [American Journal of Preventive Medicine](#) explored the association between overweight in children (ages 8, 11, and 14 at baseline) and parental weight and television viewing. It found that children with one or two overweight/obese parents watched more TV per day on average compared to children of normal weight parents, suggesting that overweight/obese parents may display behaviors that could influence their child's TV viewing, which in turn could affect child weight status. Furthermore, BMI and percent body fat (PBF) in children increased significantly (statistical significance) for each hour of TV watching among children with overweight parents only. Another article, published in [Journal of the American Board of Family Medicine](#) in 2008, specifically explored the connection of parental weight and attitudes with overweight in children—maternal and paternal overweight were both associated with child overweight. Moreover, a lower proportion of parents with overweight children accurately described the weight status of their child in comparison of parents with normal weight children, substantiating findings from the OCHNA survey.

While the OCHNA survey did not examine the relationship between parent and child weight status, these studies highlight the profound impact that parents have on their child's nutritional intake and health behaviors.

# Major Diseases, Injuries, and Causes of Hospitalization

Chronic conditions and diseases are among the most prevalent, costly, and preventable of all health problems. To some degree, the major chronic disease killers are attributable to lifestyle and environment. In particular, health damaging behaviors, such as lack of exercise, bad diet, or use of tobacco, can lead to chronic conditions which in turn can decrease the quality of life.

## Major or Chronic Disease Status of Adults (18+)

The following table compares the prevalence of common chronic diseases in the UC Irvine Healthcare countywide service area compared to the entire county.

Disease/Condition	OCHNA 2004	CHIS 2005/2007
<b>High Blood Pressure</b>	23.6% 521,771	22.5% (2009) 511,000
<b>High Cholesterol</b>	22.1% 484,311	21.7% (2005) 434,000
<b>Arthritis</b>	18.8% 415,433	17.0% (2005) 375,000
<b>Cancer</b>	7.7% 169,924	9.5% (2005) 210,000
<b>Asthma</b>	7.5% 166,897	11.1% (2009) 255,000
<b>Diabetes</b>	7.3% 161,025	7.7% (2009) 178,000
<b>Heart Disease</b>	5.4% 119,784	5.8% (2009) 133,000
<b>Bone Disease or Osteoporosis</b>	3.7% 80,992	-
<b>Respiratory Disease</b>	2.4% 52,447	-
<b>Stroke</b>	1.9% 41,322	1.9% (2005) 43,000
<b>Liver Disease (Cirrhosis)</b>	1.6% 34,807	-
<b>Tuberculosis</b>	0.7% 15,544	-

**27.9%** (654,239) of adults in the UC Irvine Healthcare countywide service area indicated that they had an ongoing or a serious health problem, like heart disease, arthritis, or a mental health condition that requires frequent medical care, such as regular doctor visits and/or daily medications.

### Healthy People 2020 Objective

Reduce to **26.9%** the percent of adults 20+ with hypertension (high blood pressure).

### Healthy People 2020 Objective

Reduce to **13.5%** the percent of adults 20+ with high total blood cholesterol levels (240 mg/dl or greater).

Mean Physically Unhealthy Days in Past 30 Days: [\(CDC 2009\)](#)

3.6 Days  
United States

3.8 Days  
California

Mean Days of Activity Limitation in Past 30 Days: [\(CDC 2009\)](#)

2.3 Days  
United States

2.5 Days  
California

Percentage with 14+ Days of Activity Limitation in Past 30 Days: [\(CDC 2009\)](#)

7.0 Days  
United States

7.5 Days  
California

## Major Impairments of Adults (18+)

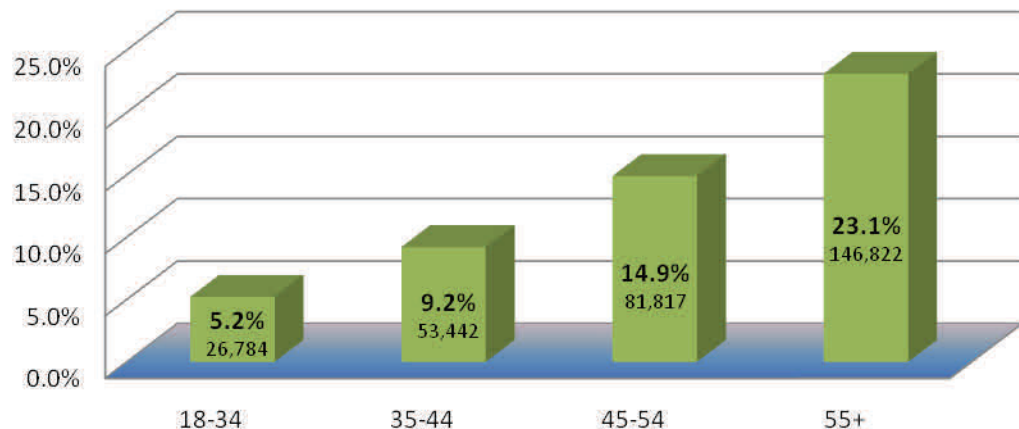
In the UC Irvine Healthcare countywide service area, **13.4%** (311,507) of adults reported that they, or a member of their household, were limited in their daily activities because of a major impairment or health problem. The following table shows the five most common major impairments that limit daily activities, according to self-report data.

Impairment/Health Problem	Percent	Population Estimate
Fractures, Bones/Joint Injury	13.0%	38,786
Back or Neck Problem	11.0%	33,063
Arthritis/Rheumatism	10.5%	31,445
Heart Problem	8.8%	26,226
Walking Problem	7.1%	21,193

Adults with household annual income less than \$75,000 are more likely to be limited by a major impairment than adults in households with annual income of \$75,000 or more (Chi-square=36.706,  $p < 0.001$ ). **16.7%** (179,402) of adults with household annual incomes less than \$75,000 are limited by a major impairment, compared to **9.7%** (86,888) of adults with annual household income of \$75,000 or more.

We see a difference across age groups as well in terms of percentages who are limited in their activities by a major impairment.

Figure 1: Adults (18+) with Major Impairments *across* Age Groups: UC Irvine Healthcare Countywide Service Area, OCHNA 2007



Chi-square=62.444,  $p < 0.001$

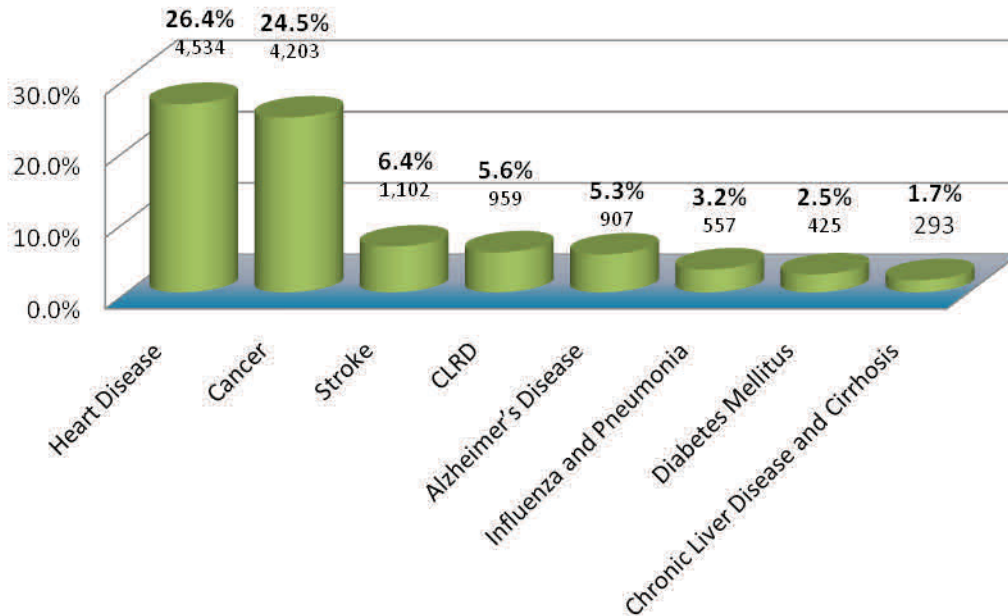
- **23.1%** of adults who are 55 or older are limited by a major impairment, whereas only **5.2%** of adults ages 18-34 are limited by a major impairment.

Because of an impairment or health problem, **18.3%** (55,302) of adults needed help with their own personal care (e.g., eating, bathing, dressing, or getting around the house), and **33.6%** (101,409) needed the help of others for their own medical needs (e.g., making appointments, calling for test results, obtaining prescriptions, or attending medical visits).

## Mortality from Chronic Diseases

In 2008, there were **17,162** deaths in the UC Irvine Healthcare countywide service area, according to the [California Department of Public Health](#) (CDPH).

**Figure 2: Number of Deaths by Major or Chronic Disease: UC Irvine Healthcare Countywide Service Area, CDPH 2008**



Source: State of California, Department of Public Health, Vital Statistics Query System

- Heart disease was the leading cause of death for Orange County in 2008, followed by cancer.

### 2006-2008 Mortality: Orange County Health Care Agency— Orange County Geographic Health Profile 2011

Deaths due to all causes combined are analyzed in this category. From 2006 to 2008, there was an average of 16,895 deaths per year among Orange County residents. The average death rate was 536.7 per 100,000 population.

The following pages contain maps for overall deaths and selected mortality indicators. These tables and maps display the crude death rates for each geographic ZIP code area in Orange County.

**Age Specific Death Rates Per 100,000 in 2008 from All Causes: [\(CDPH\)](#)**

**444.2 (202 deaths) Under 1 Years**

**12.5 (77 deaths) 1-14 Years**

**41.7 (187 deaths) 15-24 Years**

**80.1 (746 deaths) 25-44 Years**

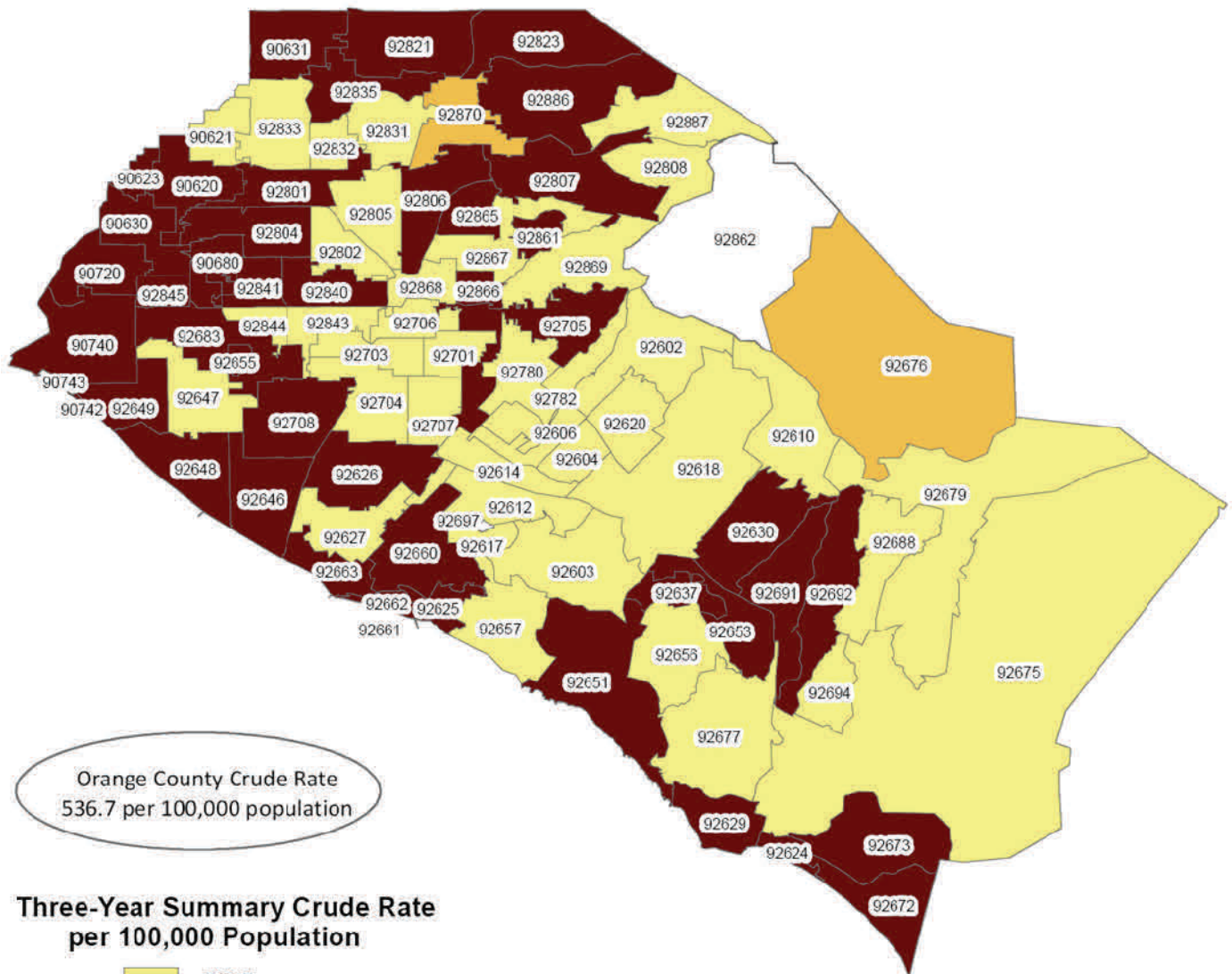
**373.5 (2,904 deaths) 45-64 Years**

**3872.3 (13,046 deaths) 65+ Years**



<b>Rank</b>	<b>Disease</b>	<b>Number of Deaths (3-Year Average)</b>	<b>%</b>
<b>1</b>	<b>Heart Disease</b>	<b>4,638</b>	<b>27.5</b>
	<i>Ischemic Heart Disease</i>	3,332	19.7
	<i>Cardiomyopathy</i>	222	1.3
<b>2</b>	<b>Cancer</b>	<b>4,144</b>	<b>24.5</b>
	<i>Lung Cancer</i>	985	5.8
	<i>Breast Cancer</i>	319	1.9
	<i>Colon Cancer</i>	314	1.9
	<i>Prostate Cancer</i>	213	1.3
	<i>Leukemia</i>	175	1.0
<b>3</b>	<b>Cerebrovascular Disease</b>	<b>1,101</b>	<b>6.5</b>
<b>4</b>	<b>Lung Disease (CLRD)</b>	<b>888</b>	<b>5.3</b>
<b>5</b>	<b>Alzheimer's Disease</b>	<b>802</b>	<b>4.7</b>
<b>6</b>	<b>Unintentional Injury</b>	<b>658</b>	<b>3.9</b>
	<i>Accidental Poisoning</i>	222	1.3
	<i>Motor Vehicle Traffic</i>	204	1.2
	<i>Accidental Falls</i>	114	0.7
	<i>Drowning and Submersion</i>	27	0.2
<b>7</b>	<b>Influenza &amp; Pneumonia</b>	<b>559</b>	<b>3.3</b>
<b>8</b>	<b>Diabetes</b>	<b>431</b>	<b>2.6</b>
<b>9</b>	<b>Cirrhosis</b>	<b>280</b>	<b>1.7</b>
<b>10</b>	<b>Suicide</b>	<b>272</b>	<b>1.6</b>
<b>11</b>	<b>Hypertension</b>	<b>229</b>	<b>1.4</b>
<b>12</b>	<b>Nephritis, Nephrotic Syndrome</b>	<b>181</b>	<b>1.1</b>
<b>13</b>	<b>Parkinson's Disease</b>	<b>174</b>	<b>1.0</b>
<b>14</b>	<b>Atherosclerosis</b>	<b>121</b>	<b>0.7</b>
<b>15</b>	<b>Perinatal Conditions</b>	<b>106</b>	<b>0.6</b>
<b>16</b>	<b>Congenital Malformations</b>	<b>97</b>	<b>0.6</b>
<b>17</b>	<b>Aortic Aneurysm</b>	<b>94</b>	<b>0.6</b>
<b>18</b>	<b>Homicide</b>	<b>81</b>	<b>0.5</b>
<b>19</b>	<b>AIDS</b>	<b>46</b>	<b>0.3</b>
	<b>All Other Causes</b>	<b>1,993</b>	<b>11.8</b>
	<b>TOTAL</b>	<b>16,895</b>	<b>100.0</b>

## Orange County All Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

**Table 5.8: Leading Causes of Death  
0-17 Yrs, Orange County, 2006-2008**

Rank	Disease	Number of Deaths (3-Year Average)	%
1	<b>Perinatal Conditions</b>	106	33.2
2	<b>Congenital Malformations</b>	68	21.3
3	<b>Unintentional Injury</b>	34	10.7
	<i>Motor Vehicle Traffic</i>	17	5.3
	<i>Drowning and Submersion</i>	7	2.2
	<i>Accidental Poisoning</i>	3	0.9
	<i>Accidental Falls</i>	1	0.3
4	<b>Cancer</b>	23	7.2
	<i>Leukemia</i>	9	2.8
	<i>Lung Cancer</i>	0	0.0
5	<b>Homicide</b>	12	3.8
6	<b>Heart Disease</b>	9	2.8
	<i>Cardiomyopathy</i>	3	0.9
	<i>Ischemic Heart Disease</i>	0	0.0
7	<b>Suicide</b>	5	1.6
8	<b>Influenza &amp; Pneumonia</b>	4	1.3
9	<b>Lung Disease (CLRD)</b>	2	0.6
10	<b>Diabetes</b>	1	0.3
11	<b>Cerebrovascular Disease</b>	1	0.3
12	<b>Nephritis, Nephrotic Syndrome</b>	1	0.3
13	<b>Cirrhosis</b>	0	0.0
	<b>All Other Causes</b>	53	16.6
	<b>TOTAL</b>	319	100.0

**Table 5.9: Leading Causes of Death  
18-44 Yrs, Orange County 2006-2008**

Rank	Disease	Number of Deaths (3-Year Average)	%
<b>1</b>	<b>Unintentional Injury</b>	<b>254</b>	<b>26.9</b>
	<i>Accidental Poisoning</i>	107	11.3
	<i>Motor Vehicle Traffic</i>	106	11.2
	<i>Accidental Falls</i>	9	1.0
	<i>Drowning and Submersion</i>	7	0.7
<b>2</b>	<b>Cancer</b>	<b>156</b>	<b>16.5</b>
	<i>Breast Cancer</i>	18	1.9
	<i>Leukemia</i>	15	1.6
	<i>Lung Cancer</i>	11	1.2
	<i>Colon Cancer</i>	10	1.1
<b>3</b>	<b>Suicide</b>	<b>114</b>	<b>12.1</b>
<b>4</b>	<b>Heart Disease</b>	<b>95</b>	<b>10.1</b>
	<i>Ischemic Heart Disease</i>	37	3.9
	<i>Cardiomyopathy</i>	25	2.7
<b>5</b>	<b>Homicide</b>	<b>51</b>	<b>5.4</b>
<b>6</b>	<b>Cirrhosis</b>	<b>41</b>	<b>4.3</b>
<b>7</b>	<b>Cerebrovascular Disease</b>	<b>26</b>	<b>2.8</b>
<b>8</b>	<b>AIDS</b>	<b>20</b>	<b>2.1</b>
<b>9</b>	<b>Diabetes</b>	<b>16</b>	<b>1.7</b>
<b>10</b>	<b>Congenital Malformations</b>	<b>7</b>	<b>0.7</b>
<b>11</b>	<b>Influenza &amp; Pneumonia</b>	<b>6</b>	<b>0.6</b>
<b>12</b>	<b>Hypertension</b>	<b>5</b>	<b>0.5</b>
<b>13</b>	<b>Lung Disease (CLRD)</b>	<b>4</b>	<b>0.4</b>
<b>14</b>	<b>Aortic Aneurysm</b>	<b>3</b>	<b>0.3</b>
<b>15</b>	<b>Nephritis, Nephrotic Syndrome</b>	<b>3</b>	<b>0.3</b>
<b>16</b>	<b>Atherosclerosis</b>	<b>1</b>	<b>0.1</b>
	<b>All Other Causes</b>	<b>141</b>	<b>15.0</b>
	<b>TOTAL</b>	<b>943</b>	<b>100.0</b>

**Table 5.10: Leading Causes of Death  
45-64 Yrs, Orange County, 2006-2008**

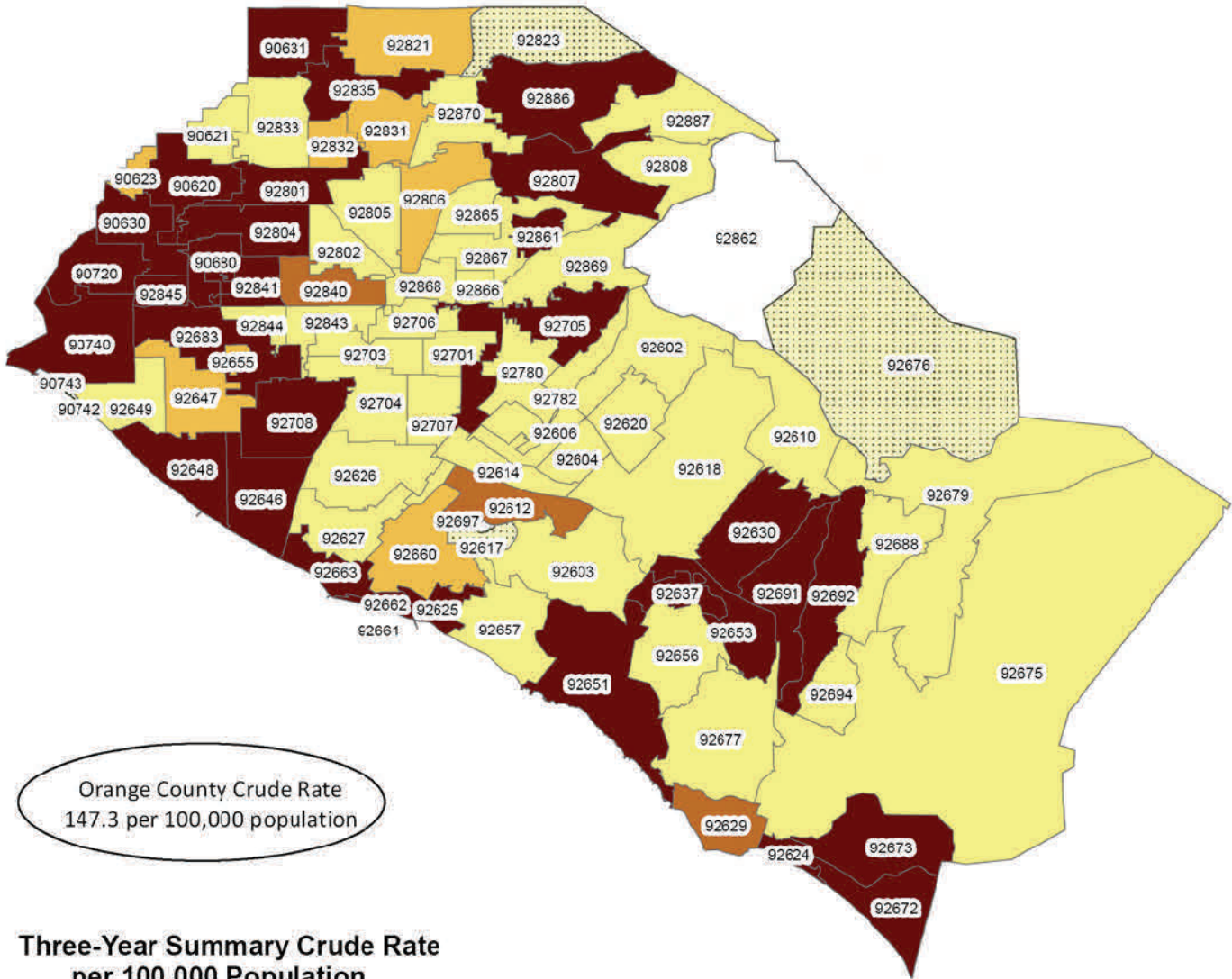
Rank	Disease	Number of Deaths (3-Year Average)	%
<b>1</b>	<b>Cancer</b>	<b>1,016</b>	<b>35.7</b>
	<i>Lung Cancer</i>	203	7.1
	<i>Breast Cancer</i>	107	3.8
	<i>Colon Cancer</i>	72	2.5
	<i>Leukemia</i>	34	1.2
	<i>Prostate Cancer</i>	16	0.6
<b>2</b>	<b>Heart Disease</b>	<b>571</b>	<b>20.1</b>
	<i>Ischemic Heart Disease</i>	416	14.6
	<i>Cardiomyopathy</i>	46	1.6
<b>3</b>	<b>Unintentional Injury</b>	<b>204</b>	<b>7.2</b>
	<i>Accidental Poisoning</i>	105	3.7
	<i>Motor Vehicle Traffic</i>	48	1.7
	<i>Accidental Falls</i>	18	0.6
	<i>Drowning and Submersion</i>	6	0.2
<b>4</b>	<b>Cirrhosis</b>	<b>146</b>	<b>5.1</b>
<b>5</b>	<b>Cerebrovascular Disease</b>	<b>131</b>	<b>4.6</b>
<b>6</b>	<b>Suicide</b>	<b>108</b>	<b>3.8</b>
<b>7</b>	<b>Diabetes</b>	<b>89</b>	<b>3.1</b>
<b>8</b>	<b>Lung Disease (CLRD)</b>	<b>73</b>	<b>2.6</b>
<b>9</b>	<b>Influenza &amp; Pneumonia</b>	<b>26</b>	<b>0.9</b>
<b>10</b>	<b>Nephritis, Nephrotic Syndrome</b>	<b>25</b>	<b>0.9</b>
<b>11</b>	<b>AIDS</b>	<b>24</b>	<b>0.8</b>
<b>12</b>	<b>Hypertension</b>	<b>20</b>	<b>0.7</b>
<b>13</b>	<b>Aortic Aneurysm</b>	<b>15</b>	<b>0.5</b>
<b>14</b>	<b>Congenital Malformations</b>	<b>14</b>	<b>0.5</b>
<b>15</b>	<b>Homicide</b>	<b>14</b>	<b>0.5</b>
<b>16</b>	<b>Alzheimer's Disease</b>	<b>7</b>	<b>0.2</b>
<b>17</b>	<b>Parkinson's Disease</b>	<b>5</b>	<b>0.2</b>
<b>18</b>	<b>Atherosclerosis</b>	<b>5</b>	<b>0.2</b>
	<b>All Other Causes</b>	<b>352</b>	<b>12.4</b>
	<b>TOTAL</b>	<b>2,845</b>	<b>100.0</b>



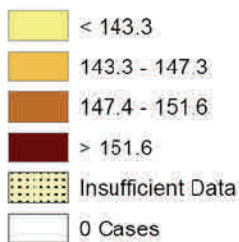
**Table 5.10: Leading Causes of Death  
45-64 Yrs, Orange County, 2006-2008**

Rank	Disease	Number of Deaths (3-Year Average)	%
<b>1</b>	<b>Cancer</b>	<b>1,016</b>	<b>35.7</b>
	<i>Lung Cancer</i>	203	7.1
	<i>Breast Cancer</i>	107	3.8
	<i>Colon Cancer</i>	72	2.5
	<i>Leukemia</i>	34	1.2
	<i>Prostate Cancer</i>	16	0.6
<b>2</b>	<b>Heart Disease</b>	<b>571</b>	<b>20.1</b>
	<i>Ischemic Heart Disease</i>	416	14.6
	<i>Cardiomyopathy</i>	46	1.6
<b>3</b>	<b>Unintentional Injury</b>	<b>204</b>	<b>7.2</b>
	<i>Accidental Poisoning</i>	105	3.7
	<i>Motor Vehicle Traffic</i>	48	1.7
	<i>Accidental Falls</i>	18	0.6
	<i>Drowning and Submersion</i>	6	0.2
<b>4</b>	<b>Cirrhosis</b>	<b>146</b>	<b>5.1</b>
<b>5</b>	<b>Cerebrovascular Disease</b>	<b>131</b>	<b>4.6</b>
<b>6</b>	<b>Suicide</b>	<b>108</b>	<b>3.8</b>
<b>7</b>	<b>Diabetes</b>	<b>89</b>	<b>3.1</b>
<b>8</b>	<b>Lung Disease (CLRD)</b>	<b>73</b>	<b>2.6</b>
<b>9</b>	<b>Influenza &amp; Pneumonia</b>	<b>26</b>	<b>0.9</b>
<b>10</b>	<b>Nephritis, Nephrotic Syndrome</b>	<b>25</b>	<b>0.9</b>
<b>11</b>	<b>AIDS</b>	<b>24</b>	<b>0.8</b>
<b>12</b>	<b>Hypertension</b>	<b>20</b>	<b>0.7</b>
<b>13</b>	<b>Aortic Aneurysm</b>	<b>15</b>	<b>0.5</b>
<b>14</b>	<b>Congenital Malformations</b>	<b>14</b>	<b>0.5</b>
<b>15</b>	<b>Homicide</b>	<b>14</b>	<b>0.5</b>
<b>16</b>	<b>Alzheimer's Disease</b>	<b>7</b>	<b>0.2</b>
<b>17</b>	<b>Parkinson's Disease</b>	<b>5</b>	<b>0.2</b>
<b>18</b>	<b>Atherosclerosis</b>	<b>5</b>	<b>0.2</b>
	<b>All Other Causes</b>	<b>352</b>	<b>12.4</b>
	<b>TOTAL</b>	<b>2,845</b>	<b>100.0</b>

## Orange County Heart Disease Death Rates by ZIP Code of Residence (2006-2008)

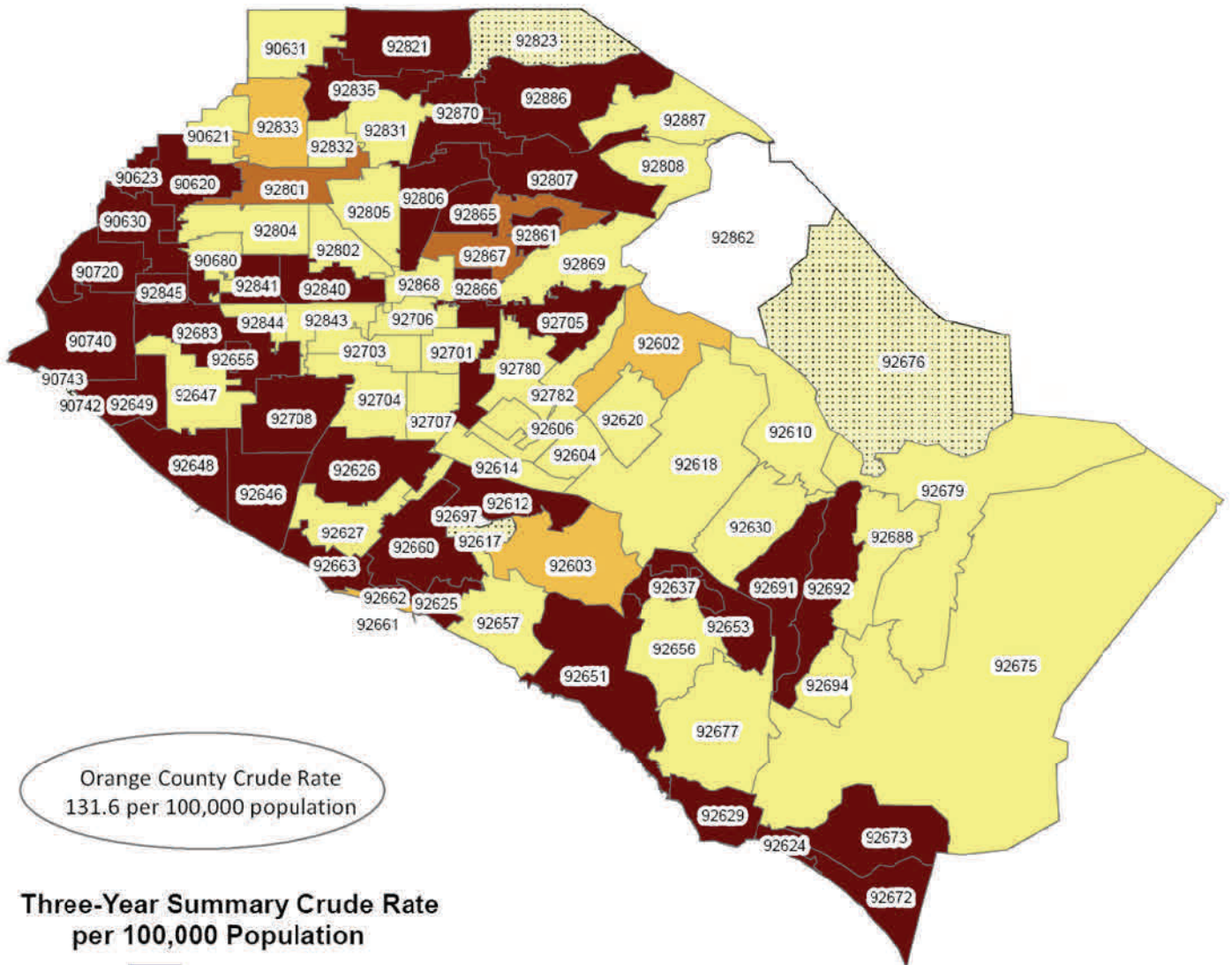


**Three-Year Summary Crude Rate  
per 100,000 Population**



Data Source: State of California Death Master File

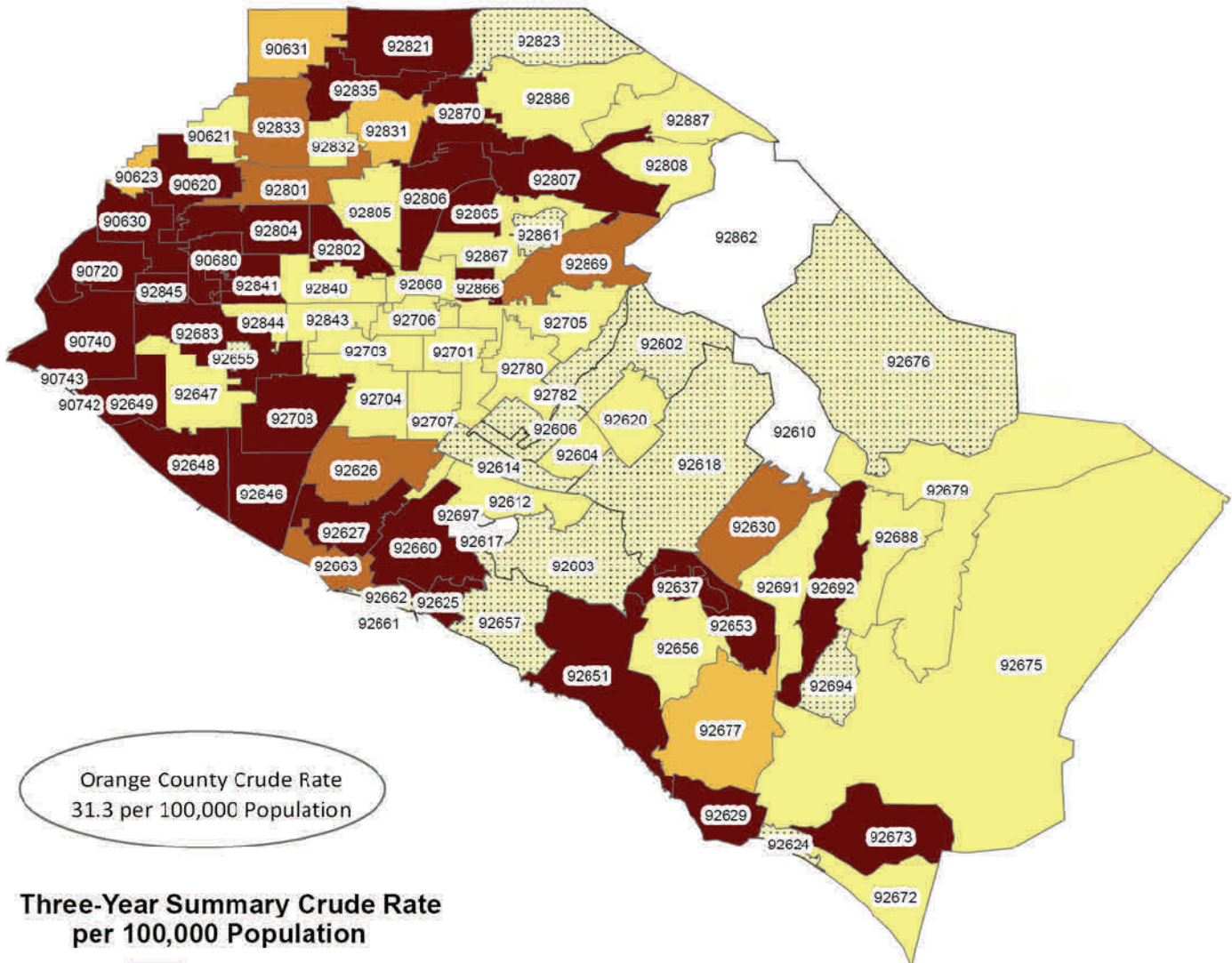
## Orange County All Cancer Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

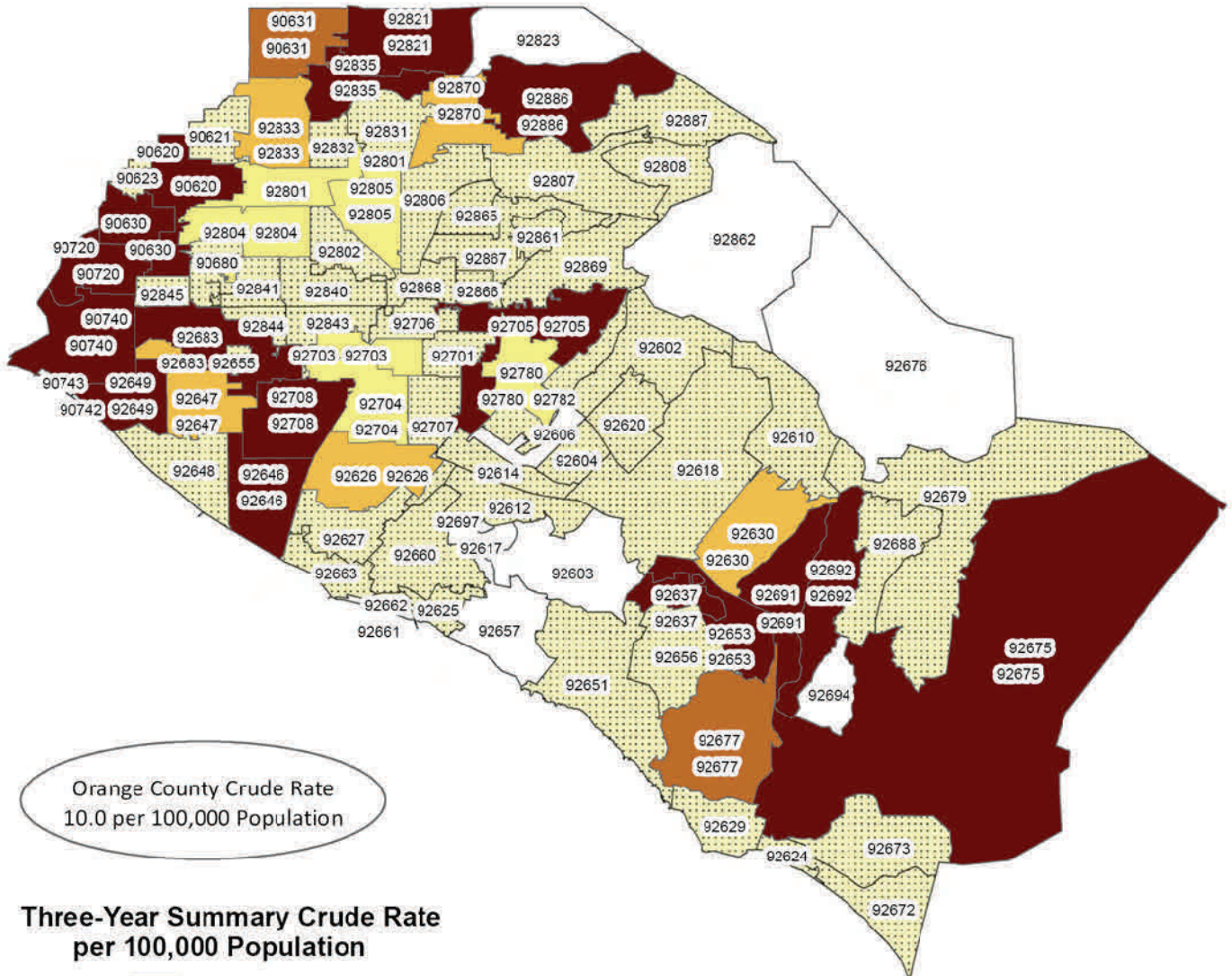


## Orange County Lung Cancer Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

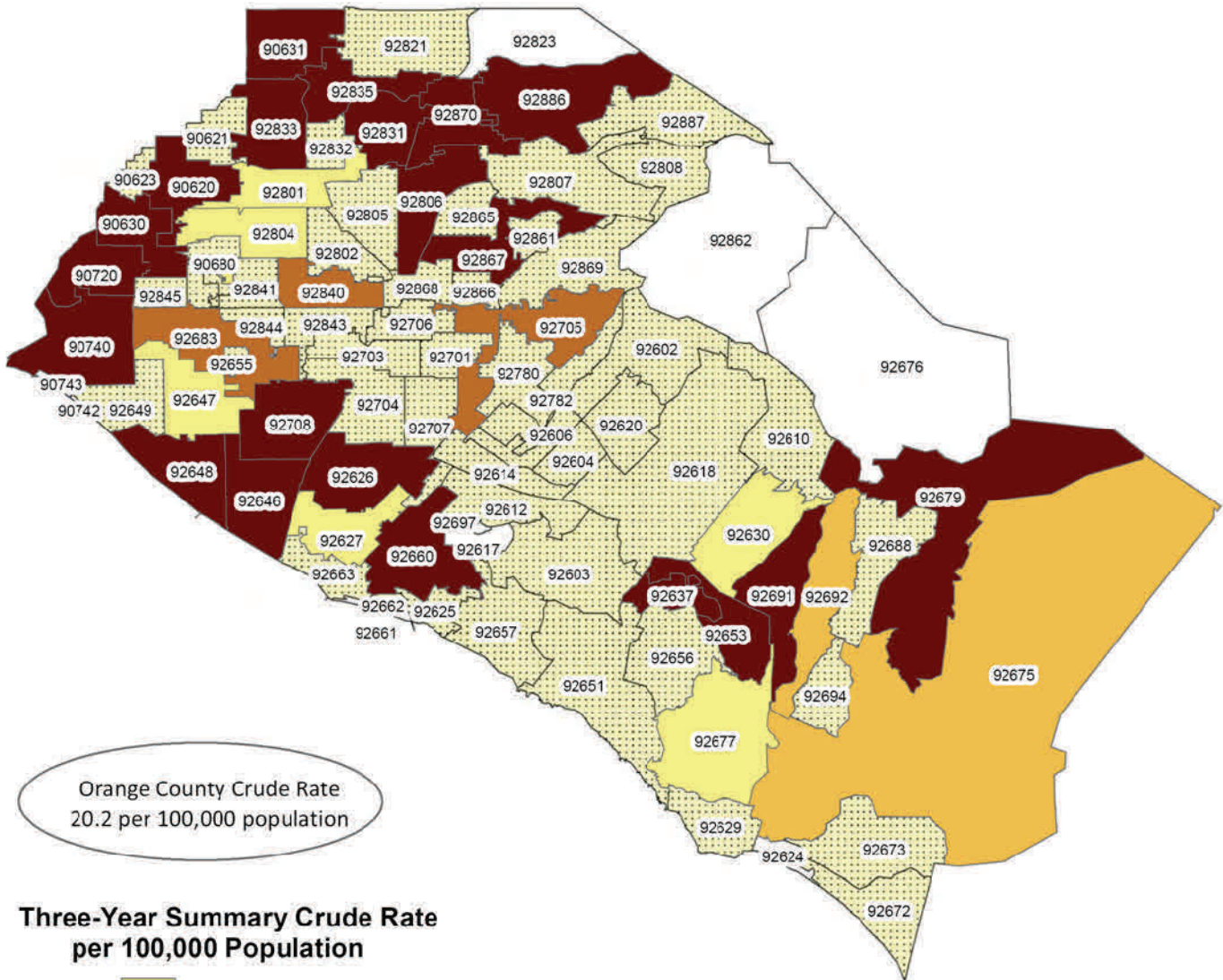
## Orange County Colon Cancer Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

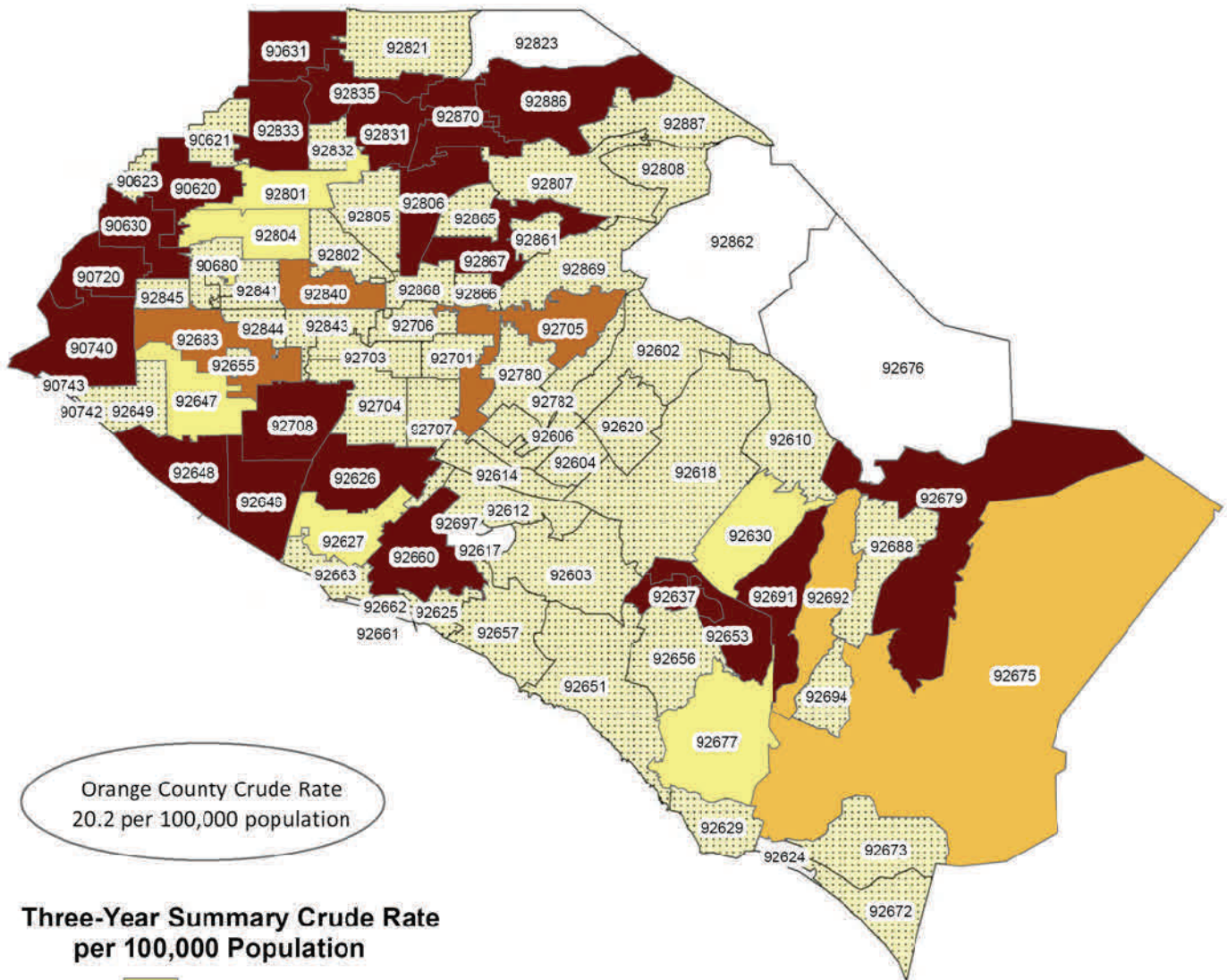


## Orange County Female Breast Cancer Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

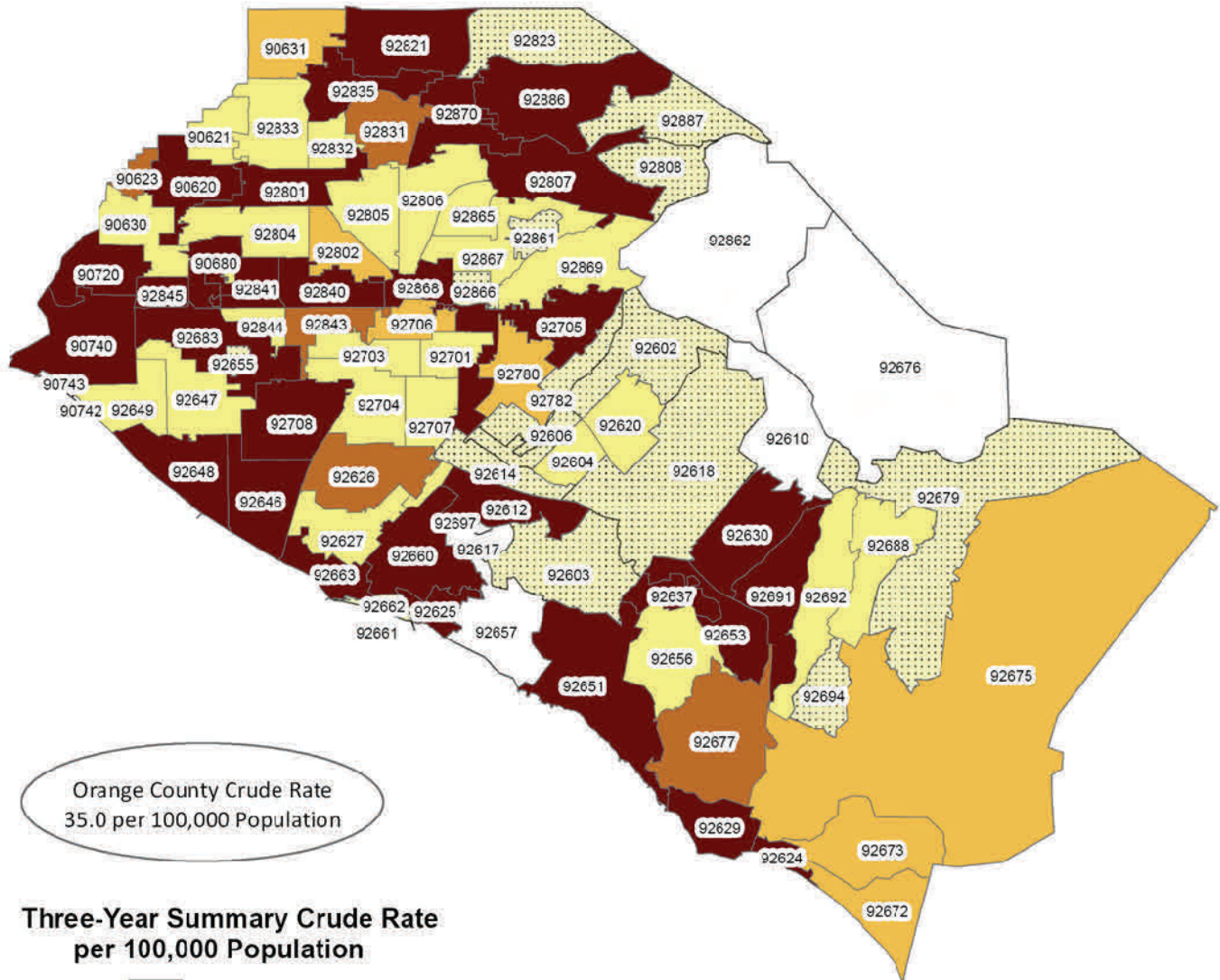
## Orange County Female Breast Cancer Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

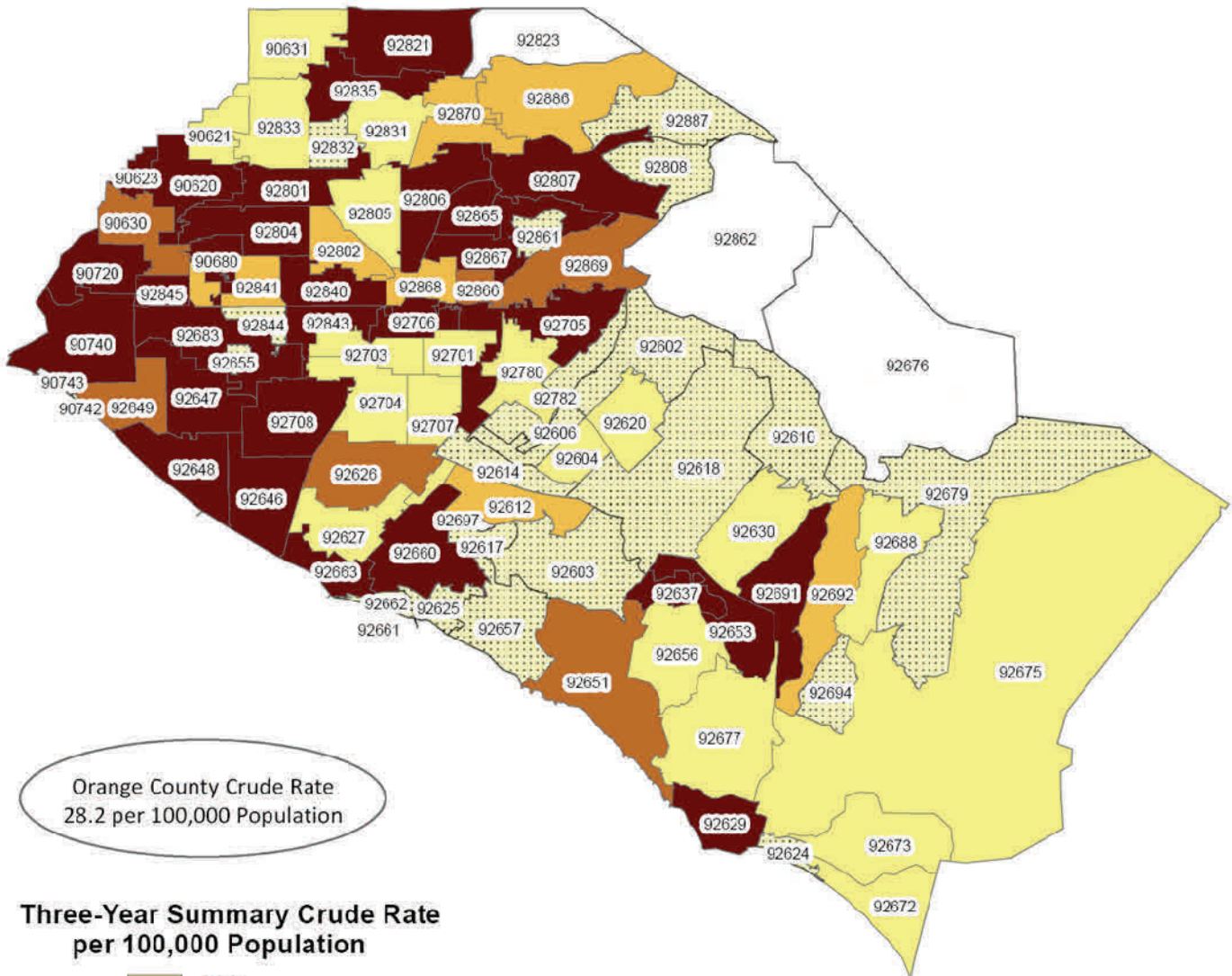


## Orange County Cerebrovascular Disease (Stroke) Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

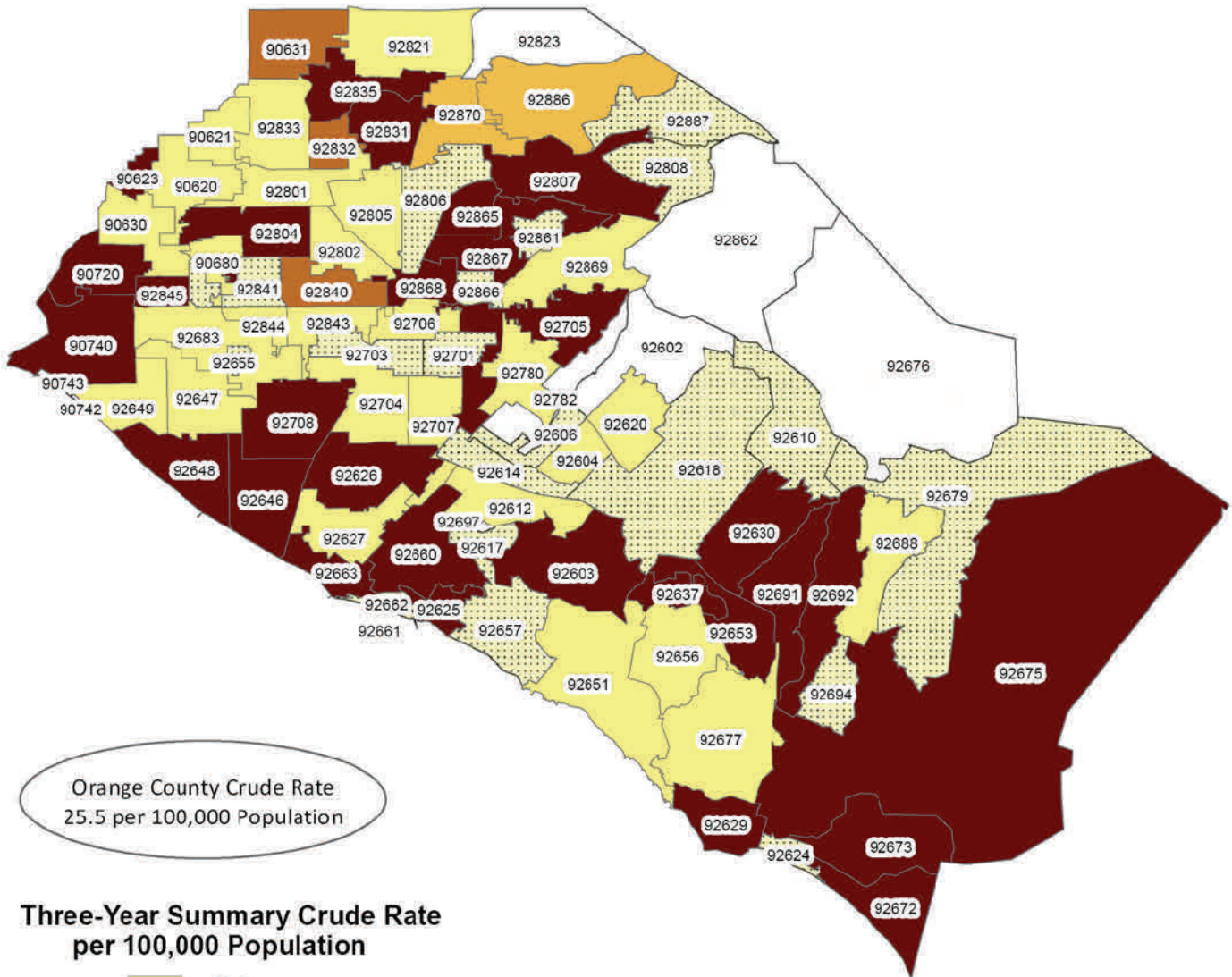
## Orange County Chronic Lower Respiratory Disease Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File



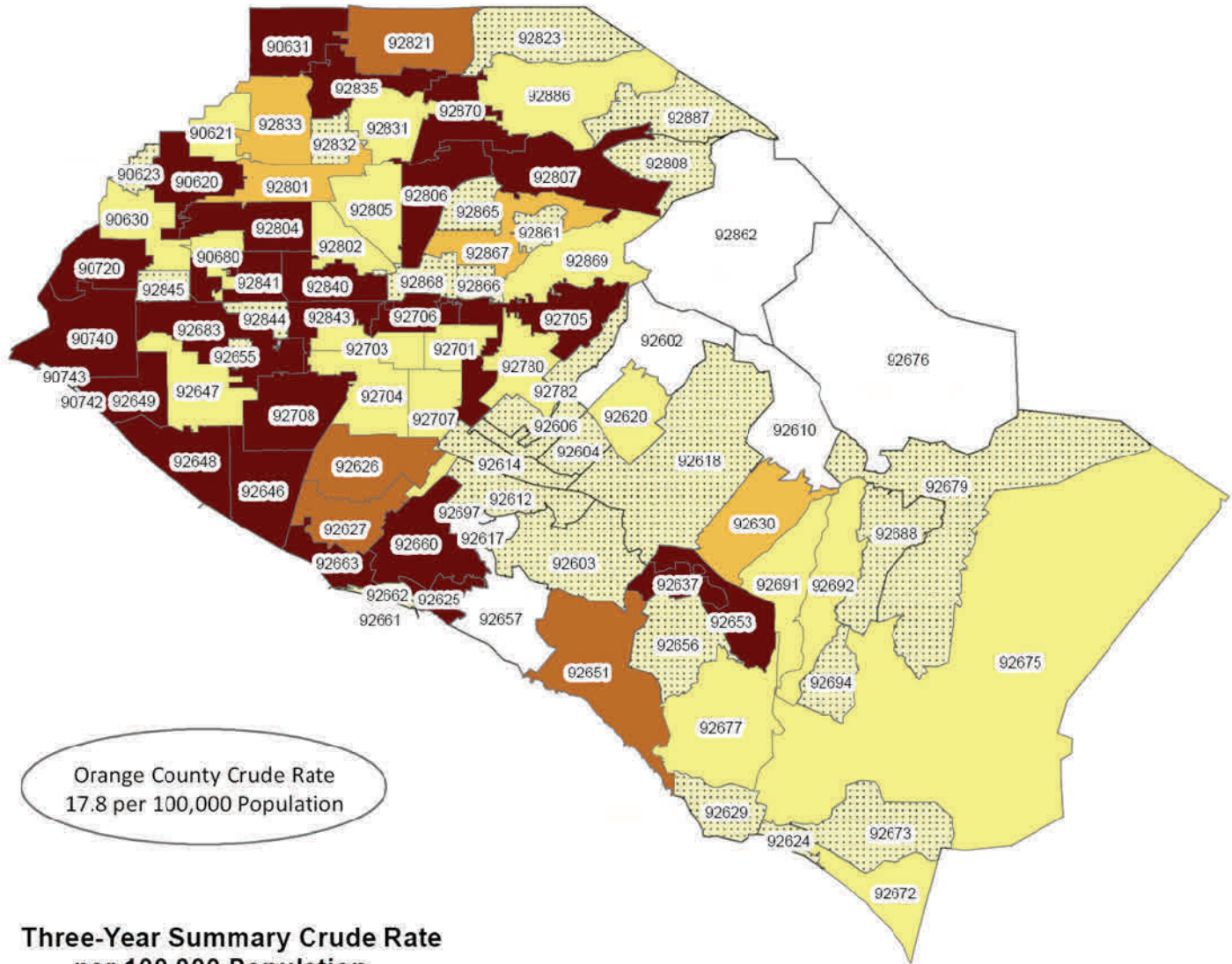
## Orange County Alzheimer's Disease Death Rates by ZIP Code of Residence (2006-2008)



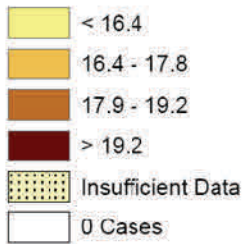
Data Source: State of California Death Master File



# Orange County Influenza and Pneumonia Death Rates by ZIP Code of Residence (2006-2008)

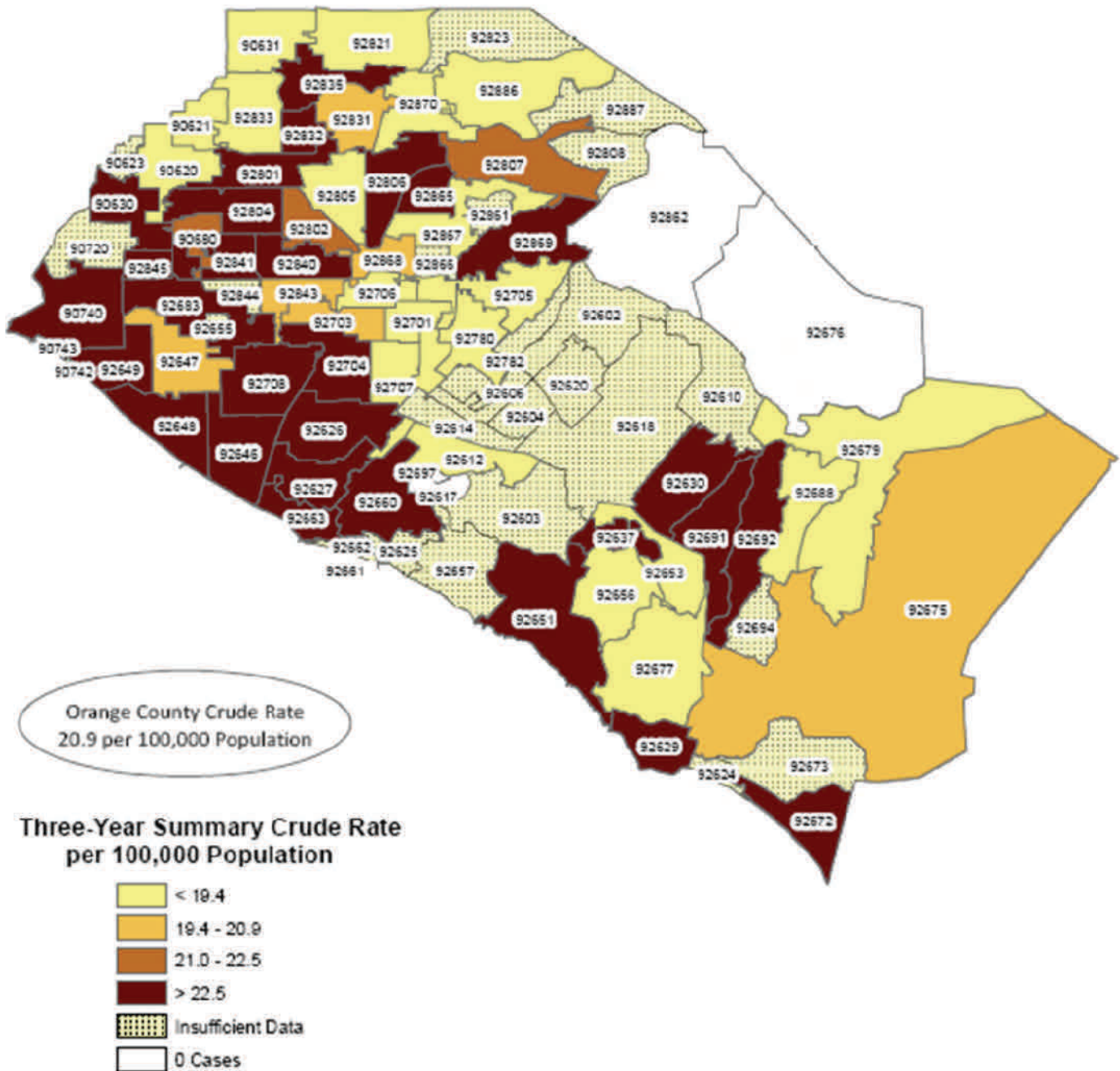


**Three-Year Summary Crude Rate  
per 100,000 Population**



Data Source: State of California Death Master File

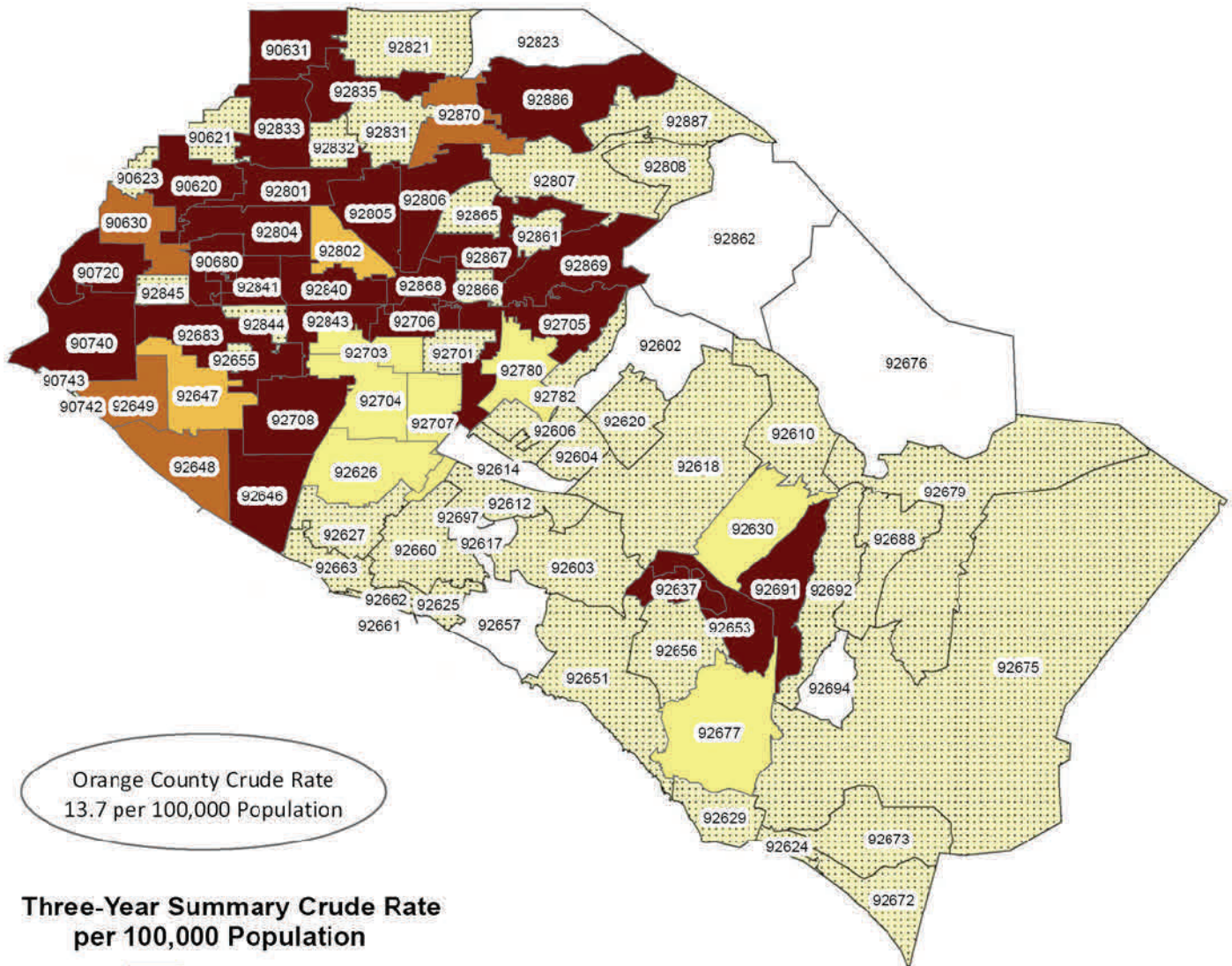
## Orange County Unintentional Injury Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File



# Orange County Diabetes Death Rates by ZIP Code of Residence (2006-2008)



Data Source: State of California Death Master File

Child (1-17) Ever Diagnosed with Asthma: [CHIS 2009](#)

13.4% (1,320,000) California

7.4% (57,000) Orange County

Current Asthma Status for Child Among Ever Diagnosed: [CHIS 2009](#)

62.3% (822,000) of 1,320,000 California

54.8% (32,000) of 57,000 Orange County

### Healthy People 2020 Objective

Reduce to 48.7% the proportion of 5-17 year olds with asthma who miss school days due to asthma in the past 12 months.

Proportion of Children (5-17) Currently with Asthma Missing School in Past 12 Months: [CHIS 2009](#)

21.1% (243,000) California

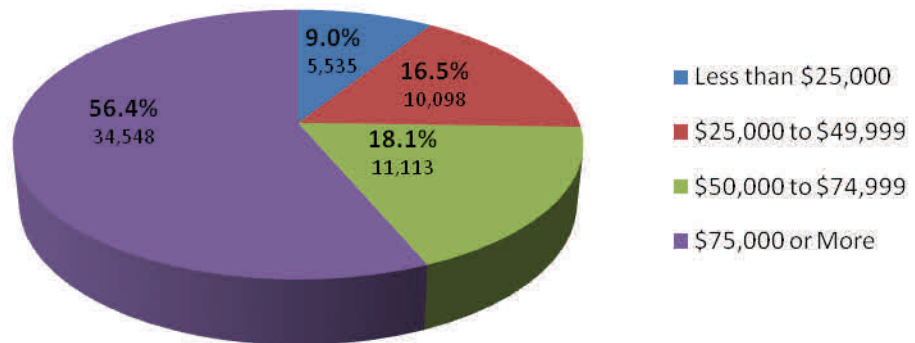
14.7% (7,000) Orange County

Both California and Orange County met the HP 2020 Objective in 2009.

## Asthma (Children 0-17) Scope of Asthma

Asthma is the leading type of chronic illness in children. In the UC Irvine Healthcare countywide service area, 9.4% (75,514) of children ages 0-17 had asthma in 2007. The following figures show the income and ethnicity distribution of children with asthma in the service area.

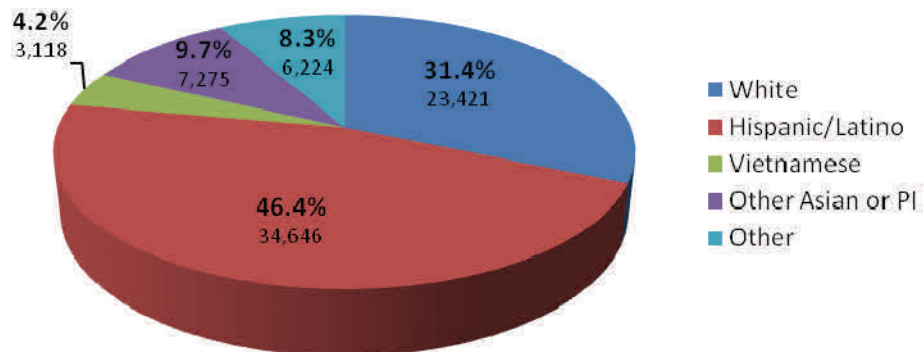
Figure 3: Annual Household Income Distribution of Children with Asthma: UC Irvine Healthcare Countywide Service Area, OCHNA 2007



- 43.6% (26,746) of children in the UC Irvine Healthcare countywide service area live in a household with an annual household income below \$75,000.

The following figure shows the race/ethnicity of children with asthma in the UC Irvine Healthcare countywide area.

Figure 4: Race/Ethnicity of Children with Asthma: UC Irvine Healthcare Countywide Service Area, OCHNA 2007



- Of the children and adolescents with asthma, 46.4% were Hispanic/Latino and 31.4% were white.



## Cancer

Cancer is defined as a group of more than 100 diseases characterized by uncontrolled cell growth and spread of abnormal cells. Cancer is associated with both external (chemicals, radiation, and viruses) internal (hormones, immune conditions, and inherited mutations) factors. According to the [CDC](#), cancer was the second leading cause of death in all of the US in 2007. The [2010 California Cancer Facts and Figures](#) report released by the California Cancer Registry and American Cancer Society expects an estimated **11,000** new cases of cancer in Orange County during 2010.

- The OCHNA 2004 survey estimated that **7.7%** (169,924) of adults 18+ in the UC Irvine Healthcare countywide service area were diagnosed with cancer.

### Cancer Incidence

Population-based cancer reporting is mandatory in California; the California Cancer Registry is a collaboration of state and federal government health departments, hospitals, and 10 regional cancer registries to undertake cancer surveillance around the state. Locally, cancer surveillance is administered by the [Cancer Surveillance Program of Orange County](#) (CSPOC) at the University of California, Irvine.

Year	2004	2005	2006	2007	2008	2004-2008
<b>Total Cases</b>	12,905	13,082	12,525	12,926	11,661	59,272
<b>Crude Rate Per 100,000</b>	435.16	440.57	421.65	434.23	387.31	397.99
<b>Age-Adjusted Rate Per 100,000**</b>	478.95	476.59	448.18	449.83	395.12	422.14

\*Veterans Health Administration hospitals did not report cancer cases to the California Cancer Registry (CCR) in 2005-2008. Therefore, case counts and incidence rates for adult males in 2005-2008 are underestimated.

\*\* An age-adjusted rate is a weighted average of the age-specific (crude) rates, where the weights are the proportions of persons in the corresponding age groups of a standard population.

Source: State of California, Department of Public Health, California Cancer Registry

### Cancer by Demographics

The California Cancer Registry shows varying rates of cancer incidence among different race/ethnicities in Orange County from 2004 to 2008:

- For the Non-Hispanic White population, there were **46,299** cases of cancer—this translated to an age-adjusted rate of **519.01** per 100,000 Non-Hispanic white.
- For the Hispanic population, there were **7,988** cases of cancer, translating to an age-adjusted rate of **336.17** per 100,000 Hispanics.
- Finally, there were **6,879** cases of cancer in the Non-Hispanic Asian/Pacific Islander population, giving an age-adjusted rate of **310.68** per 100,000 people.

## Healthy People 2020 Objective

Reduce the overall cancer death rate to **160.6 deaths per 100,000 population.**

There were **4,203** countywide service area deaths from **Cancer in 2008.** [\(CDPH 2008\)](#)

**Age-Adjusted Cancer Death Rate per 100,000 population in 2008:**

**128.8**  
**(2,083 Deaths)**  
**Females**

**174.9**  
**(2,120 Deaths)**  
**Males**

**147.2**  
**Overall Rate**

The service area surpassed the **HP 2020 Objective.**

**Adult (18+) Ever Diagnosed with Diabetes.** [\(CHIS 2009\)](#)

**8.5% (2,330,000)**  
California

**7.7% (178,000)**  
Orange County

**Healthy People 2020 Objective**

Reduce to **65.8** diabetes-related deaths per 100,000 population by 2020.

There were **425** Orange County deaths from Diabetes in 2008. [\(CDPH 2008\)](#)

**Age-Adjusted Diabetes Death Rate per 100,000 population:**

**13.8**  
(222 Deaths)  
Females

**16.9**  
(203 Deaths)  
Males

**15.1**  
Overall rate

The service area **surpassed** the **HP 2020 Objective**.

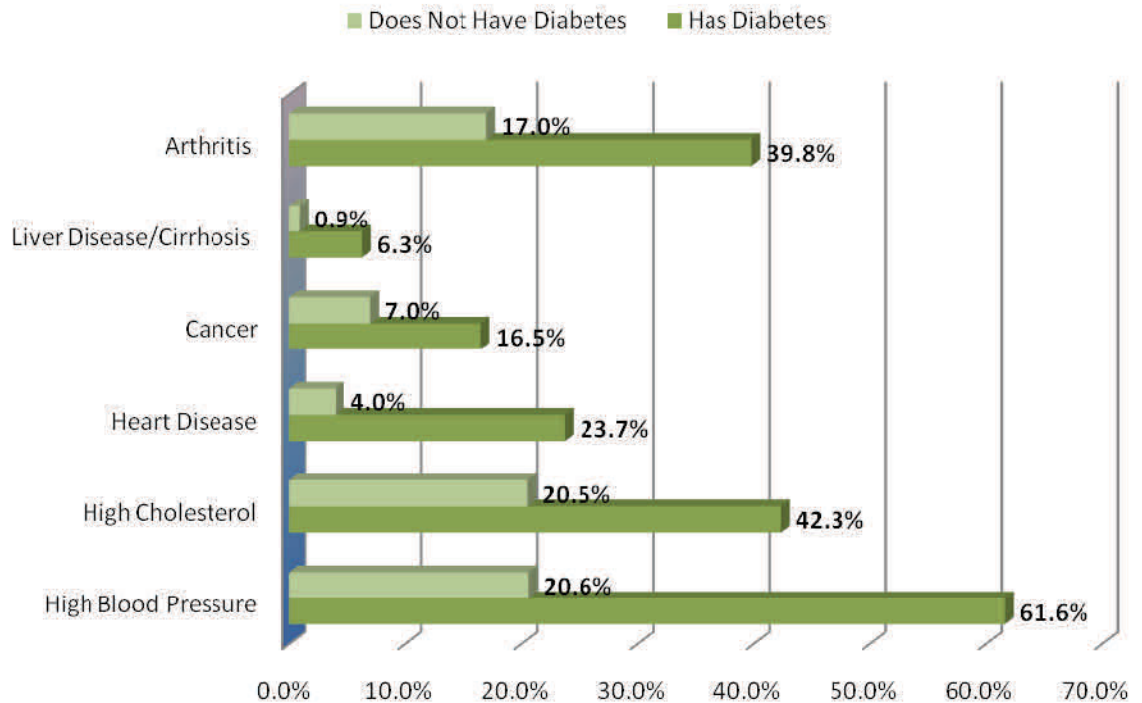
**Diabetes (Adults 18+)**

Diabetes was the seventh leading cause of 2007 deaths in the US, according to the [CDC](#). Type 1 diabetes accounts for 5% to 10% of all diagnosed cases and Type 2 diabetes accounts for 90% to 95% of cases.

- In the UC Irvine Healthcare countywide service area, **7.3%** (161,025) of adults 18 years and older reported that they had diabetes in the OCHNA 2004 survey.
- Higher percentages of diabetes are related to lower household income (Chi-square=27.391, p<0.001). **8.9%** (23,477) of adults with less than \$25,000 annual household income have diabetes. Only **4.5%** (28,332) of adults with annual household income \$75,000 or more have diabetes.
- There is also a relationship between weight status and having diabetes (Chi-square=136.2, p<0.001). Of adults in the UC Irvine Healthcare countywide service area who had diabetes in 2004, **9.5%** (14,151) were normal weight, **47.5%** (70,911) were overweight, and **43.0%** (64,223) were obese.

The following figure shows the percentages of adults with diabetes who have certain medical conditions and compares this to adults who do not have diabetes but also have those same medical conditions. Consistently, we see that adults with diabetes also have higher percentages of the medical conditions shown in the figure below than adults who do not have diabetes.

**Figure 5: Medical Conditions of Adults With/Without Diabetes: UC Irvine Healthcare Countywide Service Area, OCHNA 2004**



## Diabetes Treatments

In the UC Irvine Healthcare countywide service area, **7.3%** (161,025) of adults reported that they had diabetes in 2004. **34.7%** (29,073) had indicated that they had diabetes only when pregnant. Survey questions on treatments for diabetes were asked only of survey respondents who indicated that they had diabetes not related to pregnancy.

Adults with diabetes were asked if they have ever received treatment for their condition; **89.6%** (118,185) indicated that they had received treatment.

- **92.5%** (109,300) of adults who had received treatment before were still currently receiving treatment.
  - **26.0%** (28,412) were taking insulin.
  - **83.3%** (91,075) were taking diabetes pills.

**73.9%** (97,558) of adults with diabetes controlled their diabetes with other means than just medication.

- **79.3%** (77,343) of them indicated that they monitored or adjusted their diet to help control their diabetes.
- **37.1%** (36,193) exercised to help with controlling diabetes.

Damage to the eye is a complication of diabetes. **29.6%** (39,112) of adults with diabetes were told that diabetes affected their eyes. The [American Optometric Association](#) recommends that all individuals with known diabetes receive a comprehensive eye exam on an annual basis, because unless an eye exam is done, eye damage as a result of diabetes can go undetected and potentially lead to blindness. However, the OCHNA 2004 survey showed that **9.0%** (11,810) of adults with diabetes never received an eye exam.

Diabetes management is important to prevent or delay complications. Understanding the disease and its potential complications and making a plan can alleviate the stress from diabetes management. **65.3%** (86,122) of adults with diabetes had taken a course for managing their diabetes.

## Diabetes (Children 0-17)

Since diabetes is rare among children, it is difficult to obtain an accurate estimate of those suffering from the disease with a telephone survey, which assesses only a sample of the total county population. The OCHNA 2007 survey estimated that **0.2%** (1,996) of children and adolescents in the UC Irvine Healthcare countywide service area may have diabetes (type 1 or 2).



## Healthy People 2020 Objective

**Treatment Goals for Adults 18+ with Diabetes Diagnosis:**

**Reduce to 14.6%** the proportion with A1c values of > 9%

**71.1%** Proportion having a glycosylated hemoglobin measurement at least twice a year

**57.0%** Proportion with blood pressure under control

**74.8%** Proportion with at least one annual foot examination

**58.7%** Proportion with an annual dilated eye examination

**62.5%** Proportion receiving formal diabetes education

## Healthy People 2020 Objective

**Reduce to 100.8** coronary heart disease deaths per 100,000 population by 2020.

**4,534** Service Area Heart Disease deaths. ([CDPH 2008](#))

**Age Adjusted Death Rates per 100,000 population from Various Diseases of the Heart:**

**115.0 (3,242 Deaths)**

**Ischemic Heart Disease**

**14.7 (414 Deaths) Heart Failure**

**6.4 (185 Deaths) Cardiomyopathy**

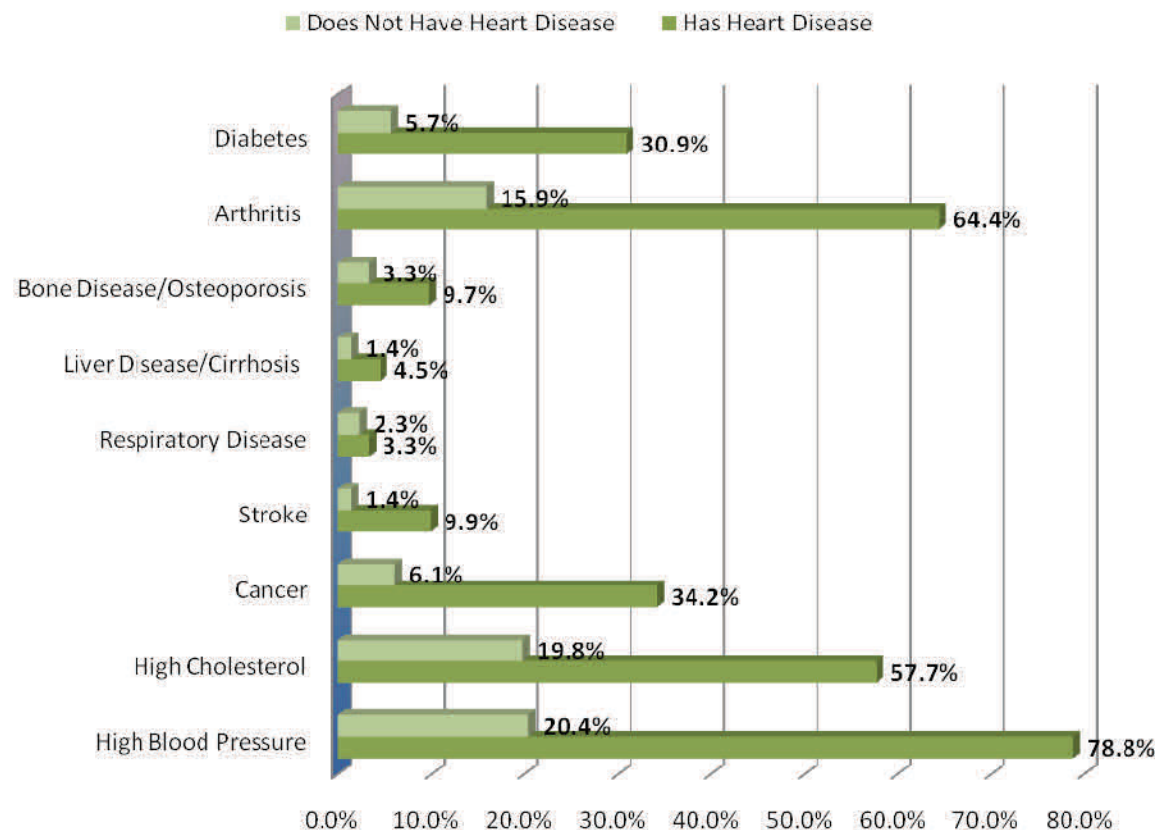
## Heart Disease

Heart disease is a broad term that encompasses a variety of diseases affecting the heart, such as coronary artery disease, cardiovascular disease, and congestive heart failure. According to the [CDC](#), heart disease was the leading cause of death in the US for both men and women during 2007. The [American Heart Association](#) points out that there are behaviors and health conditions that increase a person's susceptibility to heart disease, including physical inactivity, high blood pressure, obesity and overweight, and diabetes mellitus. In the UC Irvine Healthcare countywide service area, an estimated **5.4%** (119,784) of adults 18+ reported that they were diagnosed with heart disease in the OCHNA 2004 survey.

- In the OCHNA 2004 survey, there is a statistically significant relationship between heart disease and income, with adults with less income more likely to have heart disease (Chi-square=70.211,  $p<0.001$ ). **8.7%** (22,811) of adults with annual household income less than \$25,000 have heart disease, compared to **2.7%** (17,147) of adults with annual household income of \$75,000 or more.
- There is also a relationship between weight status and heart disease (Chi-square=21.098,  $p<0.001$ ). Of adults with a normal weight, **3.7%** (36,547) have heart disease, and **4.3%** (37,973) of adults who are overweight have heart disease. **18.9%** (34,593) of adults who are obese have heart disease.

The following figure compares adults with and without heart disease who also have other medical conditions. Consistently, adults with heart disease are more likely to have the medical conditions listed in the figure below than adults who do not have heart disease.

**Figure 6: Medical Conditions of Adults With/Without Heart Disease: UC Irvine Healthcare Countywide Service Area, OCHNA 2004**





## 2006-2008 Incidence Rates of Infectious Diseases: Orange County Health Care Agency—2011 Orange County Geographic Health Profile

### HIV/AIDS

In Orange County, three-year summary crude rate of combined reported incidence of HIV/AIDS from 2006 through 2008 was 18.35 per 100,000 population. Geographic distribution of HIV/AIDS case rates among ZIP codes with reliable rates in Orange County ranged from 9.49 to 98.71 per 100,000 population.

### Tuberculosis

Orange County reported an average crude rate of 6.9 TB cases per 100,000 population for 2006 through 2008. This compares to a rate of 7.2 and 4.4 TB cases per 100,000 population for California and the United States, respectively.



### Healthy People 2020 Objective

Reduce to **13** new case of AIDS per 100,000 persons 13+ years by 2020.

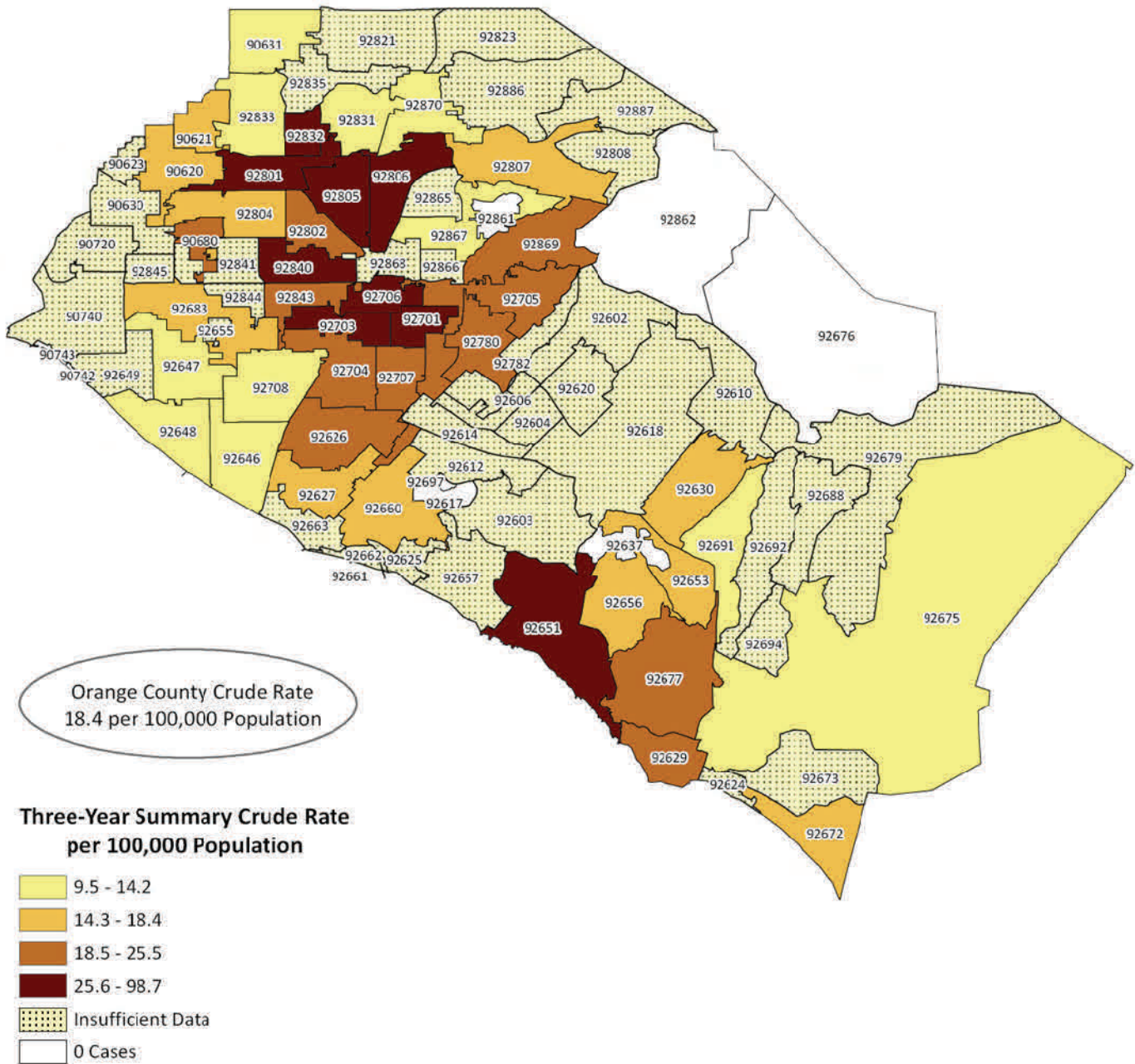
The service area **did not** meet the HP 2020 Objective.

### Healthy People 2020 Objective

Reduce to **1.0** new case of TB per 100,000 population by 2020.

The service area **did not** meet the HP 2020 Objective.

## Orange County Reported Incidence of HIV/AIDS Rates by ZIP Code of Residence (2006-2008)

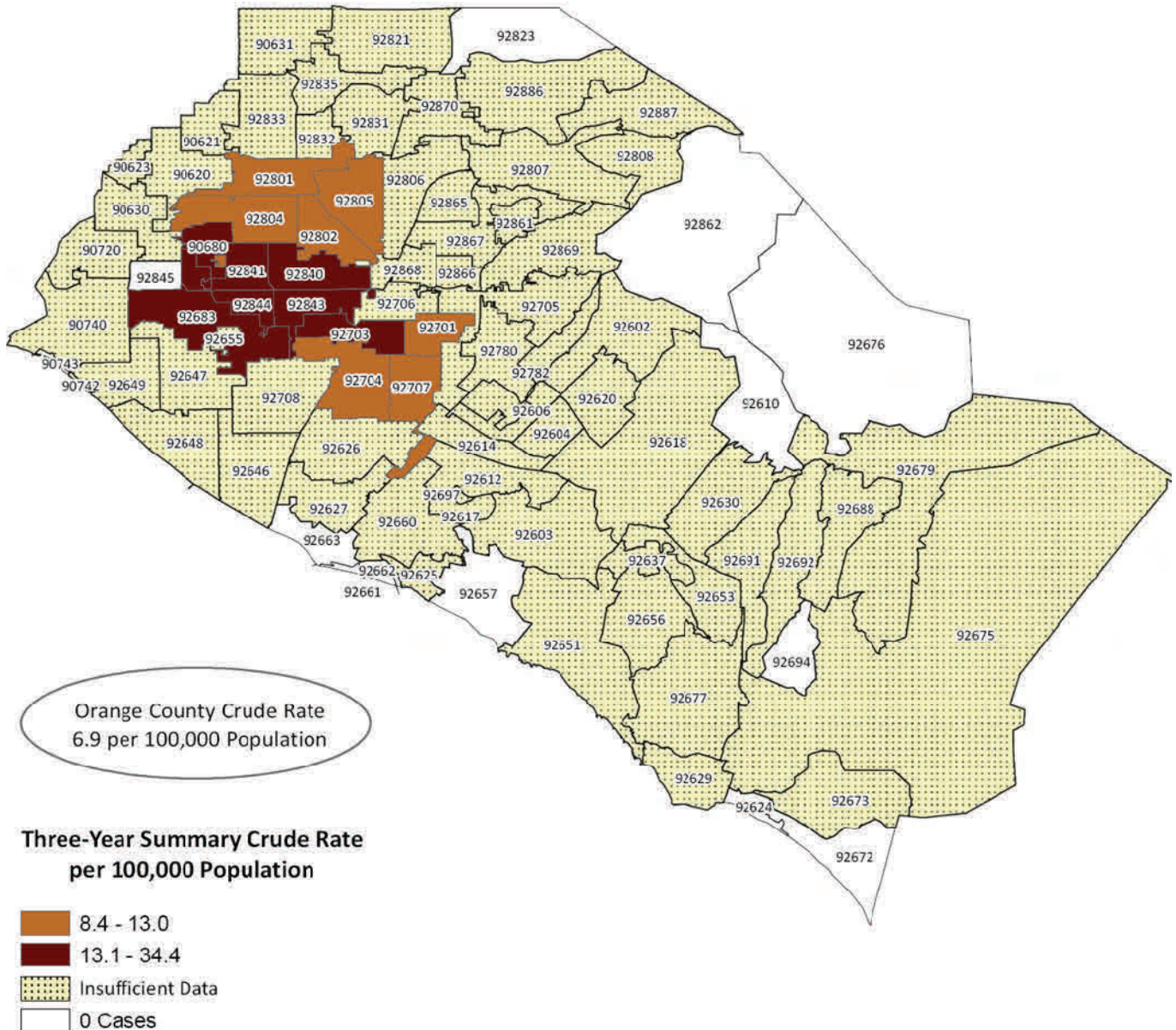


*2.4% of total HIV/AIDS cases (14/578) with inaccurate ZIP codes or post office box addresses are not displayed on the map*

*Data Source: HIV/AIDS Case Registry, Data as of December 31, 2009. County of Orange, Health Care Agency, HIV/AIDS Surveillance.*



# Orange County Reported Incidence of Tuberculosis Rates by ZIP Code of Residence (2006-2008)



.31% of total Tuberculosis cases (1/218) with inaccurate ZIP codes or post office box addresses are not displayed on the map

Data Source: County of Orange Health Care Agency, Pulmonary Disease Services, Unpublished Data August 2010

## Injuries

Injuries affect individuals of all ages and backgrounds. Even if injuries do not cause death, the resulting chronic pain or physical disability from serious accidents can significantly detract from a person's quality of life by compromising his or her ability to work, to meet family obligations, and/or to engage in fulfilling personal activities. Injuries place a great burden on the health care system; the [Medical Expenditure Panel Survey](#) (MEPS) concluded that injuries composed **10.1%** of all nationwide health care expenditures for the civilian non-institutionalized population in 2002, translating to **\$73.4 billion** for medical services treating all injury-related conditions (excluding dental care, eye-care, disposable medical equipment, and other miscellaneous services for methodological reasons). Motor vehicle accidents contributed to the largest share of injury-related expenditures (**37.1%**). **21.5%** of expenditures were attributed to sports injuries, and **6.8%** were attributed to falls. These costs may underestimate the actual financial toll of injuries. Other expenses may arise from decreased productivity, nonmedical expenditures, litigation, and long-term rehabilitation or mental health care costs, according to the 2006 [CDC Injury Fact Book](#).

The CDPH [EPICenter](#) reports that the top five causes of fatal injuries and non-fatal injuries resulting in hospitalization within Orange County were suicide or self-harm, accidental poisoning, motor vehicle accidents (occupant), homicide/assaults, and unintentional falls. Countywide there were **1,101** fatal injuries in 2007 and **18,382** non-fatal injuries resulting in hospitalization in 2006 (detailed information provided below).

## Fatal Injuries

The table below lists various types of injuries resulting in death in Orange County, which corresponds to the entire UC Irvine Healthcare countywide service area, counting deaths where the underlying cause listed on the death certificate was an injury. Suicide was the overall leading cause of fatal injury.

In the UC Irvine Healthcare service area, **25.2% (277)** of all fatal injuries were self-inflicted.

Type of Injury	0-4	5-12	13-20	21-44	45-64	65+	Total
<b>Self-Inflicted (Suicide)</b>	0	0	10	98	122	47	<b>277</b>
<b>Unintentional Poisoning</b>	1	0	11	107	111	9	<b>239</b>
<b>Unintentional Motor Vehicle (Occupant)</b>	2	1	23	54	23	16	<b>119</b>
<b>Unintentional Falls</b>	0	1	0	13	14	84	<b>112</b>
<b>Homicide/Assault</b>	2	0	18	43	12	6	<b>81</b>
<b>Pedestrian (Motor Vehicle, Other)</b>	2	0	1	17	17	17	<b>54</b>
<b>Unintentional Drowning/Submersion</b>	5	2	1	9	6	8	<b>31</b>
<b>Bicycle (Motor Vehicle, Other)</b>	0	0	2	6	4	2	<b>14</b>
<b>Total Fatal Injuries</b>	<b>14</b>	<b>5</b>	<b>77</b>	<b>414</b>	<b>362</b>	<b>229</b>	<b>1,101</b>

Source: California Department of Public Health, EPIC Branch, Vital Statistics Death Statistical Master File



- The leading cause of fatal injury for children 0-4 years of age was unintentional drowning or submersion.
- The leading cause of fatal injury for youth 13-20 years was as an occupant in a motor vehicle accident, followed by homicide/assault.
- The leading cause of fatal injury for adults 45-64 years was suicide.
- The leading cause of fatal injury for adults 65+ was unintentional falls.

## Non-Fatal Injuries Resulting in Hospitalization

The CDPH identified nonfatal injuries by searching hospital discharge data for records where a California resident was hospitalized for an injury, excluding cases that died in the hospital. The dataset also excludes injuries due to adverse effects of medical encounters and drugs. Please note that beginning in 1999 deaths were coded using ICD-10 codes, while hospitalizations continued to be coded by ICD-9.

Type of Injury	0-4	5-12	13-20	21-44	45-64	65+	Total
<b>Unintentional Falls</b>	243	246	176	649	1,248	5,266	<b>7,828</b>
<b>Unintentional Motor Vehicle (Occupant)</b>	10	29	272	679	329	212	<b>1,531</b>
<b>Self-Inflicted (Suicide)</b>	0	8	387	666	319	82	<b>1,462</b>
<b>Unintentional Poisoning</b>	47	7	54	175	226	229	<b>738</b>
<b>Homicide/Assault</b>	14	2	163	399	83	14	<b>675</b>
<b>Bicycle (Motor Vehicle, Other)</b>	3	56	63	132	113	48	<b>415</b>
<b>Pedestrian (Motor Vehicle, Other)</b>	29	26	56	101	46	53	<b>311</b>
<b>Unintentional Drowning/Submersion</b>	23	3	5	7	1	3	<b>42</b>
<b>Total Non-Fatal Injuries</b>	<b>606</b>	<b>539</b>	<b>1,609</b>	<b>4,394</b>	<b>3,740</b>	<b>7,494</b>	<b>18,382</b>

Source: State of California, Office of Statewide Health Planning and Development, Patient Discharge Data; Prepared by the State of California, Department of Public Health, EPIC Branch

- The leading cause of non-fatal injuries resulting in hospitalizations was unintentional falls for all individuals in 2006; this was the leading cause within the 0-4, 5-12, 45-64 and 65+ age groups.
- Among youth 13 to 20 years the leading cause of non-fatal injuries was a self-inflicted injury.
- A motor vehicle accident where the occupant was injured was the leading cause for adults 21-44 years. In fact **44.3%** of non-fatal hospitalizations resulting from motor vehicle accidents were by adults 21-44 years.

**42.6% (7,828) of all non-fatal injuries in the UC Irvine Healthcare service area were due to unintentional falls, the majority of which happened to older adults.**

**16,830 Total In-Patient Discharges from UC Irvine Medical Center in 2010.**

**104,210 Total Number of In-Patient Discharge Days in UC Irvine Medical Center in 2010.**

**6.2 Days Average Length of In-Patient Stays at UC Irvine Medical Center in 2010.**  
(OSHPD)

## Impact of Selected Major or Chronic Diseases on Hospitals

The consequences of unaddressed chronic diseases can be costly on hospitals. The following data present the charges that result from hospitalization from the serious chronic diseases of cancer, heart disease, and diabetes.

### Hospital Discharges

OSHPD lists the discharge information of patients by their principal diagnosis for each hospital. The data for UC Irvine Medical Center discharges are from 2010:

- There were **579** discharges of patients with a principal diagnosis of the **respiratory system**.
- There were **1,504** discharges of patients with a principal diagnosis of **cancer**.
- There were **612** discharges of patients with a principal diagnosis of an **endocrine system disease** (including diabetes).
- There were **1,641** discharges of patients with a principal diagnosis of a **circulatory system disease**.

### 2006-2008 Average Length of Stay and Daily Charges for Selected Diagnoses at Orange County Short-Stay Hospitals: Orange County Health Care Agency—Orange County Health Indicators Profile 2011

The Office of Statewide Health Planning and Development (OSHPD) collects data on the average length of stay and the charges per day by diagnostic category at 34 Orange County short-stay hospitals. OSHPD Data from 2006 to 2008 have been averaged.

First-Listed Diagnosis	Average Length of Stay	Charges per Day
<b>Asthma</b>	3.6 days	\$8,446
<b>Cerebrovascular Disease</b>	4.9 days	\$14,262
<b>Diabetes Mellitus</b>	4.7 days	\$9,438
<b>Heart Disease</b>	4.1 days	\$20,425
<b>Malignant Cancer</b>	6.5 days	\$15,678
<b>Pneumonia</b>	5.7 days	\$8,913

- For all discharges, the average length of stay at an Orange County short stay hospital was **5.3** days over 2006 to 2008; the average charge per day over 2006 to 2008 was **\$13,039**.
- The average length of stay at an Orange County short stay hospital for a patient with a first-listed diagnosis of **congestive heart failure** was **4.6** days; the charges per day were **\$11,974**.
- It would cost a typical Orange County short stay hospital **\$50,804** to care for an individual with **pneumonia** who stayed at the hospital for **5.7** days.
- It would cost a typical Orange County short stay hospital **\$69,884** to care for an individual with **cerebrovascular disease** who stayed at the hospital for **4.9** days.

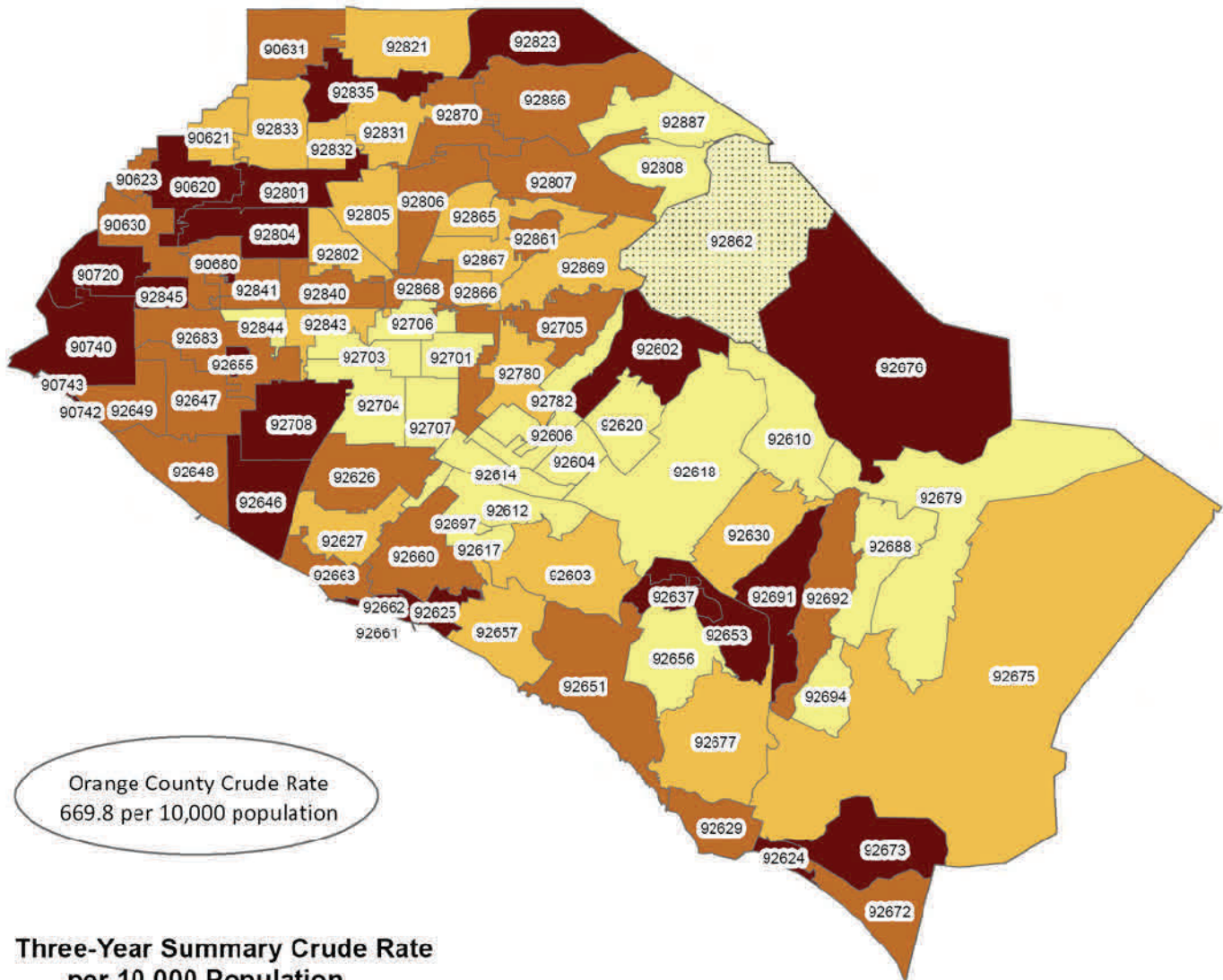
## 2006-2008 Orange County Causes of Hospitalization: Orange County Health Care Agency—Orange County Geographic Health Profile 2011

The data on the following pages come from the OSHPD Patient Discharge Data for the 2006-2008 epoch. The non-public dataset includes de-identified records of visits to all Orange County hospitals, in addition to all hospitalizations of Orange County residents to either OC or non-OC facilities. In the dataset, the principal diagnosis for a visit was identified using the International Classifications of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). Hospitalizations due to all causes combined for OC residents were analyzed in this category. From 2006 to 2008, there was an average of **260,038** hospitalizations of Orange County residents per year. The three-year average hospitalization crude rate was **669.8** per 10,000 population.

**Table 6.1: Leading Causes of Hospitalization**  
**Number of Visits and Percent**  
**All Residents - Orange County, 2006-2008**

Rank	Cause	Number of Visits (3-Year Average)	Percent
1	Pregnancy, childbirth, and the puerperium (630-677)	46,618	17.9%
2	Diseases of the digestive system (520-579)	27,259	10.5%
3	Heart disease (391-392.0,393-398,402,404,410-416,420-429)	23,577	9.1%
4	Mental Disorders (290-319)	14,681	5.6%
5	Diseases of the genitourinary system (580-629)	13,022	5.0%
6	Malignant neoplasms (140-208,230-234)	10,376	4.0%
7	Infectious and parasitic diseases (001-139)	9,483	3.6%
8	Fractures (800-829)	7,417	2.9%
9	Cerebrovascular disease (430-438)	6,554	2.5%
10	Pneumonia (480-486)	6,451	2.5%
11	Diseases of the musculoskeletal system and connective tissue (710-739)	5,750	2.2%
12	Osteoarthritis and allied disorders (715)	5,205	2.0%
13	Diseases of the nervous system and sense organs (320-389)	4,770	1.8%
14	Diseases of the skin and subcutaneous tissue (680-709)	4,450	1.7%
15	Benign neoplasms (210-229)	3,532	1.4%
16	Diabetes mellitus (250)	3,231	1.2%
17	Diseases of the blood and blood-forming organs	2,788	1.1%
18	Intervertebral disc disorders (722)	2,641	1.0%
19	Chronic bronchitis (491)	2,466	0.9%
20	Volume depletion (276.5)	2,067	0.8%
21	Certain conditions originating in the perinatal period (760-779)	1,886	0.7%
22	Asthma (493)	1,867	0.7%
23	Poisonings (960-989)	1,743	0.7%
24	Congenital anomalies (740-759)	1,318	0.5%
25	Alcohol dependence syndrome (303)	1,234	0.5%
26	Acute bronchitis and bronchiolitis (466)	1,222	0.5%
	Other	48,430	18.6%
	Total =	260,038	100.0%

## All Orange County Hospitalization Rates by ZIP Code of Residence (2006-2008)



Source: Office of Statewide Health Planning and Development, State of California  
The map does not display cases with a PO Box or unknown ZIP Code (1.2% or 2,566 out of 213,420 Hospitalizations).



# Maternal and Infant Health

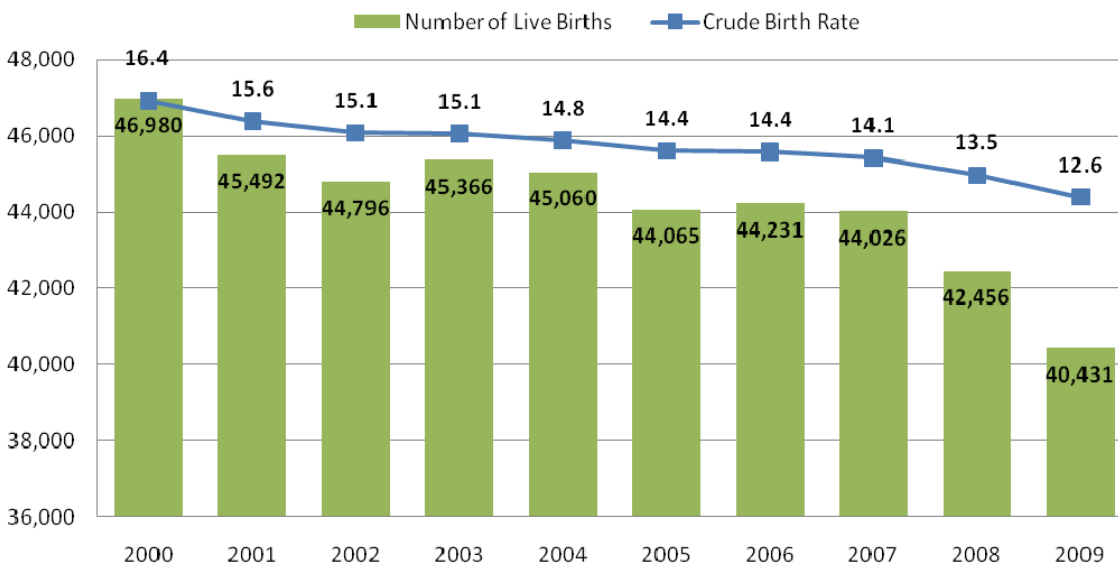
An overriding priority of health services is to ensure healthy, risk-free births. A mother-to-be can also take measures to reduce risk factors and help ensure the health of her baby, including adequate prenatal care and good nutrition. After a child is born, breastfeeding can provide several health benefits, including helping to protect an infant from a variety of illnesses, bacteria, and infections.

- In 2009, the [California Department of Public Health](#) (CDPH) Vital Statistics Query System reported **40,431** live births in all of Orange County.

## Crude Birth Rates of the Service Area

From 2000 to 2009, the CDPH Vital Statistics Query System shows that the number of live births and the crude birth rate has been in decline—the crude birth rate is determined by the number of live births as a proportion of the total county population. This decline may be connected to the economic downturn. For 2009, the birth rate was **12.6 per 1,000** total Orange County population (corresponding to the UC Irvine Healthcare countywide service area) using population estimates from the [State of California, Department of Finance](#).

**Figure 1: Number of Live Births and Crude Birth Rate per 1,000 Total Population: UC Irvine Healthcare Countywide Service Area, 2000-2009**



Source: State of California, Department of Public Health, Vital Statistics Query System

- The birth rate has been declining since 2000, with the largest drop occurring from 2008 to 2009; from 2000 to 2009, there was a **-13.9%** change in the number of live births.

**Number of Live Births and Crude Birth Rate per 1,000 Total Population in California:** [\(CDPH\)](#)

**531,285 (15.6)**  
2000

**527,371 (15.2)**  
2001

**529,245 (15.0)**  
2002

**540,827 (15.1)**  
2003

**544,685 (15.0)**  
2004

**548,700 (14.8)**  
2005

**562,157 (15.0)**  
2006

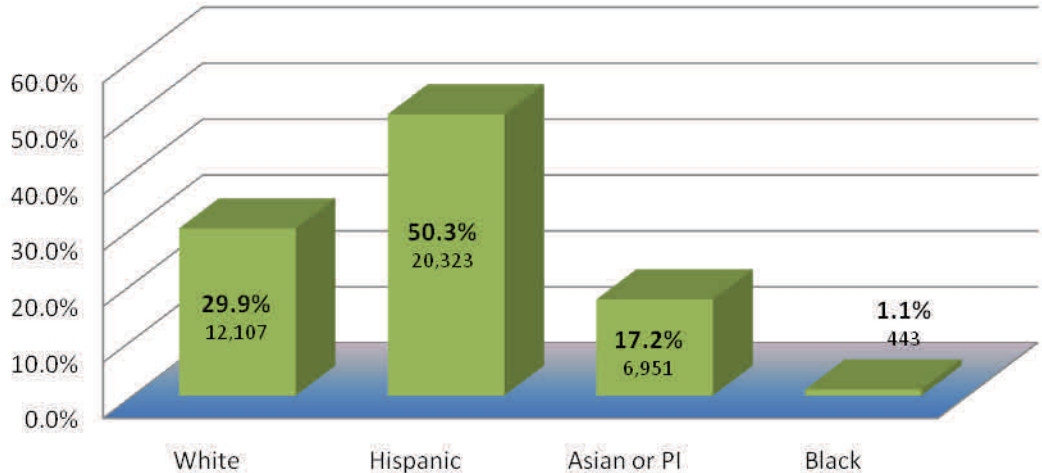
**566,137 (15.0)**  
2007

**551,567 (14.4)**  
2008

**526,774 (13.6)**  
2009

The figure below depicts the percent distribution of live births by each race/ethnicity.

**Figure 2: Percent Distribution of Live Births by Race/Ethnicity:  
UC Irvine Healthcare Countywide Service Area, 2009**



Source: State of California, Department of Public Health, Vital Statistics Query System

In the UC Irvine Healthcare service area, Hispanics/Latinos had the highest live birth rate.

- In the countywide UC Irvine Healthcare countywide service area the race/ethnicity specific birthrate for whites was **8.5 per 1,000** total white population; for Hispanic/Latinos the rate was **18.0 per 1,000** total Hispanic/Latino population; for Asian or Pacific Islanders the rate was **13.4 per 1,000** total Asian or PI population; and, for blacks the rate was **11.0 per 1,000** total black population.

Table 1: Births by Most Populous Service Area City: UC Irvine Healthcare Countywide Service Area, 2009	
City in Service Area	Number of People
Anaheim	5,912
Costa Mesa	1,614
Fullerton	1,675
Garden Grove	2,454
Irvine	2,388
Huntington Beach	1,964
Mission Viejo	1,356
Orange	1,975
Santa Ana	7,325
Westminster	1,131

Source: State of California, Department of Public Health, Birth Profiles by ZIP Code, 2009

- The cities of **Anaheim, Santa Ana, Irvine, Garden Grove, and Orange** accounted for almost half of all births in the entire UC Irvine Healthcare countywide service area in 2009, with **20,194** live births.

## Prenatal Care Indicators

### Prenatal Care and Folic Acid

OCHNA previously collected data on prenatal care in the **OCHNA 2004 survey**.

- In the UC Irvine Healthcare countywide service area, almost all mothers with children between 0 and 5 years received regular prenatal care during their pregnancy (**98.3%** or 247,211).

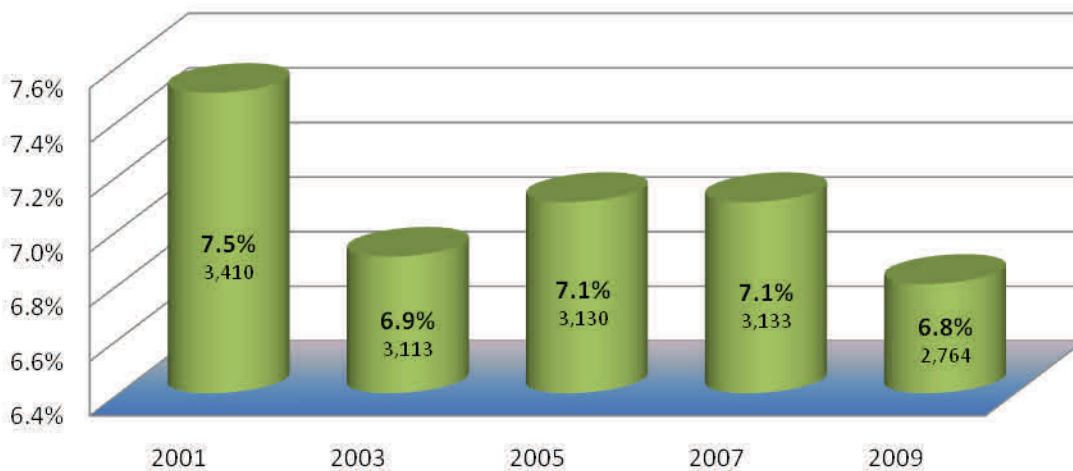
The CDC recommends that women of childbearing age should consume 400 to 800 micrograms (mcg) of folic acid daily. Folic acid is essential in preventing neural tube defects in a developing fetus.

- In the UC Irvine Healthcare countywide service area, **69.6%** (179,802) of mothers with children between 0 and 5 years took folic acid supplements during their pregnancy according to the OCHNA 2004 survey.

### Teen Pregnancies

Teenaged mothers face a higher risk of medical complications during pregnancy because they often fail to receive timely and proper prenatal care. The figure below presents the proportion of births by teen mothers (under 20 years) in the overall service area from 2001 to 2009.

**Figure 3: Percent of Births by Teen Mothers (Under 20 Years): UC Irvine Healthcare Countywide Service Area, 2001-2009**



Source: State of California, Department of Public Health, Vital Statistics Query System

- For the UC Irvine Healthcare countywide service area, **6.8%** (2,764) of live births in 2009 were by mothers under 20 years of age.

### Pregnancy and Access to Health Care

Access to health care is particularly critical during pregnancy, when a mother-to-be needs continuous care to ensure that her pregnancy progresses smoothly.

- According to the 2007 [California Health Interview Survey](#) (CHIS), **5.2%** of all Orange County women (45 years of age or younger and who did not have a hysterectomy) were pregnant at the time of the survey. Of these women, **88.8%** had health care coverage.

**State of California, Maternal and Infant Health Assessment Survey 2005-2006 (Mothers Recently Giving Birth):**

**68.5%**  
Percent of Orange County Mothers with Medical Home Just Before Pregnancy

**Percent of Teen Mothers (Under 20 Years):** [\(CDPH 2009\)](#)

**9.2% (48,359)**  
California

**9.5% (13,278)**  
Los Angeles

**6.8% (2,764)**  
Orange County

**10.7% (3,392)**  
Riverside County

**12.3% (3,922)**  
San Bernardino County

**8.0% (3,582)**  
San Diego County

**5.3% (1,329)**  
Santa Clara County

**Late or No Prenatal Care:** [\(CDPH 2009\)](#)

**16.8% (88,430)**  
California

**11.1% (4,501)**  
Orange County

**Healthy  
People 2020  
Objective**

Increase to **77.6%** the proportion of pregnant women who receive early and adequate prenatal care.

**Late or No Prenatal Care**

Prenatal care is considered late if it is initiated in the 2<sup>nd</sup> trimester of pregnancy (after the 12<sup>th</sup> week) or later. Delaying or forgoing prenatal care can lead to a number of negative health outcomes, such as maternal complications or low birth weights. The table below examines the number of live births by the age and race/ethnicity of the mothers who received late or no prenatal care.

<b>Age of Mother</b>	<b>2<sup>nd</sup> Trimester</b>	<b>3<sup>rd</sup> Trimester</b>	<b>No Prenatal Care</b>	<b>Overall Percent</b>
<b>Under 15 Years</b>	12	2	5	55.9%
<b>15-19 Years</b>	575	125	20	26.4%
<b>20-29 Years</b>	1,825	363	52	12.6%
<b>30-39 Years</b>	1,160	177	19	7.5%
<b>40 Years and Over</b>	147	16	3	9.3%
<b>Race/Ethnicity of Mother</b>	<b>2<sup>nd</sup> Trimester</b>	<b>3<sup>rd</sup> Trimester</b>	<b>No Prenatal Care</b>	<b>Overall Percent</b>
<b>White</b>	759	153	16	7.7%
<b>Hispanic</b>	2,282	402	63	13.5%
<b>Asian or PI</b>	562	100	9	9.6%

Source: State of California, Department of Public Health, Birth Profiles by ZIP Code, 2009

- **13.5%** of Hispanic/Latino mothers received late or no prenatal care, compared to **7.7%** of white mothers.
- In the overall service area **11.1% (4,501)** of all live births in 2009 had late or no prenatal care. The Healthy People 2020 goal is **77.6%** of pregnant women receiving early prenatal care. The UC Irvine Healthcare countywide service area met the Objective in 2009.

**2006-2008 Inadequate Prenatal Care: Orange County Health Care Agency—2011 Orange County Geographic Health Profile**

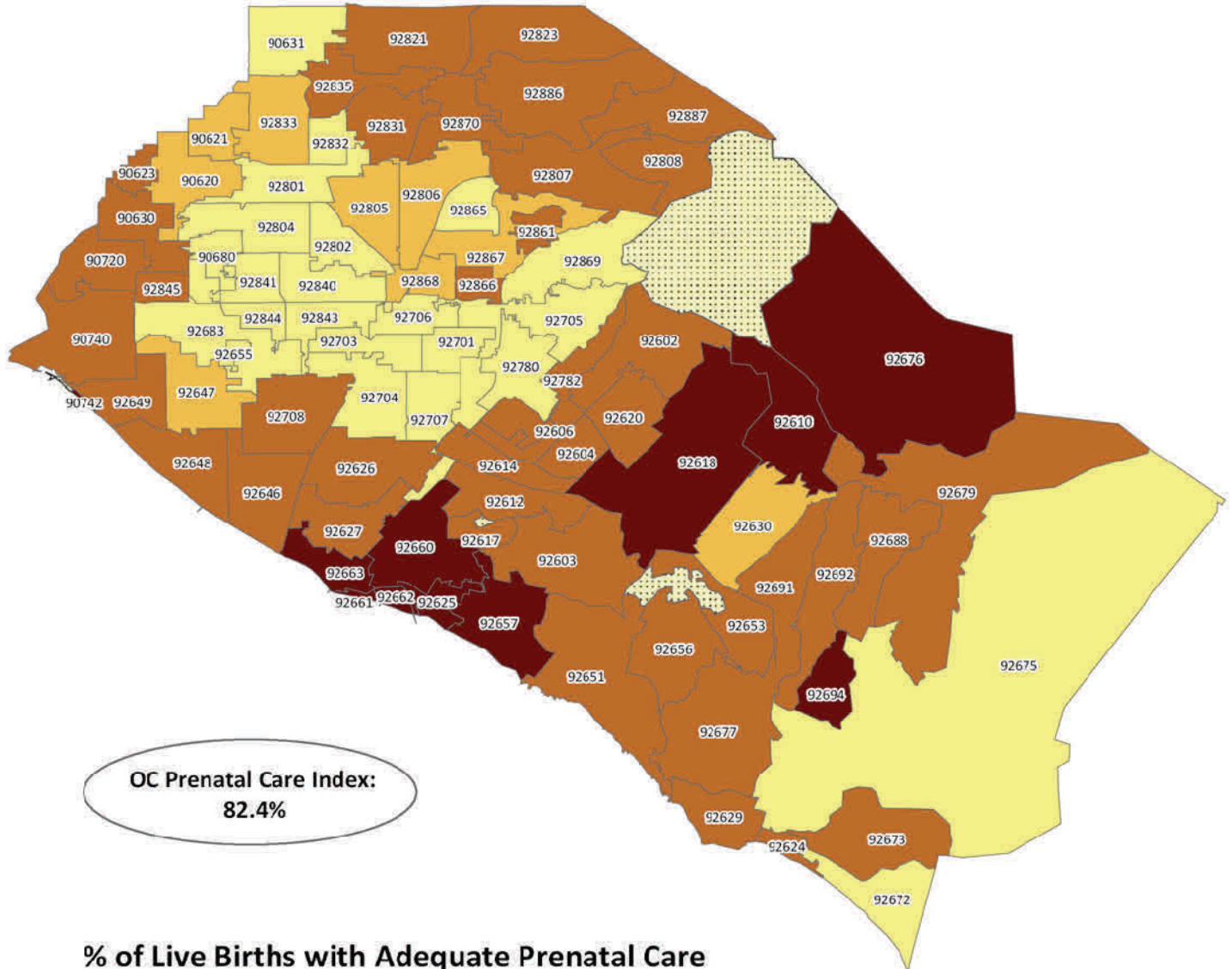
The Kotelchuck Adequacy of Prenatal Care Utilization (APNCU) index examines two components to determine whether a mother’s prenatal care was adequate: 1) when prenatal care was initiated, and 2) the frequency of prenatal care visits. These two indices are scaled on the APNCU matrix, which provides the overall adequacy level of prenatal care. The levels are inadequate, intermediate, adequate, and adequate plus.

The 2011 Orange County Geographic Health Profile reported the inadequate scores for Orange County live births between 2006 and 2008 by ZIP code of residence that have been averaged for stability purposes. The average number of births over that time period was **43,571**.

- There were an average of **82.4%** (35,804) of live births in Orange County with mothers who received adequate prenatal care over 2006 to 2008.



## Orange County Adequate Prenatal Care Index by ZIP Code of Residence (2006-2008)



\*Adequacy of Prenatal Care Utilization (APNCU) Index is a composite indicator for Adequate prenatal care.

Data Source: 2006-2008 Orange County Birth Statistical Master Files

**Healthy People 2020 Objective**

Reduce to **28%** maternal illness and complications due to pregnancy (complications during hospitalized labor and delivery).

**Healthy People 2020 Objective**

Reduce low birth weight to **7.8%** (less than 2,500 grams) and very low birth weight to **1.4%** (less than 1,500 grams).

California (CDPH 2009)

**6.7% (35,835)**  
Low Birth Weight Live Births

**1.1% (6,127)**  
Very Low Birth Weight Live Births

Orange County (CDPH 2009)

**6.6% (2,670)**  
Low Birth Weight Live Births

**1.0% (406)**  
Very Low Birth Weight Live Births

**Substance Use**

Maternal alcohol, tobacco, or other drug (ATOD) use during pregnancy can pose multitudes of health risks to a developing fetus, causing both short-term and long-term harm. The [2007 Substance Exposed Babies in Orange County](#) study assessed the prevalence of babies exposed to ATOD prior to birth. Nearly 2,600 pregnant women participated in the anonymous 2007 assessment. The countywide prevalence of ATOD use during pregnancy was **15.1%**.

Table 3: Regional Distribution of OC Women Using Any Substance (ATOD) During Pregnancy: County of Orange, Health Care Agency, 2007				
Region	Substance Type*			
	All Substances	Alcohol	Tobacco	Illicit Drugs
Central	14.5%	12.5%	4.3%	3.1%
North	12.1%	9.9%	5.0%	2.4%
South	16.6%	14.5%	4.6%	3.7%
West	16.9%	13.8%	6.0%	4.4%
Countywide	15.1%	12.9%	4.9%	3.5%

\*All prevalence rates are based on self-reported use from Phase 2 except for illicit drug use prevalence which was based on results from Phase 1 urinalysis/charted use.  
Source: County of Orange, Health Care Agency, 2007 Substance Exposed Babies in Orange County

- A higher percentage of pregnant women in West or South Orange County used substances during pregnancy, compared to the percent of pregnant women living in Central or North Orange County.

**Maternal and Birth Outcomes**

**Maternal Complications**

The OCHNA 2004 survey determined the percent of mothers with children between 0 to 5 years of age who experienced complications during pregnancy.

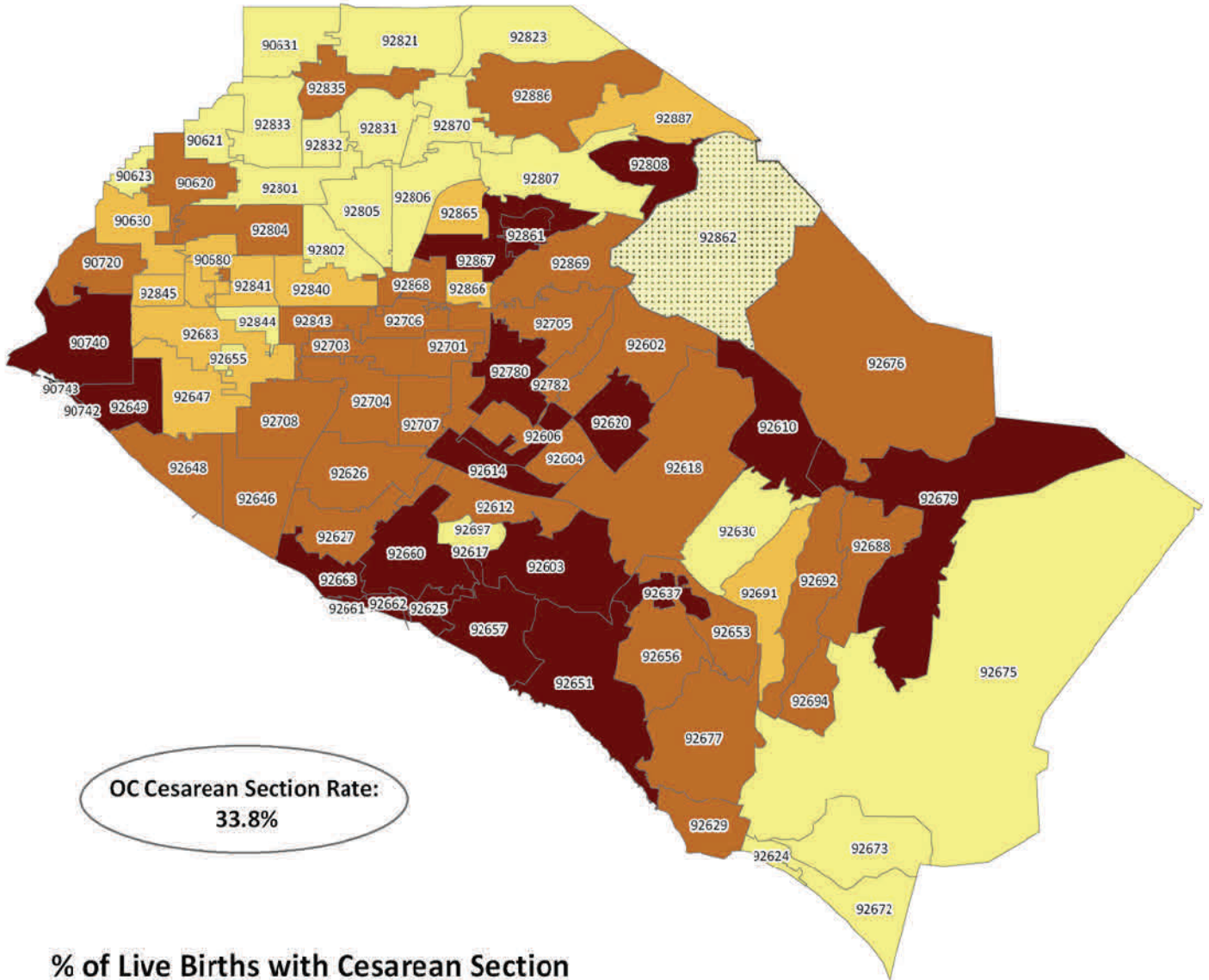
- In the UC Irvine Healthcare countywide service area, **24.7%** (62,011) of mothers experienced complications during pregnancy.

**2006-2008 Cesarean Births: Orange County Health Care Agency—2011 Orange County Geographic Health Profile**

A Cesarean section (C-section) is usually performed when a vaginal delivery presents health risks to the mother or baby. The 2011 Orange County Geographic Health Profile reported C-section rates for Orange County live births over 2006 to 2008 by ZIP code of residence, which have been averaged for stability purposes. The average number of births over that time period was **43,572**.

- An average of **33.8%** (14,747) of all live births over 2006 to 2008 in Orange County was delivered by C-sections.

## Orange County Cesarean Section Rates by ZIP Code of Residence (2006-2008)



Data Source: 2006-2008 Orange County Birth Statistical Master Files

**Premature Birth Rates:** [\(CDC\)](#)

**10.5% (57,770)**  
California

**11.2% (16,606)**  
Los Angeles County

**9.4% (3,990)**  
Orange County

**11.0% (3,614)**  
Riverside County

**10.9% (3,704)**  
San Bernardino County

**9.8% (4,595)**  
San Diego County

**9.2% (2,454)**  
Santa Clara County

**Premature Births**

Premature babies are born before the 37<sup>th</sup> week of pregnancy (gestation). Premature babies have special health needs because they weigh much less than full-term babies and have complications, such as breathing problems, due to organ systems that have not yet fully developed. The [Centers for Disease Control and Prevention](#) (CDC) National Vital Statistics Query System presents the percent of premature births.

- **9.4%** of Orange County live births in 2008 were born premature, meeting the Healthy People 2020 Objective of **11.4%** of preterm births.

**Low Birth Weight**

Low birth weight babies weigh less than 2,500 grams (5 pounds, 8 ounces). Very low birth weight babies weigh less than 1,500 grams (3 pounds, 5 ounces). Most low birth weight babies are born preterm/premature, although some babies born at full-term may weigh less at birth, but would still be considered healthy. Countywide, corresponding to the UC Irvine Healthcare countywide service area, **6.6% (2,670)** of live births had low birth weights, meeting the Healthy People 2020 Objective of **7.8%** of live births.

**Table 4: Percent Distribution of Live Births with Low Birth Weight (< 2,500 grams) by Race/Ethnicity: UC Irvine Healthcare Countywide Service Area, 2009**

Race/Ethnicity	Percent	Number
White	30.3%	809
Hispanic	45.5%	1,215
Asian or PI	21.1%	564

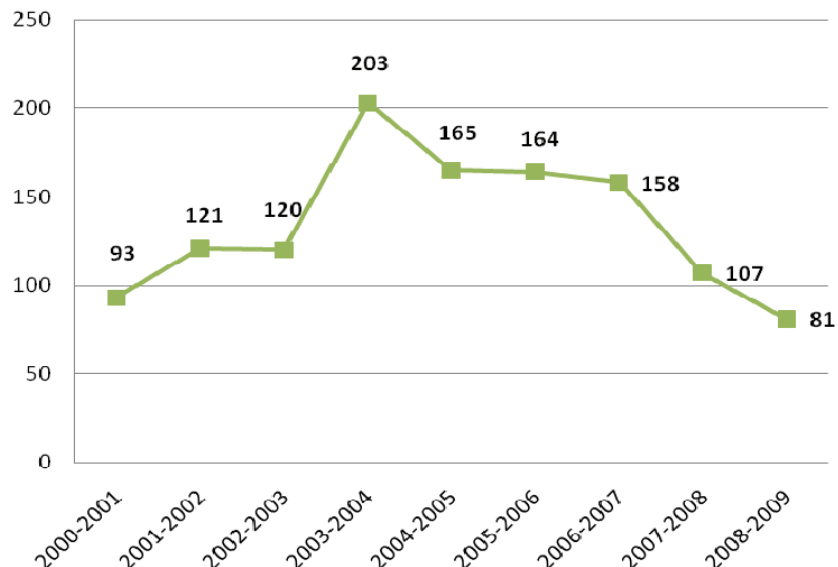
Source: State of California, Department of Public Health, Vital Statistics Query System

- **8.1%** of Asian or PI live births had low birth weights.
- **6.7%** of white live births had low birth weights.
- **6.0%** of Hispanic/Latino live births had low birth weights.

**Substance-Exposed Infants in Out-of-Home Care**

This indicator shows the number of infants with positive toxicology results at the time of birth that were provided emergency response services by the Orange County Social Services Agency, resulting in juvenile court intervention.

**Figure 4: Number of Infants Taken into Protective Custody as a Result of Testing Positive for ATOD Exposure at Birth: UC Irvine Healthcare Countywide Service Area, 2000/01 to 2008/2009**



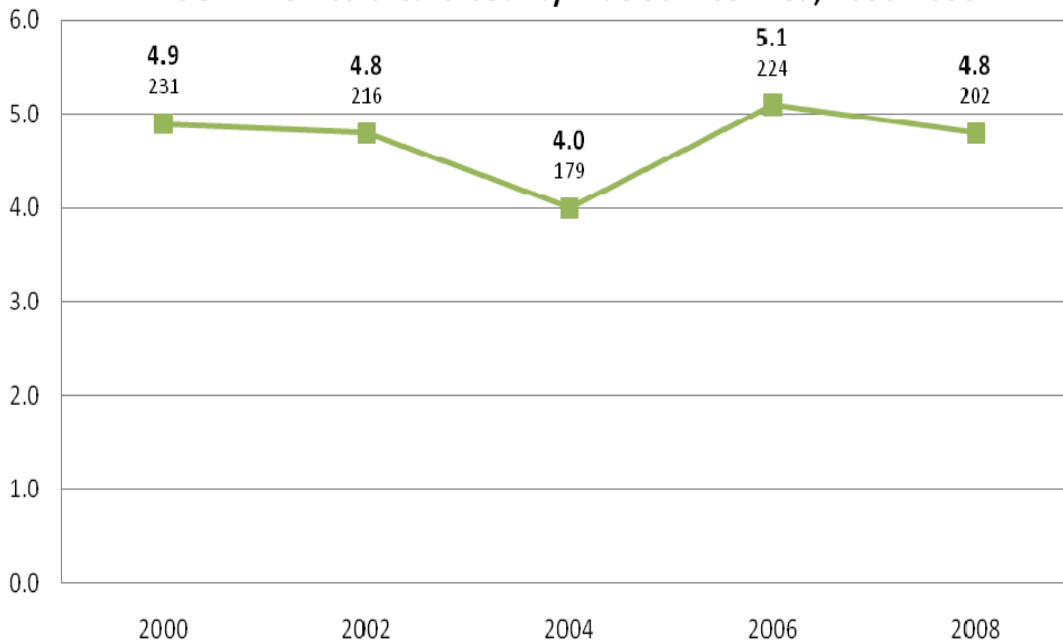


- During 2008-2009, **81** infants in the countywide UC Irvine Healthcare countywide service area were taken into protective custody as a result of testing positive for ATOD exposure during birth. Since 2003 to 2004, the number has dropped by **60%**.

### Infant Mortality

An infant death is defined as death occurring after birth and under 365 days of age. The infant death rate is based on the number of deaths per 1,000 live births. The [CDPH](#) reported the number of deaths in 2008. Orange County met the Healthy People 2020 Objective for infant deaths.

**Figure 5: Infant Mortality Rate and Number of Infant Deaths:  
UC Irvine Healthcare Countywide Service Area, 2000-2008**



Source: State of California, Department of Public Health, Vital Statistics Query System

- In 2008 the number of infant deaths in the UC Irvine Healthcare countywide service area was **202**—the infant mortality rate was **4.8 per 1,000** live births. The countywide service area met the Healthy People 2020 Objective of **6.0** infant deaths per 1,000 live births.

### Healthy People 2020 Objective

Reduce infant deaths to **6.0** deaths per 1,000 live births.

**5.1**  
California ([CDPH 2008](#))

**4.8**  
Orange County ([CDPH 2008](#))

**State of California, Maternal and Infant Health Assessment Survey 2005-2006 (Mothers Recently Giving Birth):**

**91.2% of Orange County Mothers Ever Breastfed the Baby.**

**88.9% of Orange County moms at/ below 100% FPL compared to 92.2% of OC moms at/ above 401% FPL ever breastfed their baby.**

**86.3% of Orange County moms 15-19 years compared to 92.7% of OC moms 35+ years ever breastfed their baby.**

**83.4% of Orange County moms without health coverage compared to 93.0% of OC moms with private coverage ever breastfed their baby.**

**39.0% of Orange County Mothers Exclusively Breastfed the Baby at 2 Months.**

## Breastfeeding

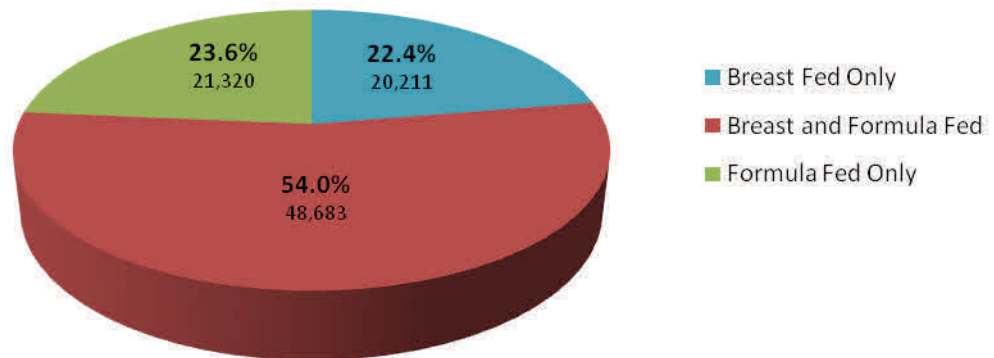
Many leading health organizations, including the [American Academy of Pediatrics](#) and the [American Public Health Association](#) recommend that infants are breastfed for at least 12 months, with exclusive breastfeeding for the first 6 months. Breast milk contains the right balance of protein, sugar, fat and water for a baby’s proper growth and development, and is easily digested and absorbed compared to cow milk or formula. In addition, breast milk also contains antibodies and macrophages that help to protect against common childhood diseases and infections such as diarrhea, ear infections or pneumonia. Furthermore, milk from the breast is sterile and safe for the baby.

## Breastfeeding Behaviors

In the OCHNA 2007 survey, respondents with children ages 0 to 2 in the household were asked questions about how the mother fed her infant.

- In the UC Irvine Healthcare countywide service area, only **22.4%** (20,211) of mothers with children between 0 and 2 years exclusively breastfed their baby according to the OCHNA 2007 survey.

**Figure 6: Feeding Practices for Child 0-2 Years: UC Irvine Healthcare Countywide Service Area, OCHNA 2007**

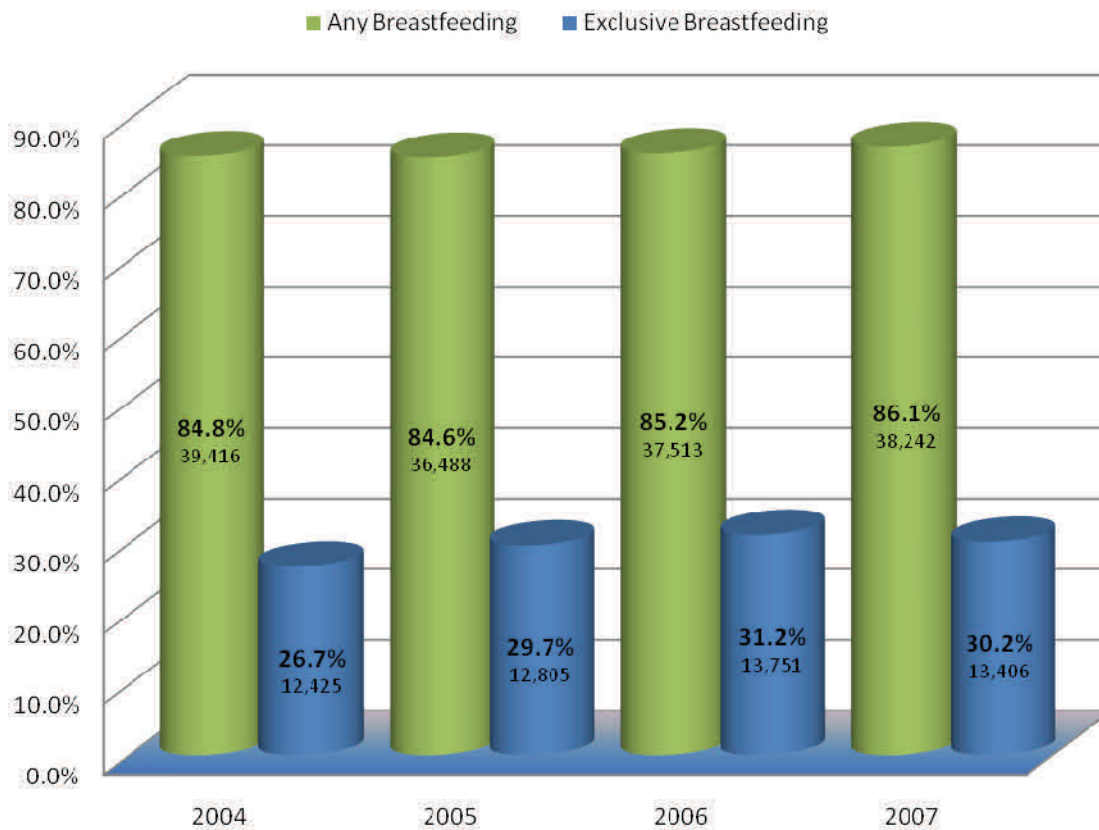


- **53.4%** (33,930) of children received breast milk for at least 6 months. **46.6%** (29,664) received breast milk for less than 6 months.

### In-Hospital Breastfeeding

California in-hospital infant feeding practices are monitored using data collected by the [Newborn Screening \(NBS\) Program](#) at the [CDPH](#). The figure below presents the proportion of new mothers who initiated *any breastfeeding* (a combination of breastfeeding and formula) and *exclusive breastfeeding* in Orange County hospitals that have provided data (22 non-profit and investor-owned hospitals) from 2004 to 2007. 2008 data cannot be included in the trend because of changes to the NBS tools as well as changes in data analysis methodology and has been provided separately as a bullet point.

**Figure 7: In-Hospital Any and Exclusive Breastfeeding Initiation Rates by Year: Orange County, 2004-2007**



Source: State of California, Department of Public Health, In-Hospital Breastfeeding Initiation Data, 2004-2007

- The *exclusive breastfeeding* rate increased from 2004 to 2006, but decreased in 2007. The *any breastfeeding* rate increased in 2006 and 2007, after dropping in 2005.
- In 2008, there were **38,444** births at the county's reporting hospitals; **84.8%** (32,604) of mothers initiated *any breastfeeding*, and **38.9%** (14,955) of mothers initiated *exclusive breastfeeding*.

### Healthy People 2020 Objective

Increase the proportion of mothers who breastfeed their babies by 2020—

**81.9%**  
Ever

**60.5%**  
At 6 Months

**34.1%**  
At 1 Year

**Exclusive Breastfeeding:**  
(CDPH)

**Orange County**

**26.7% (12,425)**  
**2004**

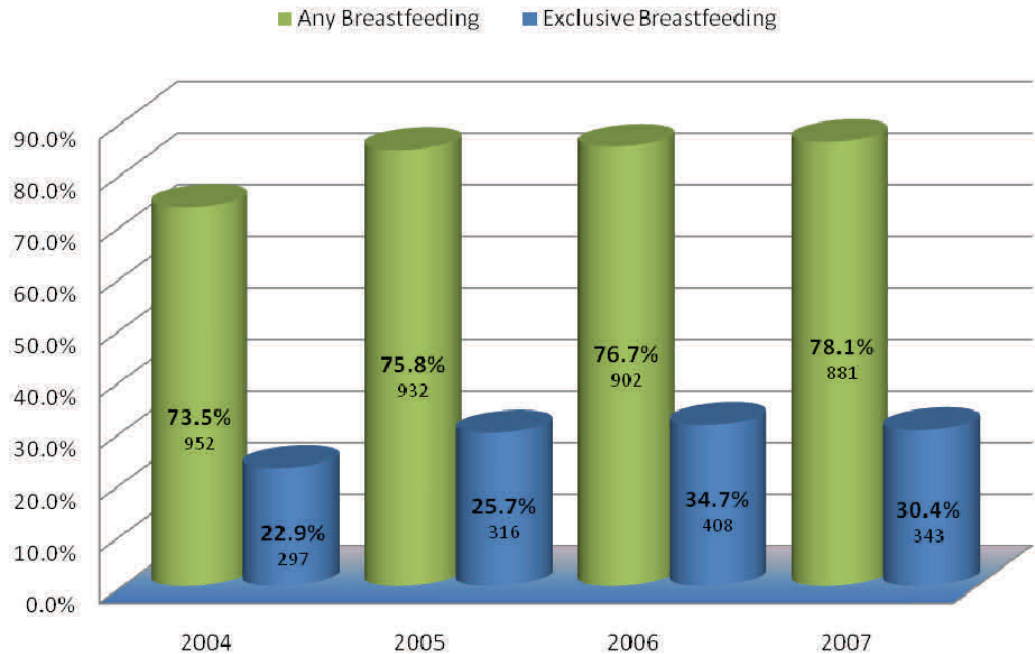
**29.7% (12,805)**  
**2005**

**31.2% (13,751)**  
**2006**

**30.2% (13,406)**  
**2007**

The figure below presents the proportion of *any* and *exclusive breastfeeding* at the UC Irvine Medical Center. 2008 data cannot be included in the trend because of changes to the NBS tools as well as changes in data analysis methodology and has been provided separately as a bullet point.

**Figure 8: In-Hospital Any and Exclusive Breastfeeding Initiation Rates by Year: UC Irvine Medical Center, 2004-2007**



Source: State of California, Department of Public Health, In-Hospital Breastfeeding Initiation Data, 2004-2007

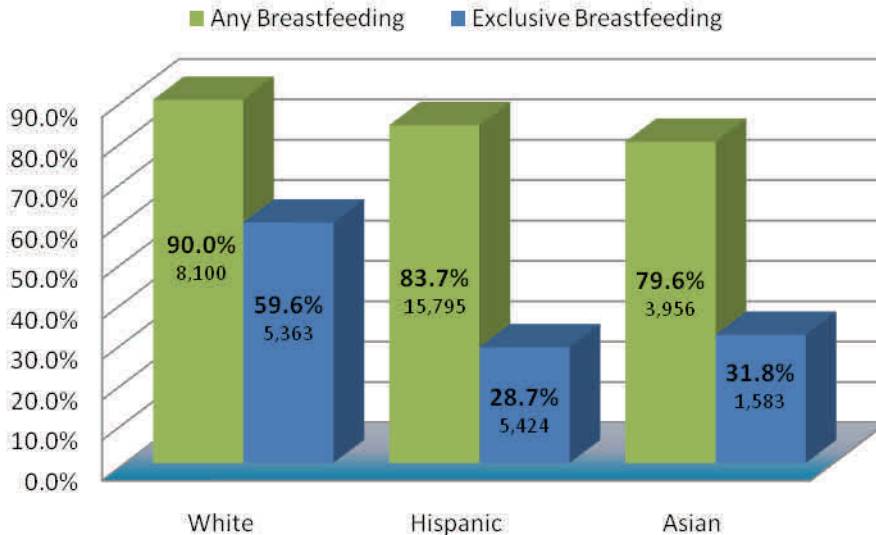
- While the proportion of *any breastfeeding* has increased over the years at the hospital, it is important to note that the numbers of births at the hospital slightly dropped during that time period, from **1,295** in 2004 to **1,128**.
- From 2004 to 2006, both the numbers and proportion of mothers who initiated *exclusive breastfeeding* increased at the hospital. This trend reversed in 2007.
- In 2008 there were **759** births at the UC Irvine Medical Center: **81.0%** (615) of mothers initiated *any breastfeeding*, and **41.1%** (312) of mothers initiated *exclusive breastfeeding*.





The figure below presents the proportion of any and exclusive breastfeeding *within* key race/ethnic groups for all reporting hospitals in Orange County provided by the [CDPH](#).

**Figure 9: In-Hospital Breastfeeding Initiation by Race/Ethnicity: Orange County, 2008**



Source: State of California, Department of Public Health, In-Hospital Breastfeeding Initiation Data, 2008

- White mothers were the most likely to initiate any and exclusive breastfeeding at hospitals in 2008.
- While a greater proportion of Hispanic mothers initiated *any breastfeeding* compared to Asian mothers at hospitals, a greater proportion of Asian mothers initiated *exclusive breastfeeding* compared to Hispanic mothers.

CDPH also provides the proportion of *any* and *exclusive breastfeeding* initiation within race/ethnic groups for UC Irvine Medical Center in 2008.

- **White Mothers:** 73.7% (112) initiated *any breastfeeding* and 47.4% (72) initiated *exclusive breastfeeding*.
- **Hispanic/Latino Mothers:** 82.0% (378) initiated *any breastfeeding* and 36.0% (166) initiated *exclusive breastfeeding*.
- **Asian Mothers:** 88.1% (59) initiated *any breastfeeding* and 58.2% (39) initiated *exclusive breastfeeding*.

### 2008 Any/Exclusive Breastfeeding: Orange County Health Care Agency—2011 Orange County Geographic Health Profile

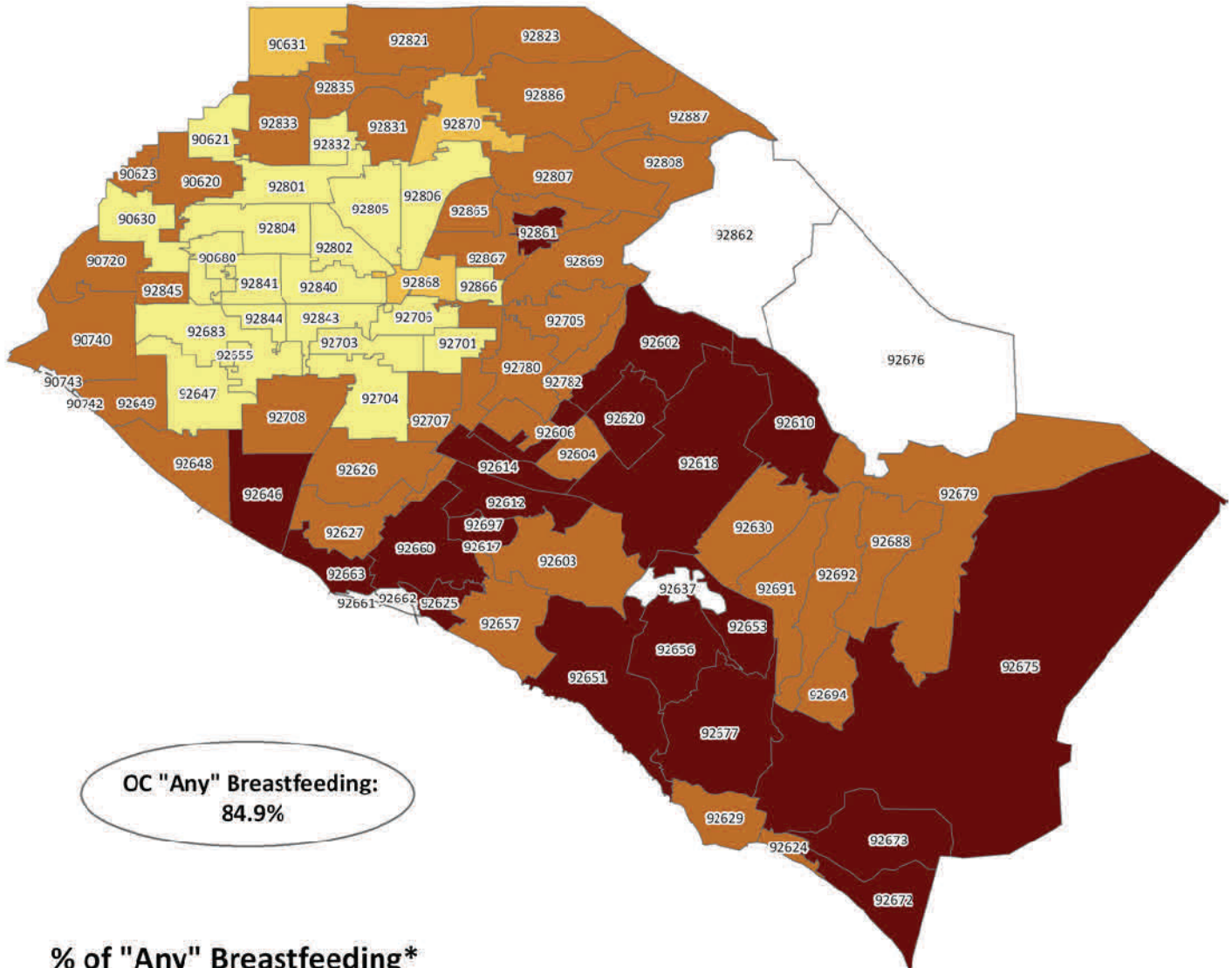
The 2011 Orange County Geographic Health Profile reported any and exclusive breastfeeding rates of birth mothers in 2008 by ZIP code of residence. Countywide, feeding practice information was captured for 35,546 mothers.

- Of the **35,546** mothers in Orange County giving birth in 2008, **84.9%** (30,174) of new mothers indicated they would initiate any breastfeeding, and **38.2%** (13,594) of new mothers indicated they would initiate exclusive breastfeeding.

#### 2008 Any/Exclusive Breastfeeding Note:

There were **35,546** cases where the feeding practices were known.

## Orange County "Any" Breastfeeding by ZIP Code of Residence (2008)



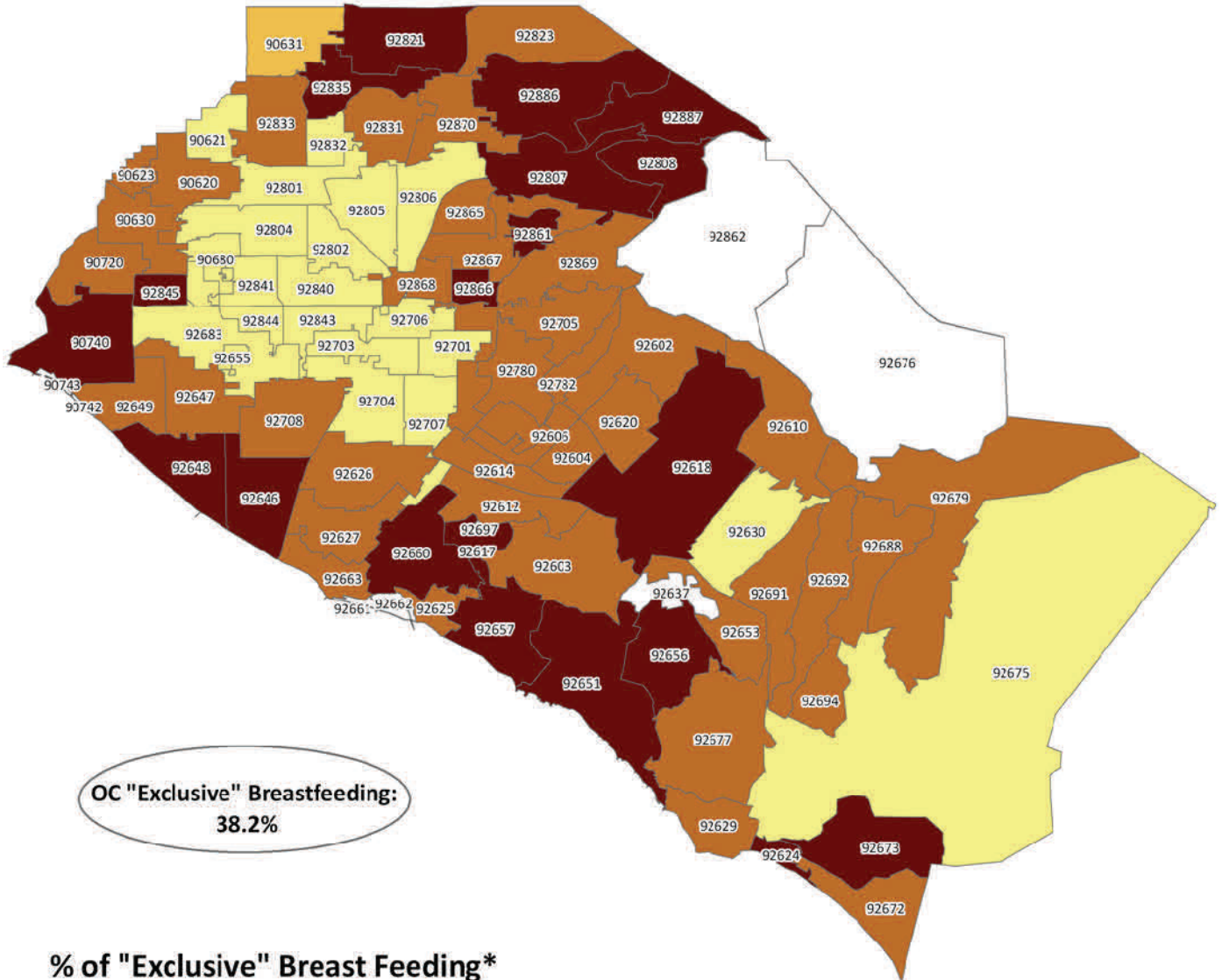
**% of "Any" Breastfeeding\*  
(2008)**

- 66.7% - 84.1%
- 84.2% - 84.9%
- 85.0% - 91.4%
- 91.5% - 100.0%
- No Events

\*Percent of all cases with known feeding methods.  
Includes those exclusively breastfeeding and those supplementing breastmilk w/formula, as measured in hospital at discharge.

Data Source: Maternal, Child and Adolescent Health Program California Department of Public Health

## Orange County "Exclusive" Breastfeeding by ZIP Code of Residence (2008)



\*Percent of all cases with known feeding methods.  
Includes only those mothers who fed exclusively with breastmilk since birth, as measured in hospital at discharge.

Data Source: 2008 Maternal, Child and Adolescent Health Program California Department of Public Health

# Appendix

## Technical Information

### Survey Development (OCHNA 1998, 2001, 2004 and 2007)

The methodology for primary data collection included the development of a valid survey instrument using the Center for Disease Control's (CDC) Behavioral Risk Factor Surveillance Survey (BRFSS) as the protocol. In addition, national and state surveys were reviewed, and questions from those surveys were incorporated into the OCHNA instrument to allow comparison between local, state, and national data.

OCHNA also reviewed the California Health Interview Survey (CHIS) as an additional source of questions. These were incorporated into the assessment, covering information gaps and allowing the OCHNA survey to focus on specific issues or needs not addressed by CHIS. The sample size provided by CHIS for Orange County is too small to deliver reliable data for the individual hospital service areas or for analyzing significant differences among our sub-populations (e.g., Vietnamese, seniors, and households with children under the age of six), and therefore is not a realistic alternative to the OCHNA survey. CHIS has provided an objective source that confirming the accuracy of the OCHNA findings at the county wide level for uninsured in Orange County.

OCHNA developed two surveys focusing on adult and children's health issues. Both surveys include items pertaining to access, coverage, utilization, prevention, risk behaviors, and major diseases. The surveys were designed and administered in English, Spanish, or Vietnamese, depending on the respondent's preference.

### Sample Design

The surveys have employed a dual-frame sample design, consisting of both Random Digit-Dialed (RDD) and listed samples to meet the target quotas for children, adults, and self-identified Vietnamese respondents of Orange County. The sampling for this project drew telephone numbers from five different sampling frames:

- RDD sample with telephone numbers in Orange County; stratified into high, medium, and low incidence Vietnamese exchanges;
- Listed sample for households containing children ages 0-5 years;
- Listed sample for households containing children ages 6-17 years;
- Listed sample for households containing adults 55 years of age or older; and,
- Listed Vietnamese surname sample.

Within each sampled household, a respondent was randomly selected to complete the survey. Households with children were randomly assigned to either the adult questionnaire or the child questionnaire so that households with children were represented in the data for both the adult and child studies. If the selected respondent was a child, that is, under the age of 18, the child survey was administered with a knowledgeable parent or guardian in the household, and if the selected respondent was an adult, the adult survey was administered.

### Data Collection

Data collection was conducted via telephone surveys with randomly selected adults in randomly selected telephone equipped Orange County households. Interviews were obtained using the Computer Assisted Telephone Interviewing (CATI) system that utilizes the random digit dialing (RDD) method for respondent selection. The use of geographic indicators, such as zip codes, telephone prefixes, city, and major cross streets, were used to aggregate interviewees in hospital service areas and regions. Data analysis was completed through collaboration between OCHNA staff and Macro International statisticians.

### Population Weighting

Prior to analysis, current demographic information from the U.S. Census on Orange County residents was used to develop case weights so that unbiased population estimates can be computed from the sample data. Information on three demographic variables (gender, age, and race) was used to develop the case weights.



## Composition of Survey Respondents

The sample frame for this survey included households with telephones located in the service areas of Orange County based hospitals. The population of inference is non-institutionalized individuals, ages 18 years or older, residing in households with telephones. Persons in institutions, including penal facilities, hospitals, military barracks, cell phone only users, and some college dormitories, were excluded. Also, households without any adults speaking English, Spanish, or Vietnamese well enough to be interviewed were excluded, since the interview was conducted in only those three languages. Individuals with physical or mental impairments that prevented them from completing an interview, and with no knowledgeable proxy available, were excluded from the sample of respondents. As the U.S. Census estimates a 99.3% penetration of telephones in Orange County households, 0.7% of residential households have a zero probability of inclusion.

The Adult survey was a general random sample of Orange County households equipped with a telephone. In this sample, the adult respondents were asked questions about their own health status, health access, and utilization of the health care system. The sample for the Child survey consisted of households where there was at least one child under the age of 18 living in the household. In this survey, the respondents—adults 18 years of age or older—were asked questions about only one of the children (selected at random) living within the household. It was generally more difficult to secure interviews concerning younger children than concerning older children.

A sample size of 4,746 respondents (using 2007 as an example) was obtained, to ensure generalizability of the findings to the Orange County population as a whole, as well as to the individual hospital service areas. Hospitals defined their own service areas and provided a list of both primary and secondary zip codes, which were then reviewed by the research team for accuracy. The 4,746 interviews were split between the two separate surveys, with 2,621 respondents for the Adult survey and 2,123 respondents for the Child survey. Over-sampling was done for the Vietnamese sub-population, seniors (individuals 55 years and older), and households with children under the age of six, to ensure that the sample sizes of these sub-groups of the population were sufficiently large to reach independent conclusions.

A full technical report for each survey year is on file and available upon request.

**Produced by the Orange County Health Needs Assessment**  
(714) 703-0250  
staff@ochna.org

# Introduction

Released annually since 2000, the Orange County Community Indicators report tracks county-wide trends related to the economy, environment, and populace. The data in this report allows stakeholders to ask whether a certain practice or trend is sustainable. Simply put: Are we investing in our future? To invest, we must be making decisions that will foster and maintain Orange County's vitality now and into the future. Otherwise, we are leaving it up to later generations to pay the costs and consequences of our decisions. The issues we face are complex and interrelated. By investing wisely, communities and individuals alike can provide for a thriving and sustainable place for us, our children, and our children's children to call home.

## Indicator Selection

Good indicators are measurements that reflect how a community is doing and indicate whether key attributes are improving, worsening, or remaining constant. The indicators included in this report:

- Reflect broad countywide interests which impact a significant percentage of the population
- Illustrate fundamental factors that underlie long-term regional health
- Can be easily understood and accepted by the community
- Are statistically measurable and contain data that is both reliable and available over the long-term
- Measure outcomes, rather than inputs whenever possible

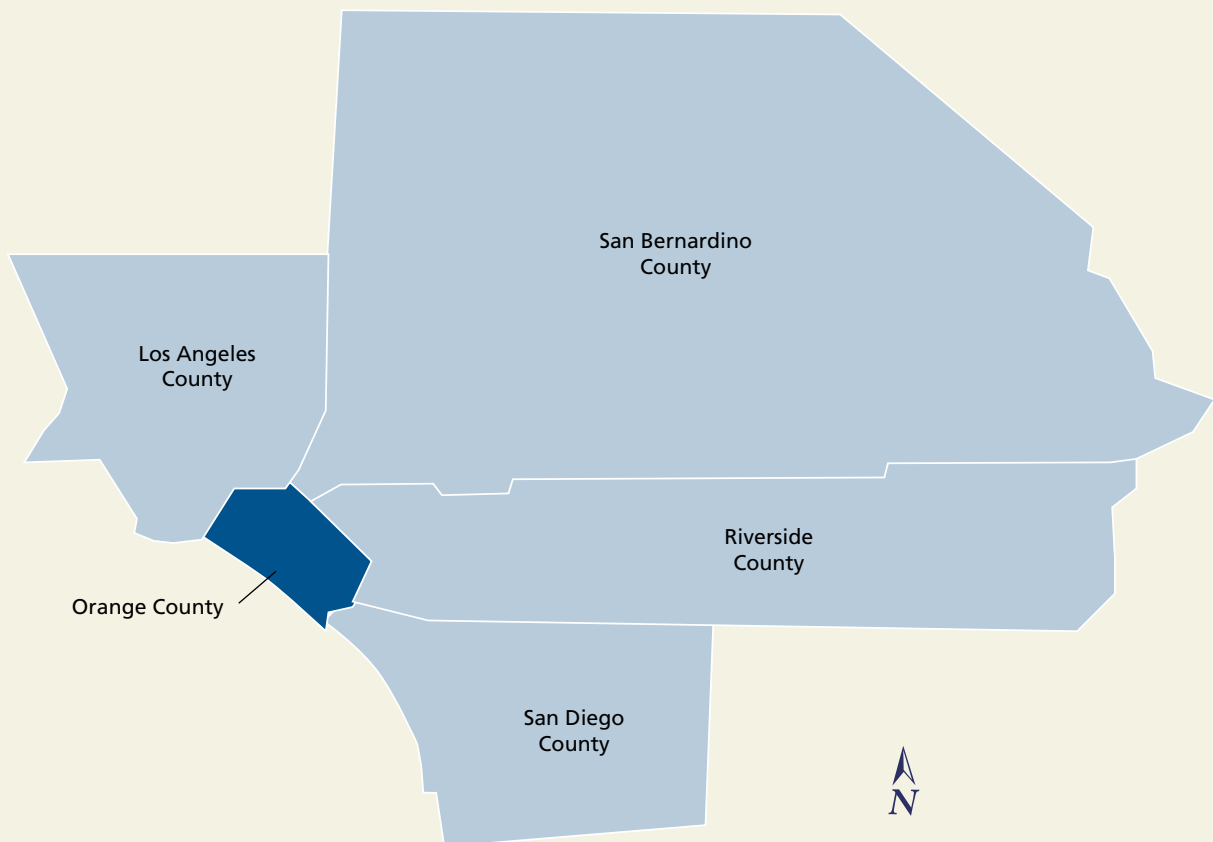
## Peer Regions

To place Orange County's performance in context, many indicators compare the county to the state, nation or other regions. Specifically, we compare ourselves to our neighbors to better understand our position within the Southern California region. We also compare ourselves to "peer" regions, both within California and nationwide, because they are economic competitors or good barometers for comparison due to the many characteristics we have in common. Each section of the report includes slightly different peer regions based on the characteristics considered relevant to that topic.

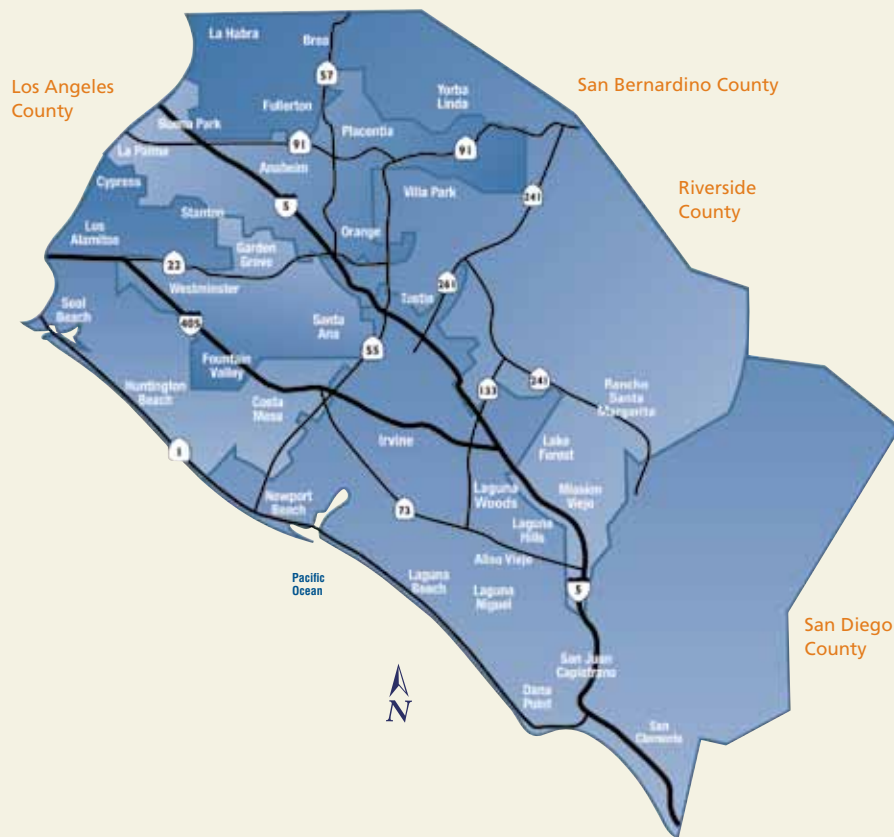
Since the manner in which data is collected and reported varies among data sources, the boundaries of our peers vary as well. Metro areas or divisions, as defined by the U.S. Office of Management and Budget, were used whenever possible. In other instances, the county boundary or a boundary defined by the data source was used. For additional information regarding the boundaries and definitions of peers used for a particular measure, please contact [ocindicators@ocgov.com](mailto:ocindicators@ocgov.com).

# County Profile

Orange County is located on the Southern California coast, with Los Angeles County to the north, San Diego County to the south, and Riverside and San Bernardino counties to the east. There are 34 cities within the county and several unincorporated areas.







## POPULATION

### Growth

Orange County is the third largest county in California:

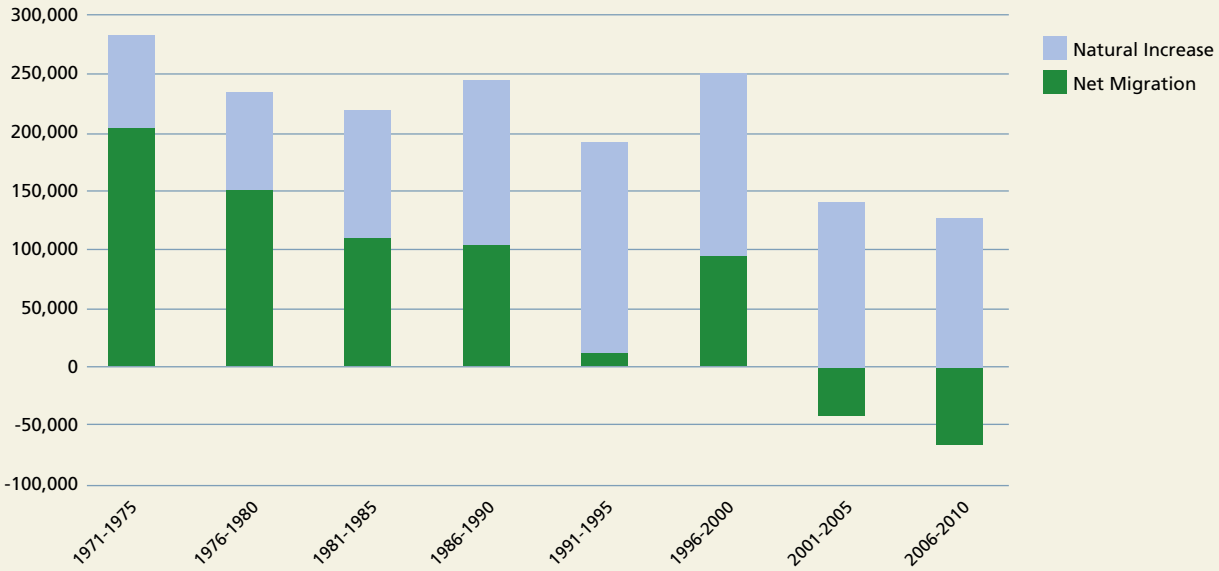
- With a population of 3,071,933 in July 2012, Orange County falls behind Los Angeles (9,911,665) and San Diego (3,147,220) counties for the most populous county in the state.<sup>1</sup>
- Orange County is the sixth largest county in the nation, with more residents than 20 of the country's states, including Mississippi, Arkansas, Kansas, Utah, and Nevada.<sup>2</sup>
- At its peak, Orange County's population increased rapidly – an average of 22% per year in the 1950s and 10% per year in the 1960s.<sup>3</sup>
- The average annual increase slowed considerably to 1.7% between 1990 and 2000, and further to 0.6% between 2000 and 2010.<sup>4</sup>
- Between 2010 and 2012, the population growth rate was 0.9%.<sup>5</sup>
- Orange County ranks sixth out of more than 3,000 counties nationwide in terms of the number of people added to the county between 2010 and 2011.
- However, Orange County's already high base population combined with slowing growth places it 346th in the nation in terms of the percentage of change between 2010 and 2011.<sup>6</sup>
- The county's population growth is projected to continue at an increasingly slower rate over the next 20 years, reaching a little over 3.4 million by 2035.<sup>7</sup>

### Components of Population Change

Since the 1980s, natural increase (births minus deaths) has outpaced migration as the county's principal source of growth:

- From the 1950s through the 1970s, much of the county's growth stemmed from migration into the county from within the state as well as from other states (domestic migration).<sup>8</sup>
- International immigration – largely from Asia and Latin America – has also contributed to Orange County's growth in the last 30 years, shifting the county's proportion of foreign-born residents from 6% in 1970 to 31% in 2011.<sup>9</sup>
- Between 2011 and 2012, Orange County added 20,970 residents through natural increase and 8,805 through international immigration.
- At the same time, the county lost 4,962 residents through domestic out-migration, for a net domestic migration increase of 3,843.<sup>10</sup>
- Long-range projections suggest this pattern will continue, with natural increase becoming the sole contributor to growth.<sup>11</sup>

**Components of Population Change**  
Orange County, 1971-2010



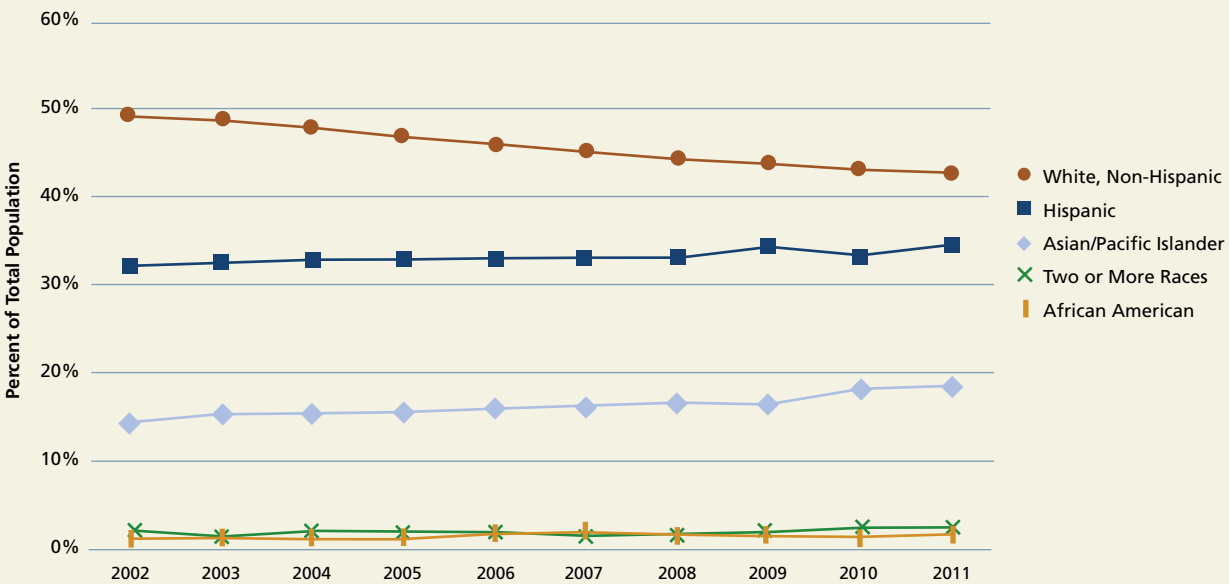
Source: Demographic Research Unit at California Department of Finance, Table E-6

**Ethnicity and Age**

Orange County is a racially and ethnically diverse region:

- 43% of Orange County residents self-identify as Non-Hispanic White, followed by 34% Hispanic (who may be of any race), and 18% Asian/Pacific Islander.
- 1.6% of residents are African American, another 2.1% are two or more races, and the remaining 0.3% are American Indian/Alaska Native or any other single race.<sup>12</sup>

**Population by Race and Ethnicity**  
Orange County, 2002-2011



Note: All other races (American Indian/Alaska Native and any other single race) total less than one percent annually over the period shown.

Source: U.S. Census Bureau, American Community Survey, 2002-2011

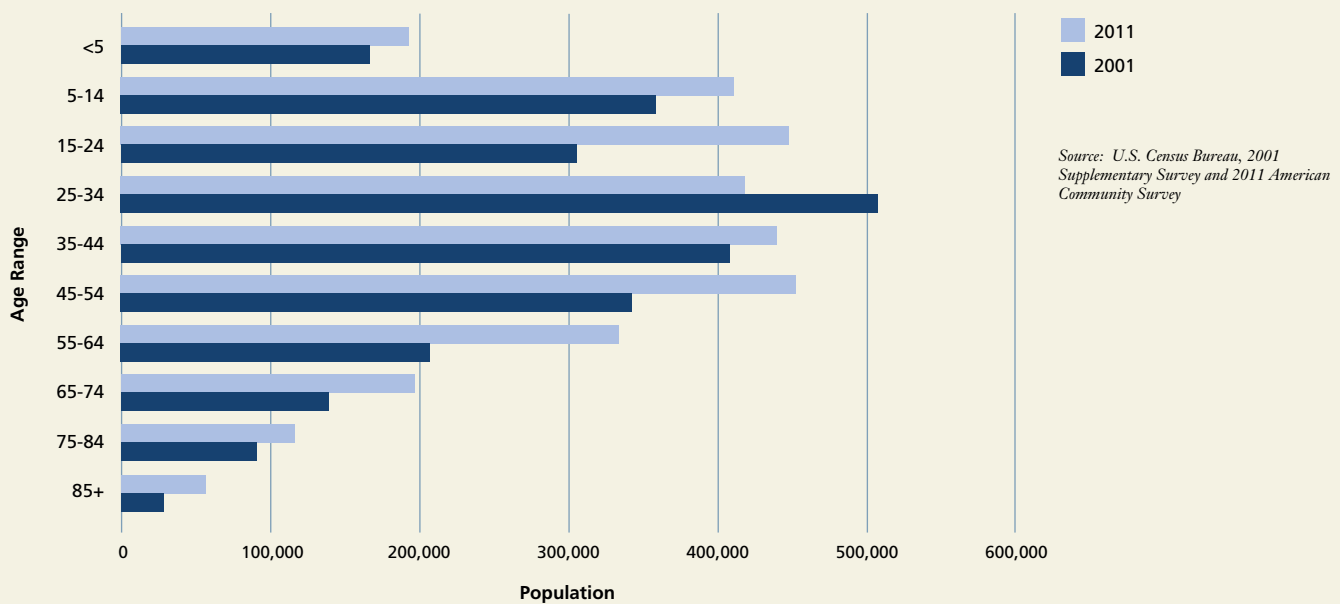
Orange County has a substantially higher proportion of foreign-born residents (31%) than the nationwide average (13%) and only somewhat higher than the statewide average (27%):

- Among Orange County residents at least five years of age or older, 46% speak a language other than English at home.
- Of those, the majority speak Spanish (58%) followed by Asian/Pacific Islander languages (30%), and other Indo-European languages (9%). The remaining 2% speak some other language.
- 21% of the total population report that they do not speak English “very well.”<sup>13</sup>

In 2011, the median age in Orange County was 36 years:

- This is slightly younger than the national median age of 37 years.<sup>14</sup>
- In 2001, the county’s median age was 35 years, indicating the county’s population is slowly aging.<sup>15</sup>
- In 2011, 24% of Orange County’s population was under 18 years (compared to 27% in 2001) and 12% were 65 years and older (compared to 10% in 2001).
- Between 2001 and 2011, Orange County’s population grew in all age groups except 25-34 year olds.<sup>16</sup>

**Population by Age**  
Orange County, 2001 and 2011

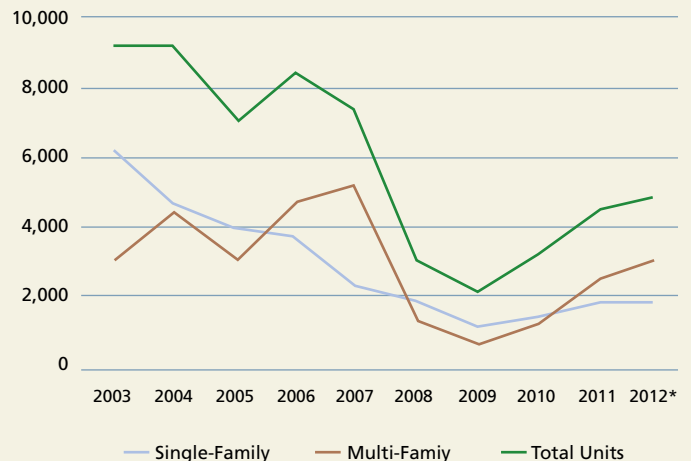


**HOUSING**

As of January 2012, there were 1,052,361 housing units available to Orange County residents:<sup>17</sup>

- According to the 2011 American Community Survey, a majority of occupied units were owner-occupied (60%) compared to renter-occupied (40%).
- Approximately half (51%) of the existing housing units in Orange County were single-family detached units.<sup>18</sup>
- Driven largely by increases in multi-family unit development, building permits issued for new construction continue to rebound.
- In 2011, single-family permits comprised 42% of total permits issued, compared to 66% in 2003 (the highest proportion in the past 10 years).
- Preliminary 2012 data indicates only 39% of permits issued were for single-family units.<sup>19</sup>
- Going forward, the county’s total housing stock is projected to grow 12% between 2010 and 2035, slightly slower than population growth (13%) and employment growth (19%) over the same period.<sup>20</sup>

**Housing Unit Building Permits**  
Orange County, 2003-2012



\*2012 data is preliminary.

Source: U.S. Department of Housing and Urban Development

## Projected Change in Population, Housing, and Employment Orange County, 2010-2035



Source: Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified

## AVERAGE HOUSEHOLD SIZE

The average household size in Orange County is 2.99 persons:

- Among the more than 3,000 counties in the nation, only 179 had an average household size larger than Orange County's.
- Orange County's average household size is larger than California (2.91) and the United States (2.60).<sup>21</sup>
- Santa Ana has the highest household size in the county (4.45) and the 10th highest household size in the nation when compared to cities or unincorporated areas with more than 20,000 residents.
- After Santa Ana, the Orange County cities with the highest household sizes include Garden Grove (3.73), Buena Park (3.56), Anaheim (3.37), and Stanton (3.35).
- Seal Beach, Laguna Beach and Newport Beach have the smallest household sizes (1.9, 2.0 and 2.2, respectively).<sup>22</sup>

## DENSITY

Census 2010 data shows Orange County remains one of the most densely populated areas in the United States, falling 18th among all counties in the nation:

- Census 2010 places Orange County's population density at 3,808 persons per square mile, an increase of 6% since 2000.<sup>23</sup>
- Densities vary by location among Orange County's incorporated areas, from lows of 1,996 persons per square mile in Seal Beach and 2,449 in San Juan Capistrano to highs of 12,415 in Stanton and 12,005 in Santa Ana.
- Population density is much lower in unincorporated areas (431 persons per square mile).<sup>24</sup>

## LAND USE

Orange County covers 799 square miles of land, including 42 miles of coastline:

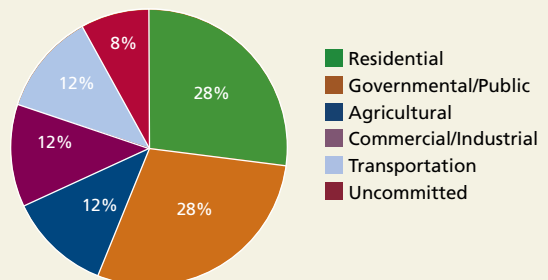
- The county's two main land uses are divided equally between residential housing (28%) and land classified as Governmental/Public, including open space and parks (28%).
- Agricultural uses comprise 12% of the county's land use, as do commercial and industrial uses (12%).
- Transportation infrastructure (e.g. roads, rails) accounts for 12% of county land, followed by 8% of land that is classified as Uncommitted, meaning it is either vacant or there is no data available.<sup>25</sup>

## Population Density Ranking County Comparison, 2010

Rank out of all U.S. Counties	County (Major City)	Persons per Square Mile of Land Area
5	San Francisco (San Francisco)	17,179
7	Suffolk (Boston)	12,416
<b>18</b>	<b>Orange County (Santa Ana/Irvine)</b>	<b>3,808</b>
26	Dallas (Dallas)	2,718
30	Los Angeles (Los Angeles)	2,420
37	Hennepin (Minneapolis)	2,082
67	Sacramento (Sacramento)	1,471
76	Santa Clara (San Jose)	1,381
106	Travis (Austin)	1,034
121	Seattle (Seattle)	913
145	San Diego (San Diego)	736
250	Maricopa (Phoenix)	415
348	Riverside (Riverside)	304
825	San Bernardino (San Bernardino)	102

Source: U.S. Census Bureau, GCT-PH1-R: Population, Housing Units, Area, and Density, Census 2010

## Land Use by Category Orange County, 2011



Source: Orange County Public Works



## EMPLOYMENT

While Orange County has the third highest population in the state, the county has the second highest number of jobs and the second highest number of firms:

- After averaging 1.54 million jobs between 2006 and 2008, employment in Orange County hit a post-crash low in January 2010 at 1.43 million jobs.
- Since then, employment has grown relatively steadily, totaling 1.51 million jobs as of November 2012.<sup>26</sup>
- Long-range projections anticipate 1.78 million jobs by 2035, an increase of 19% from 2010 and growing at a faster rate than the county's population growth (13%) over the same period.<sup>27</sup>
- Currently, the largest labor markets are Trade, Transportation and Utilities (18%), Professional and Business Services (18%), and Leisure and Hospitality (13%).<sup>28</sup> (See the Employment indicator for a detailed analysis of selected industry clusters and unemployment.)
- Between 2006 and 2011, all businesses, regardless of how many employees, experienced employment losses.
- Orange County's larger firms witnessed the most significant employment losses between 2006 and 2011 (-16% among firms with 500+ employees), while smaller firms were more stable (-4% among firms with up to 19 employees).
- In 2011, fewer Orange County residents worked in large firms of 500+ employees (16%) than the statewide average (21%).<sup>29</sup>

**Number of Businesses and Employees, by Size of Business Category (Private Industry)**  
Orange County, Third Quarter 2011



Source: California Employment Development Department

<sup>1</sup> California Department of Finance, Demographic Research Unit, Table E-2 ([www.dof.ca.gov/research/demographic/reports/view.php](http://www.dof.ca.gov/research/demographic/reports/view.php)). July 2012 estimates are considered preliminary.

<sup>2</sup> U.S. Census Bureau, Population Estimates Program, Vintage 2011 County Population Datasets, CO-EST2011-all data ([www.census.gov/popest/data/datasets.html](http://www.census.gov/popest/data/datasets.html))

<sup>3</sup> U.S. Census Bureau and California Department of Finance as reported by Center for Demographic Research, California State University, Fullerton, Orange County Progress Report 2010 ([www.fullerton.edu/cdr](http://www.fullerton.edu/cdr))

<sup>4</sup> California Department of Finance, Demographic Research Unit, Table E-6

<sup>5</sup> California Department of Finance, Demographic Research Unit, Tables E-2 and E-6

<sup>6</sup> U.S. Census Bureau, Population Estimates Program, Vintage 2011 County Population Datasets ([www.census.gov/popest/data/datasets.html](http://www.census.gov/popest/data/datasets.html))

<sup>7</sup> Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified

<sup>8</sup> Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified

<sup>9</sup> Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified; U.S. Census Bureau, 2011 American Community Survey

<sup>10</sup> California Department of Finance, Table E-2

<sup>11</sup> Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified

<sup>12</sup> U.S. Census Bureau, 2011 American Community Survey

<sup>13</sup> U.S. Census Bureau, 2011 American Community Survey

<sup>14</sup> U.S. Census Bureau, 2011 American Community Survey

<sup>15</sup> U.S. Census Bureau, 2001 Supplementary Survey

<sup>16</sup> U.S. Census Bureau, 2011 American Community Survey and 2001 Census (SF-1)

<sup>17</sup> California Department of Finance, Table E-5

<sup>18</sup> U.S. Census Bureau, 2011 American Community Survey

<sup>19</sup> U.S. Department of Housing and Urban Development (<http://socds.huduser.org/permits/index.html>)

<sup>20</sup> Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified

<sup>21</sup> U.S. Census Bureau, 2006-2010 American Community Survey Five-Year Estimates

<sup>22</sup> U.S. Census Bureau, 2009-2011 American Community Survey Three-Year Estimates (only cities or unincorporated areas with population over 20,000 are included in the ranking)

<sup>23</sup> U.S. Census Bureau, Census 2010, Table GCT-PH1: Population, Housing Units, Area, and Density

<sup>24</sup> Calculated from land area data presented in the Orange County Progress Report 2012 by the Center for Demographic Research, California State University, Fullerton, and population figures from the California Department of Finance, Table E-1, January 1, 2012

<sup>25</sup> County of Orange Public Works

<sup>26</sup> Employment Development Department, Employment by Industry Data for Orange County ([www.labormarketinfo.edd.ca.gov/?pageid=166](http://www.labormarketinfo.edd.ca.gov/?pageid=166))

<sup>27</sup> Center for Demographic Research, California State University, Fullerton, Orange County Projections 2010 Modified

<sup>28</sup> Employment Development Department, Employment by Industry Data for Orange County ([www.labormarketinfo.edd.ca.gov/?pageid=166](http://www.labormarketinfo.edd.ca.gov/?pageid=166))

<sup>29</sup> Employment Development Department, Size of Business Data, 2001-Present ([www.labormarketinfo.edd.ca.gov/?PAGEID=138](http://www.labormarketinfo.edd.ca.gov/?PAGEID=138))

# Prenatal Care Rates Dip but Remain Relatively High

## Description of Indicator

This indicator measures the percentage of live births to Orange County women who began prenatal care during the first three months of pregnancy, including racial and ethnic detail. Additionally, these rates are compared to peer regions and the state.<sup>1</sup> An analysis of Orange County's live births by race and ethnicity is also included.

## Why is it Important?

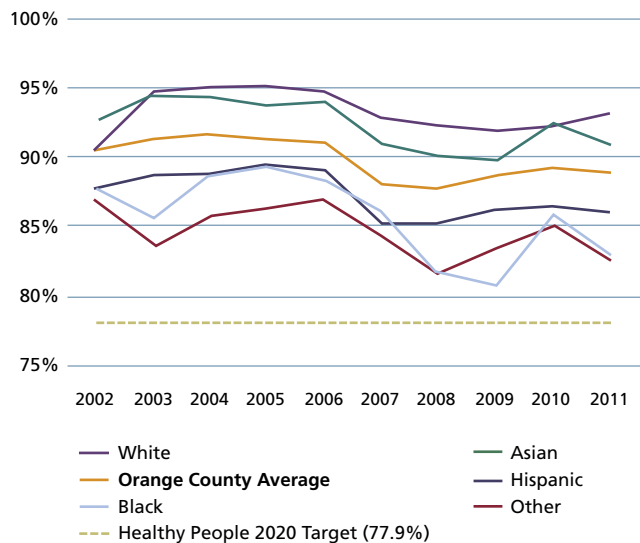
Early prenatal care provides an effective and cost-efficient way to prevent, detect and treat maternal and fetal medical problems. It provides an excellent opportunity for health care providers to offer counseling on healthy living habits that lead to optimal birth outcomes. Late or no prenatal care substantially increases the likelihood that an infant will require admission to a neonatal intensive care unit or require a longer stay in the hospital at substantial cost to the family and the health care system.<sup>2</sup> Assessing Orange County's total live births by race and ethnicity provides a perspective on the future school age population and overall demographic shifts in the county.

## How is Orange County Doing?

Early prenatal care rates dipped slightly in 2011:

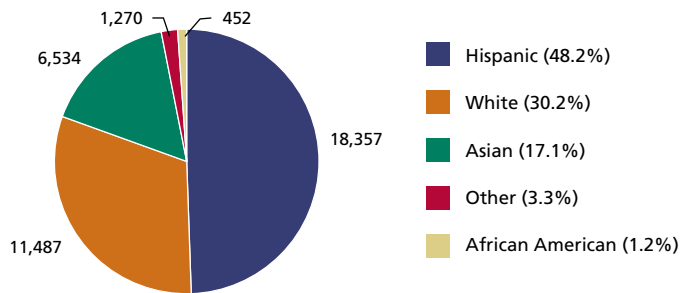
- Orange County's early prenatal care rate fell 0.3 percentage points to 88.7% in 2011.
- After a marked decline in rates between 2006 and 2007, Orange County is having difficulty returning to the highest early prenatal care rate on record of 91.6%, achieved in 2004.
- Based on 2010 data, Orange County's 2010 prenatal care rate of 89.0% exceeded the statewide rate of 81.7% and was the highest early prenatal care rate compared to peer and neighboring regions.<sup>1</sup>
- In 2011, levels of early prenatal care improved for white mothers, but declined for all other racial and ethnic groups in Orange County.
- The national Healthy People 2020 target for early prenatal care is 77.9% – a level Orange County has surpassed for many years.
- The majority of births in Orange County in 2011 were to Hispanic mothers (48.2% or 18,357 births), followed by White mothers (30.2% or 11,487 births), and Asian mothers (17.1% or 6,534 births).
- Over the past 10 years, the number of live births in Orange County has dropped 15%, from 44,771 in 2002 to 38,100 in 2011.

**Percent of Mothers Receiving Early Prenatal Care, by Race and Ethnicity**  
Orange County, 2002-2011



Note: The ethnic category "Hispanic" includes any race; the racial categories "White," "Asian," and "African American" are all non-Hispanic. "Other" includes the categories of two or more races, Pacific Islander, American Indian/Native Alaskan, and other or unknown.

**Live Births by Race and Ethnicity**  
Orange County, 2011



Source: County of Orange Health Care Agency

### Healthy People 2020

Healthy People 2020 is a health promotion and disease prevention initiative which establishes national objectives to improve the health of all Americans, eliminate disparities, and increase the years and quality of healthy life. For more information, visit: [www.healthypeople.gov](http://www.healthypeople.gov).

<sup>1</sup> State and regional comparison data for 2011 was not available at time of publication; please see the 2012 Community Indicators report for 2010 comparison data.  
<sup>2</sup> Saied B, Amini, Patrick AA, Catalano and Leon I. Mann, "Effect of Prenatal Care on Obstetrical Outcome," *Journal of Maternal-Fetal and Neonatal Medicine* 1996 5:3, 142-150

# Deaths Among Young Children Fall 27% Since 2001

## Description of Indicator

This indicator measures the leading causes of death for infants less than one year old and children ages one through four in Orange County (shown as raw number of deaths). Also shown are deaths for children ages birth through four years due to all causes compared to peer California regions (shown as number of deaths per 100,000 children).

## Why is it Important?

Awareness of the leading causes of death for children can lead to intervention strategies that can help prevent mortality. Many of these deaths are preventable through preconception health care, early and ongoing prenatal care, and outreach to parents and caregivers.

## How is Orange County Doing?

In 2010, Orange County had the second lowest rate of infant and young child death among California neighbors and peers:

- The number of deaths among infants declined from 165 in 2009 to 147 in 2010, contributing to a 27% drop in the total number of deaths among children under five since 2001.
- The number of deaths among children ages one through four fell slightly, from 36 in 2009 to 34 in 2010.
- In 2010, there was approximately one death for every 316 infants under age one in Orange County, and one in 5,298 among children ages one through four.
- Deaths due to prematurity or low birth weight among infants remained relatively low at eight deaths in 2010 (compared to a 10-year average of 19 deaths annually).
- However, other conditions associated with prematurity increased, such as serious intestinal disease and respiratory distress, which claimed 10 lives.
- After an usually high number of infant and young child deaths due to assault or homicide in 2009 (13), in 2010 two deaths were attributed to this cause.
- Accidents – the leading cause of death for young children – continue to trend downward.

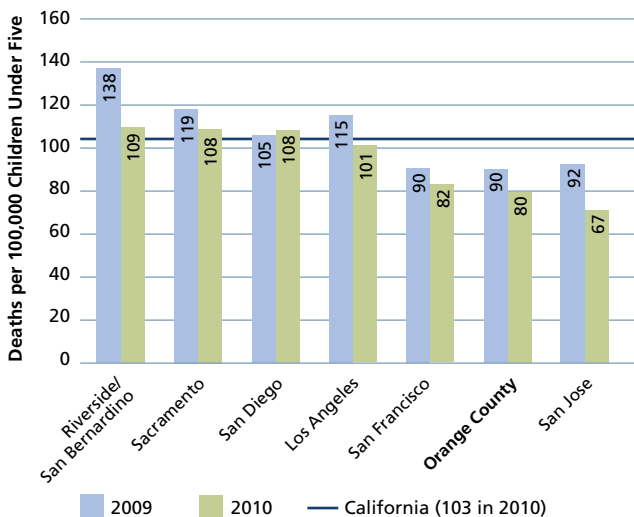
**Leading Causes of Death for Children Under Five**  
Orange County, 2010

Cause of Death	Number of Deaths
<b>Infants (Under Age One)</b>	
Congenital Defects/Chromosomal Abnormalities	41
Maternal Pregnancy Complications Affecting Newborn	19
Prematurity/Low Birth Weight	8
Cord, Placenta or Membranes Complications	5
Respiratory Distress	5
Necrotizing Enterocolitis (serious intestinal disease)	5
All other causes	64
<b>Total</b>	<b>147</b>
<b>Young Children (Ages 1-4)</b>	
Accidents	
Motor Vehicle Accidents	4
Drowning	2
Other	4
Congenital Defects/Chromosomal Abnormalities	8
Cancer	4
Endocrine, Nutritional and Metabolic Diseases	2
All other causes	10
<b>Total</b>	<b>34</b>

Note: Causes with fewer than five deaths for infants and fewer than two deaths for young children are included in "All other causes."

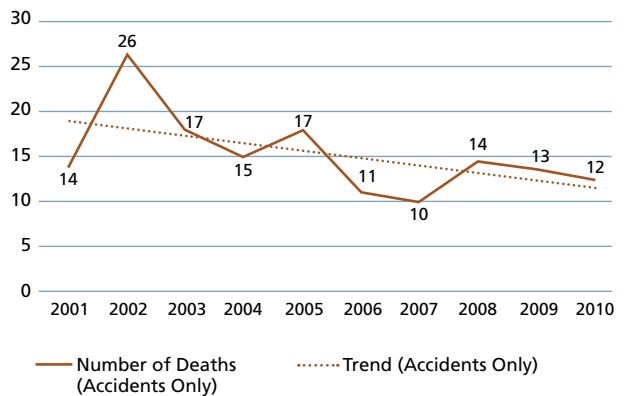
Source: County of Orange Health Care Agency, Family Health Division

**Death Rate Due to All Causes for Children Under Five**  
Regional Comparison, 2009 and 2010



Source: California Department of Public Health, Center for Health Services, Vital Statistics Query System ([www.apps.dph.ca.gov/vsq/default.asp](http://www.apps.dph.ca.gov/vsq/default.asp))

**Accidental Deaths Among Children Under Five**  
Orange County, 2001-2010



Source: County of Orange Health Care Agency, Family Health Division

# Whooping Cough Cases Drop Significantly

## Description of Indicator

This indicator measures the percent of children adequately immunized at two years of age and reported cases of vaccine-preventable disease (VPD) among children less than six years of age.

## Why is it Important?

Immunization is one of the most important interventions available for preventing serious diseases among infants and children.

## How is Orange County Doing?

Immunization rates vary by ethnicity:

- An analysis of kindergarten immunization records from 2012 revealed 78% of Orange County children were adequately immunized at age two, similar to the statewide rate in 2011 (77%).<sup>1</sup>
- At 84%, Asian/Pacific Islander children are more likely to be adequately immunized than Hispanic (78%) and White (74%) children.
- 74% of children also received the recommended doses of hepatitis B and varicella immunizations by age two.
- The Healthy People 2020 national target is for 80% of children ages 19 to 35 months to be protected by universally recommended vaccines.<sup>2</sup>

After a significant outbreak of pertussis (whooping cough) among children less than six years of age in 2010, the incidence of VPD in 2011 was more in line with previous years:

- There were 71 cases of VPD in 2011.
- 54 of the 71 cases were cases of whooping cough (down from 194 cases of whooping cough in 2010).<sup>3</sup>
- Slightly over half of the 71 cases (38) were children under age one.
- Infants under age one are most at risk of contracting a VPD until they receive full vaccination coverage by age two.
- However, a quarter of the VPD cases were among children ages two to five, suggesting that some children are not receiving recommended vaccinations on schedule, putting younger and more vulnerable siblings at increased risk of contracting a VPD.

### Immunization Registry

Roughly 70% of Orange County children ages birth to five were enrolled in the web-based California Immunization Registry as of April 2012 – a total of 168,615 children. This represents a 5.7% increase in the number of children enrolled in the registry since April 2011. The Healthy People 2020 objective is for 95% of children ages 0-5 to be enrolled in an immunization registry. The registry was launched locally in March 2005 and is coordinated by the Orange County Immunization Coalition.

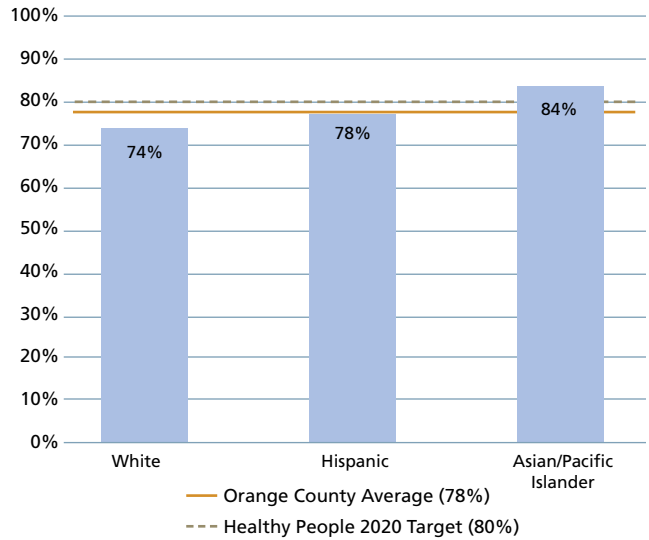
Source: 18th Annual Report on the Conditions of Children in Orange County ([www.occhildrenandfamilies.com](http://www.occhildrenandfamilies.com)); U.S. Census Bureau, Census 2010 (<http://factfinder2.census.gov/>)

<sup>1</sup> These data are for Orange County specifically and are therefore not comparable to immunization rates published previously, which were the combined rates of Orange, Riverside, San Bernardino, and San Diego counties (the four-county rate was not calculated for 2012). Since this is a retrospective survey of kindergarten students, the estimates reflect students when they were two years old, which was mostly in 2008, depending on the age the child started kindergarten.

<sup>2</sup> The Healthy People 2020 target includes recommended doses of Hib, hepatitis B, varicella and pneumococcal disease, as well as DTap, polio, MMR. See page 38 for a description of Healthy People 2020.

<sup>3</sup> Pertussis totals include 53 confirmed cases and one suspected case.

Percent of Children Adequately Immunized at Two Years of Age, by Race/Ethnicity  
Orange County, 2012



Note: Results for all other racial and ethnic groups were unstable due to small samples.

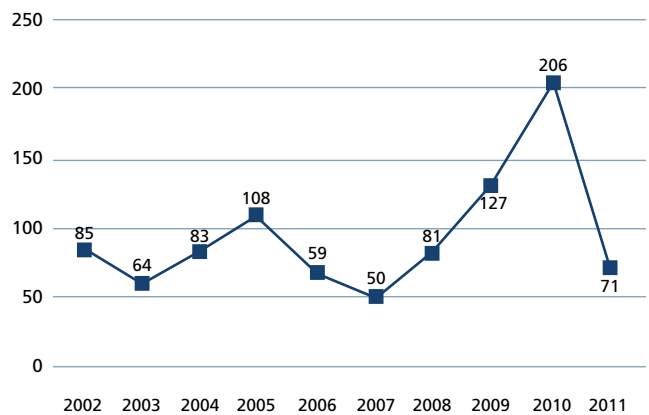
Source: County of Orange Health Care Agency, Immunization Program

### Adequately Immunized

To be considered adequately immunized at age two, a child must have the following vaccinations: four doses of diphtheria/tetanus/pertussis (DTaP), three doses of polio, and one dose of measles/mumps/rubella (MMR). Other vaccines recommended by age two include: hemophilus influenza type B (Hib), hepatitis A, hepatitis B, pneumococcal disease, varicella (chicken pox), and annual flu shots.

Source: County of Orange Health Care Agency, Immunization Program

Vaccine-Preventable Disease (VPD) Cases or Hospitalizations Among Children Ages Zero to Five  
Orange County, 2002-2011



Note: VPD includes polio, tetanus, diphtheria, pertussis, hepatitis A, hepatitis B, Hib, mumps, measles, and rubella, plus pneumococcal disease (as of 2003), varicella (chicken pox) hospitalization (as of 2004), and serious influenza hospitalization (as of 2008).

Source: County of Orange Health Care Agency, Epidemiology and Assessment



# Nearly 40% of Students Have Weight-Related Health Risk

## Description of Indicator

This indicator measures the weight status of Orange County’s children and adults. Children’s weight status is based on the California Department of Education (CDE) Physical Fitness Test, which evaluates the proportion of students in fifth, seventh and ninth grades with an unhealthy body composition (overweight or underweight). The weight status of adults is measured using the California Health Interview Survey and the National Health Interview Survey.

## Why is it Important?

Overweight children are more likely to become overweight or obese adults. A sedentary lifestyle and being overweight are among the primary risk factors for many health problems and premature death. Building a commitment to fitness and maintaining a healthy body weight can have positive impacts on physical and mental health.

## How is Orange County Doing?

Slightly more students were overweight in 2012:

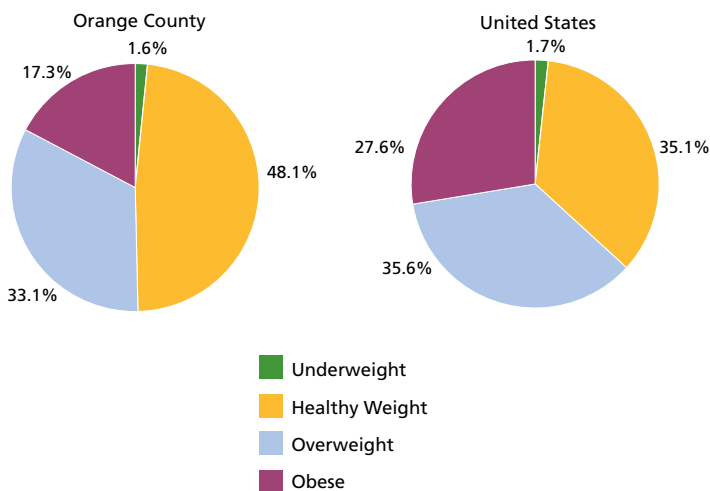
- In 2012, 38.9% of Orange County students in the grades tested had an unhealthy body composition, compared to 44.4% statewide.
- This represents an increase for Orange County, from 37.8% in 2011. The state proportion did not change.
- Of the Orange County students with an unhealthy body composition in 2012, 25.3% were considered to be far outside the healthy range (“Needs Improvement – Health Risk”), while the remaining 13.6% were designated as “Needs Improvement.”
- Stanton and Santa Ana have the highest proportion of overweight youth (51.8% and 46.5%, respectively).
- Newport Beach and Laguna Beach have the lowest proportion (18.3% and 14.3%, respectively).<sup>1</sup>

Over half of Orange County adults are overweight:

- In 2009, 33.1% of Orange County adults were considered overweight and 17.3% obese, while nearly half (48.1%) had a healthy body weight.
- In comparison 35.1% of adults nationwide had a healthy body weight.

## Weight Status of Adults

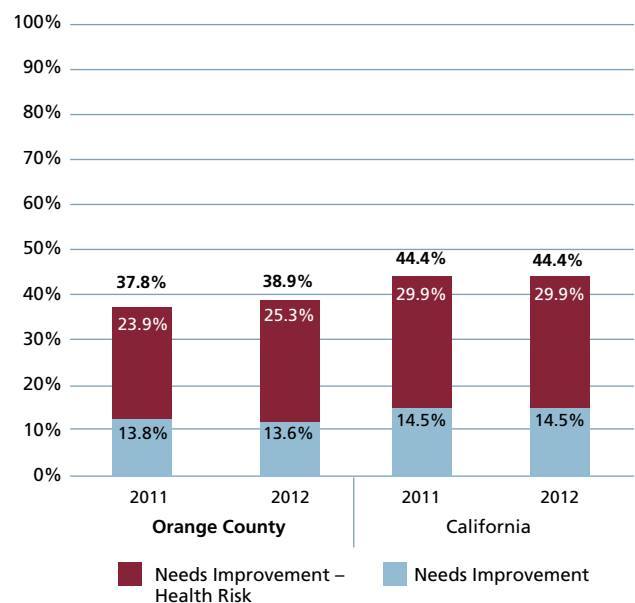
Orange County and United States, 2009



Sources: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey ([www.chis.ucla.edu](http://www.chis.ucla.edu)); Centers for Disease Control and Prevention, National Health Interview Survey ([www.cdc.gov/nchs/products/series/series10.htm](http://www.cdc.gov/nchs/products/series/series10.htm))

<sup>1</sup> The 2010 city-level study used different criteria for overweight and obesity than the CDE uses, thus the average Orange County 2010 percentage of overweight youth does not match the percentage published by the CDE and is not comparable to the 2011 and 2012 CDE data presented.

Percent of Students with Unhealthy Body Composition  
Orange County and California, 2011-2012



Note: Due to changes to the criteria, these data are not comparable to CDE Fitness Test data prior to 2011.

Source: California Department of Education Physical Fitness Test (<http://data1.cde.ca.gov/dataquest/>)

Percent of Students who are Overweight or Obese  
Selected Orange County Cities, 2010

Stanton	51.8%	Brea	28.0%
Santa Ana	46.5%	Cypress	27.6%
Anaheim	43.5%	Laguna Hills	27.2%
Orange	43.2%	Lake Forest	26.9%
Buena Park	41.8%	Huntington Beach	26.4%
California	38.0%	Mission Viejo	25.1%
Garden Grove	38.0%	Rancho Santa Margarita	22.9%
La Habra	36.9%	Irvine	21.7%
Tustin	35.9%	San Clemente	21.1%
San Juan Capistrano	33.7%	Dana Point	20.8%
<b>Orange County<sup>1</sup></b>	<b>33.3%</b>	Aliso Viejo	20.8%
Westminster	33.0%	Laguna Niguel	19.4%
Fountain Valley	31.4%	Newport Beach	18.3%
Fullerton	30.9%	Laguna Beach	14.3%
Seal Beach	28.8%		

Source: UCLA Center for Health Policy Research and the California Center for Public Health Advocacy based on data from the California Department of Education Physical Fitness Test ([www.publichealthadvocacy.org](http://www.publichealthadvocacy.org))

# More People Accessing Food Assistance

## Description of Indicator

This indicator measures Orange County families' progress toward self-sufficiency and economic stability by tracking enrollment in core public assistance programs and the proportion of children living in low-income families.

## Why is it Important?

The challenges associated with poverty such as stress, strained family relationships, poor health, substandard housing, lower educational attainment, limited employment skills, unaffordable child care, and transportation difficulties can make it hard for low-income families to obtain and maintain employment. Economic stability can alleviate these challenges, and as a result, have lasting and measurable benefits for both parents and children.

## How is Orange County Doing?

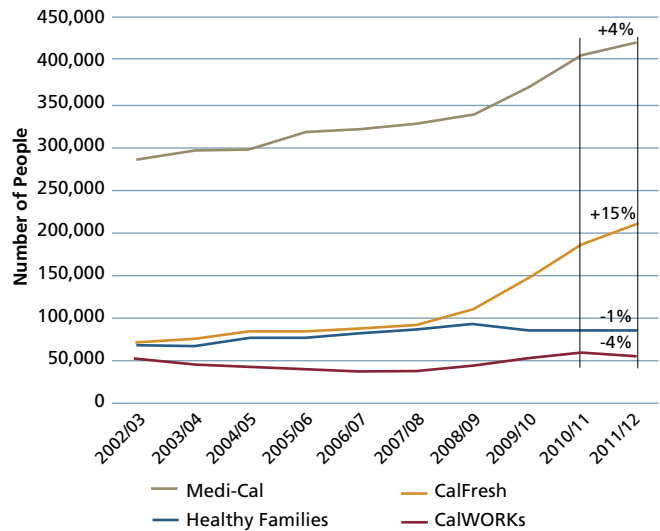
Food subsidies grow while income assistance falls:

- CalFresh (formerly Food Stamps) enrollment increased 15% in 2011/12, on top of a 24% increase in 2010/11 and a 37% increase in 2009/10.
- A monthly average of 213,919 residents received CalFresh in 2011/12, equivalent to 7.0% of the county's total population.<sup>1</sup>
- In addition to growing need, increasing CalFresh enrollment reflects expanded eligibility and greater efforts to enroll income-eligible residents.
- In terms of health insurance, Medi-Cal enrollment grew 4%, while Healthy Families enrollment fell 1%.
- Enrollment in CalWORKs had been growing steadily since 2007/08, but in 2011/12, CalWORKs enrollment fell 4%. Modest economic improvement may be contributing to this decline, as well as adults timing out of the program after four years.

The proportion of children living in low-income families continues to grow:

- Over 46% of students were eligible for free or reduced-price school meals in 2011/12 – an increase of 20% over the past 10 years.
- A child is eligible if his or her family's income is below 185% of the Federal Poverty Guidelines (e.g. \$42,643 for a family of four in 2012).<sup>2</sup>
- In Orange County, wide disparities persist with the highest rate of eligibility in Anaheim City School District (86%) and the lowest rate of eligibility in Laguna Beach Unified School District (10%).

**Major Public Assistance Program Enrollment**  
Orange County, 2003-2012



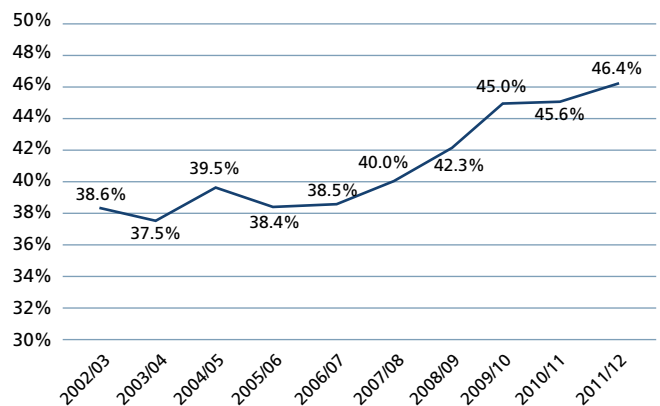
Sources: County of Orange Social Services Agency; State of California, Managed Risk Medical Insurance Board, Healthy Families ([www.mrmib.ca.gov/MRMIB/HFPRReportsJune12.shtml](http://www.mrmib.ca.gov/MRMIB/HFPRReportsJune12.shtml))

### Program Descriptions

Most programs require income and asset limitations, as well as citizenship or permanent legal resident status. Other eligibility factors may apply such as county or state residency, age, or time in the program (time-limits).

- **Medi-Cal** is a health care program for certain low-income populations.
- **CalFresh** (formerly Food Stamps) provides low-income households with assistance for the purchase of food. Due to a federal waiver in 2010, there are no longer asset limitations in this program.
- **Healthy Families** is a health insurance program for children under 19 years who do not qualify for free (zero share-of-cost) Medi-Cal.
- **CalWORKs** provides cash benefits and employment services for low-income families.

**Students Eligible for Free or Reduced-Price School Meals**  
Orange County, 2003-2012



Source: California Department of Education

<sup>1</sup> Population figures from the California Department of Finance, Table E-4 ([www.dof.ca.gov/research/demographic/reports/view.php](http://www.dof.ca.gov/research/demographic/reports/view.php))  
<sup>2</sup> Health and Human Services Federal Poverty Guidelines 2012 (<http://aspe.hhs.gov/poverty/12poverty.shtml>)

# Many School Age Students Face Housing Insecurity

## Description of Indicator

This indicator measures Orange County family housing stability by tracking the number of children that are homeless or living in insecure housing arrangements, as well as the availability of rental assistance.<sup>1</sup>

## Why is it Important?

High housing costs force many families into living conditions they would not choose otherwise. Living doubled- or tripled-up with another family due to economic constraints can place stress on personal relationships, housing stock, public services, and infrastructure. When shared housing is not an option – or if other factors arise such as foreclosure, financial loss, or domestic violence – the result can be homelessness. Housing insecurity among young children is associated with food insecurity and a greater likelihood of poor health and developmental delays.<sup>2</sup>

## How is Orange County Doing?

Housing insecurity grew for school age children:

- In 2011/12, the number of PreK-12 students who were identified as homeless or living in unstable housing arrangements rose by 3%, bringing the total to 28,626.
- Most of these students (26,115) live in families that are doubled- or tripled-up with another family.
- Since 2007/08, the number of students living in motels rose 68%, while the number students living in shelters rose 169% and the number of unsheltered students rose 158%.
- At 5.7% of total enrollment, Orange County has proportionately more students with insecure housing than the statewide average and all California peers compared except Riverside/San Bernardino.

Housing Authorities provide rental assistance to low-income residents but demand far outpaces supply in Orange County:

- As of October 2012, Orange County’s four Housing Authorities were assisting 22,229 households with rent.
- When the Orange County Housing Authority (OCHA) opened their waiting list to new applicants for a two-week period in February 2012, the result was 27,935 new applicants who live or work in one of OCHA’s 31 participating cities or unincorporated areas.
- The OCHA also received more than 10,000 applications from residents that are served by Orange County’s three other Housing Authorities: Anaheim, Garden Grove, and Santa Ana.
- Among the applicants residing or working in OCHA’s service area, 8% were veterans, 75% were elderly, disabled, or a working family, and the remaining 17% were non-working families or singles.
- The majority of residents currently receiving rental assistance countywide are elderly (42%), followed by families with children (32%), the disabled (14%), and singles or couples (11%).

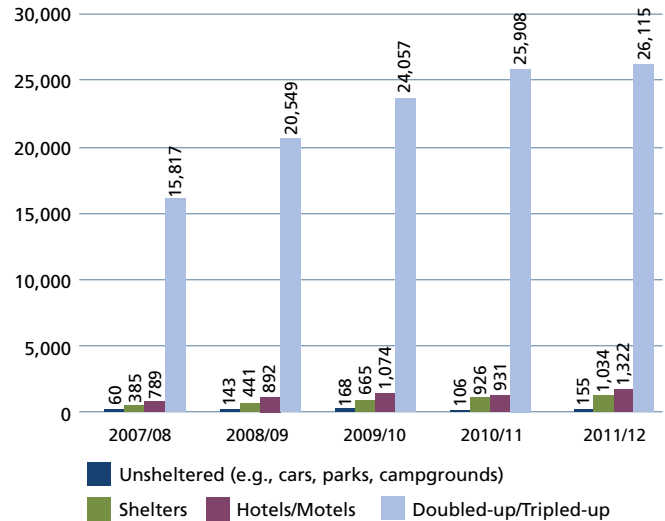
### 2-1-1 Orange County

In 2011/12, approximately 10% of callers to 2-1-1 Orange County inquired about rental assistance. When looking at all housing-related issues (such as shelters, rental assistance, mortgage payment assistance, and motel vouchers), as many as 28% of callers, or nearly 25,000 people, inquired about these topics.

<sup>1</sup> Federal law requires public school districts to report the number of students living in shelters or unsheltered in cars, parks or campgrounds, as well as students living in motels or temporarily with another family due to economic hardship. Homeless student data is subject to revision due to the ability of districts to make changes to reported counts.

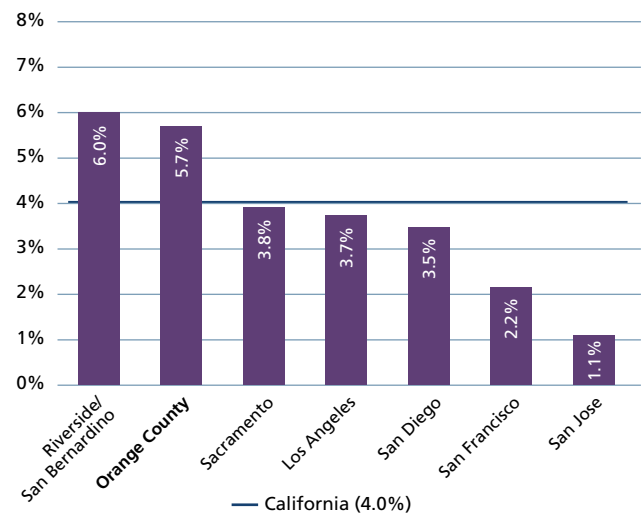
<sup>2</sup> Children’s HealthWatch ([www.childrenshealthwatch.org/page/policyactionbriefs](http://www.childrenshealthwatch.org/page/policyactionbriefs))

Homeless and Housing Insecure School Age Students, by Primary Nighttime Residence  
Orange County, 2008-2012



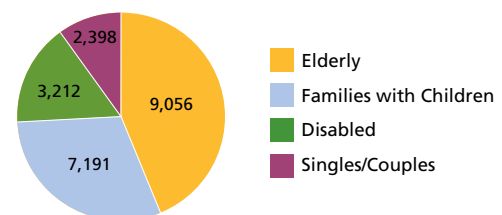
Source: California Department of Education, November 2012

Homeless and Housing Insecure School Age Students, by Percentage of Total Enrollment  
Regional Comparison, 2011/12



Source: California Department of Education, November 2012

Households Receiving Rental Assistance from the Anaheim, Garden Grove, Santa Ana, and Orange County Housing Authorities, 2012



Source: Housing and Urban Development (<https://pic.bud.gov/pic/RCRPublic/rcrmain.asp>)

# 30% of Young Adults are Uninsured

## Description of Indicator

This indicator measures the proportion of Orange County residents that are uninsured, including details about coverage by age, race and ethnicity, educational attainment and income.<sup>1</sup>

## Why is it Important?

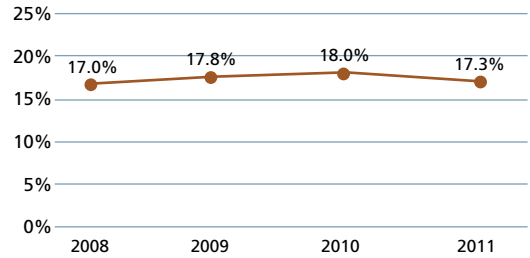
Access to quality health care is heavily influenced by health insurance coverage. Due to the high cost of health care, individuals who have health insurance are more likely to seek routine medical care and to take advantage of preventive health screening services than those without such coverage. This results in a healthier population and more cost-effective health care.

## How is Orange County Doing?

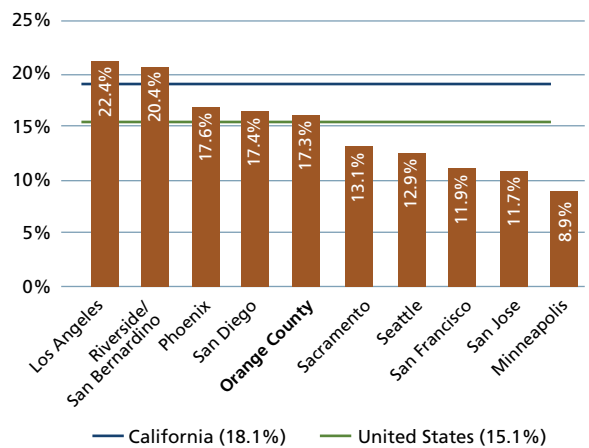
Estimates indicate approximately one in six Orange County residents are uninsured, a proportion that has not changed significantly over the past four years:

- In 2011, 17.3% of Orange County residents were uninsured.
- This proportion is higher than the United States average (15.1%), lower than the California average (18.1%), and in the mid-range compared to peers.
- Young adults were the age group most likely to be uninsured (30%).
- Hispanic residents were the race or ethnic group most likely to be uninsured (30%).
- When broken out by household income, those with incomes in the lower-middle range (\$25,000-\$49,000) were the most likely to be uninsured (28%).
- Fully 40% of those with less than a high school diploma were uninsured.

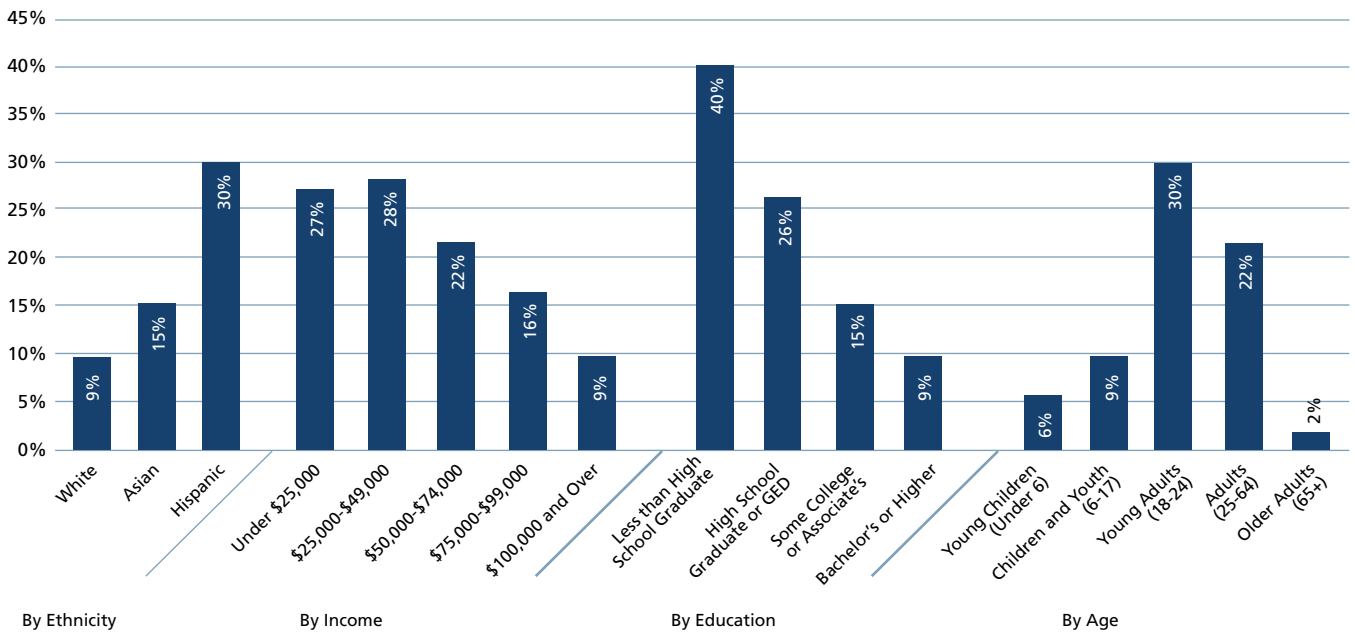
**Uninsured (All Ages)**  
Orange County, 2008-2011



**Uninsured (All Ages)**  
Regional Comparison, 2011



**Uninsured by Race/Ethnicity, Income, Education and Age**  
Orange County, 2011



Note: Asian includes Native Hawaiian/Pacific Islander. White is non-hispanic. Latino is of any race. Educational attainment data is for the population age 25 and over.

Source: U.S. Census Bureau, American Community Survey, 1-Year Estimates (<http://factfinder2.census.gov>)

<sup>1</sup>Data are from the U.S. Census Bureau and not comparable to data from the California Health Interview Survey presented previously in this indicator.



# Poverty Rate for Seniors Remains Historically High

## Description of Indicator

This indicator measures the economic, safety, and health status of Orange County older adults (65 years of age and over).<sup>1</sup>

## Why is it Important?

Between 2007 and 2011, Orange County's senior population grew 10%. This trend is expected to increase, with Orange County's older population projected to grow by 94% between 2010 and 2030, and to experience a significant shift in racial and ethnic composition.<sup>2</sup> These trends will place greater and changing demands on health, transportation and support services for this population.

## How is Orange County Doing?

Poverty among Orange County's seniors was largely unchanged:

- In 2011, 8.8% of older adults lived in poverty, compared to 8.7% in 2010.
- This proportion is relatively high considering that Orange County's senior poverty rate in the prior 10 years averaged 6.9%.
- Orange County's senior poverty rate is lower than the state and nation, but it has increased at a faster rate than both.
- The 2011 median household income of Orange County's older adults is \$46,194, compared to the county median of \$72,293.
- Homeownership among seniors is higher than the non-senior adult population (77% vs. 54%), and median monthly mortgage costs for older adults are nearly \$1,000 less than for the population overall.

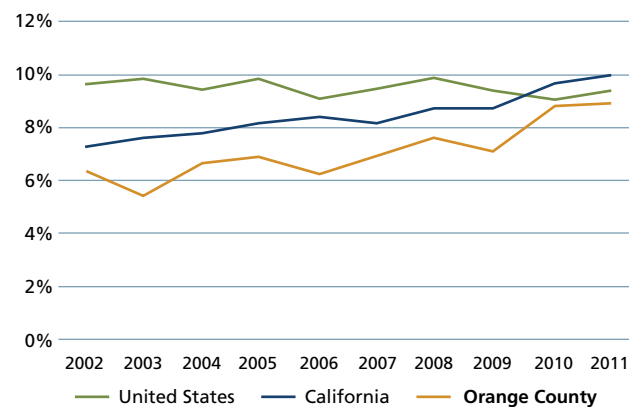
Most older adults are healthy:

- According to the 2009 California Health Interview Survey, as many as 70% of older adults rate their health as "excellent," "very good" or "good," while the remaining 30% rate their health as "fair" or "poor."
- While deaths due to heart disease and cancer are declining, the death rate for Alzheimer's disease rose 36% between 2006 and 2010.<sup>3</sup>
- Medicare and Medicaid payments for people with Alzheimer's and other dementias range from three to nine times higher than patients without these conditions.<sup>4</sup>
- The older adult caseload for the County of Orange Social Services Agency's (SSA) In-Home Supportive Services program increased 24% since 2008, totaling 13,319 seniors served as of July 2012.<sup>5</sup>
- Similarly, Medi-Cal enrollment by older adults increased 23% since 2008, with an average of 53,559 seniors enrolled in Medi-Cal in any given month in 2011/12.<sup>5</sup>
- At the same time, the number of seniors receiving CalFresh (formerly Food Stamps) rose to 4,569, an increase of 259% since 2008.
- Of the support services tracked, only congregate and in-home meals served to older adults by the County of Orange Office on Aging decreased in 2011/12, falling 11% in one year, to 1.64 million meals. Budget reductions are the cause of the decrease.

Elder abuse reports increased:

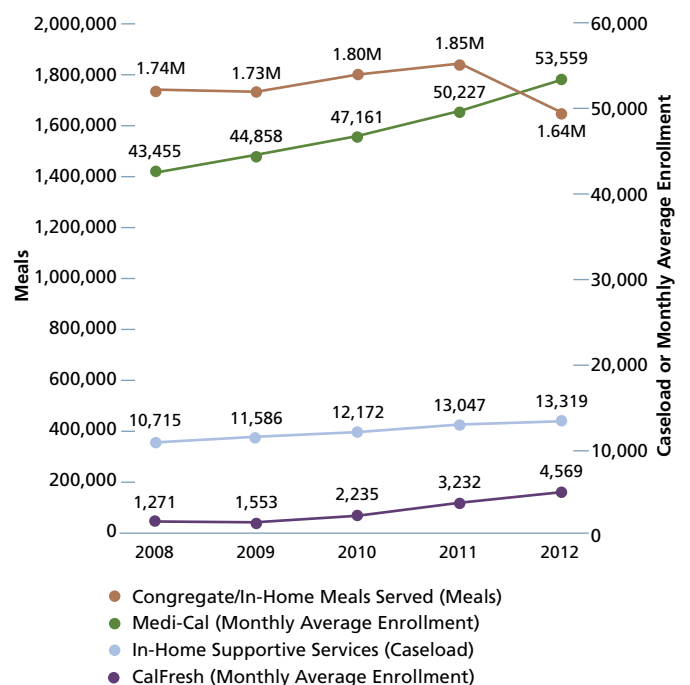
- The average monthly number of elder abuse cases handled by SSA rose to 453 cases in 2011/12, an increase of 18% since 2008.
- Elder abuse includes self-neglect – the most common form of abuse – as well as abuse by others including neglect, and financial, physical, or emotional abuse.

**Percent Age 65 and Over in Poverty**  
Orange County, California and United States, 2002-2011



Source: U.S. Census Bureau, American Community Survey (<http://factfinder2.census.gov>)

**Older Adult Support Services**  
Orange County, 2008-2012



Note: Data for In-Home Supportive Services is the caseload as of June of a given year (except 2012, when it is as of July); Congregate/In-Home Meals served, Medi-Cal enrollment and CalFresh enrollment are by fiscal year (2011 refers to 2010/11).

Sources: County of Orange Social Services Agency (IHSS, Medi-Cal, CalFresh); Orange County Community Services/Office on Aging (C/HMS)

<sup>1</sup>Data are from the U.S. Census Bureau, 2011 American Community Survey unless otherwise noted.

<sup>2</sup>California Department of Finance

<sup>3</sup>California Department of Public Health (age-adjusted death rates)

<sup>4</sup>Centers for Disease Control and Prevention ([www.cdc.gov/aging/aginginfo/alzheimers.htm](http://www.cdc.gov/aging/aginginfo/alzheimers.htm))

<sup>5</sup>In-Home Supportive Services for seniors includes domestic assistance, personal and paramedical care, and protective supervision to prevent self-harm.

# Gallup-Healthways Index Tracks Residents' Wellbeing

## Description of Indicator

This indicator measures residents' sense of wellbeing about their lives and overall emotional health based on data derived from the Gallup-Healthways Well-Being Index.

## Why is it Important?

Life satisfaction and emotional health have profound impacts on individuals as well as the home, workplace, and community. Public and private entities can use this data to identify problems and develop strategies to overcome these difficulties, helping the community thrive.

## How is Orange County Doing?

Life satisfaction among residents remained relatively constant:

- At 57.3% in 2011, slightly fewer Orange County residents were "thriving" than a year ago (57.9%), but since 2008, life evaluation has improved nearly five percentage points.
- Also in 2011, 40.7% were "struggling" and 2.0% were "suffering."
- Orange County's overall Life Evaluation Index score was 55.3 in 2011, up from 54.9 in 2010.
- In 2010, Orange County's Life Evaluation Index score was higher than the state (50.0) and nation (50.3).
- Similarly, Orange County's 2010 Emotional Health Index score of 81.2 was higher than the state (78.9) and nation (79.4).
- In 2011, Orange County's Emotional Health Index score fell slightly, dropping from 81.2 in 2010 to 80.3 in 2011.
- A strong majority of residents consider themselves treated with respect (94%) and happy (88%).
- 39% indicated they are currently living with stress, and 12.5% reported they were diagnosed with clinical depression at some point in their lives.

## Gallup-Healthways Well-Being Index

The Well-Being Index measures health through six sub-indices including Emotional Health and Life Evaluation:

### Emotional Health Index

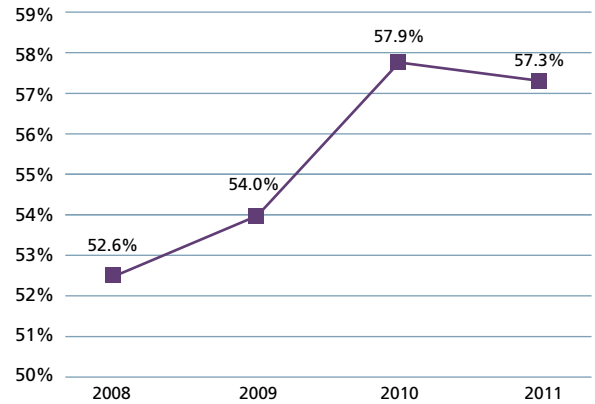
Measures daily experiences including smiling or laughter, being treated with respect, enjoyment, happiness, worry, sadness, anger, stress, learning or doing something interesting, and depression.

### Life Evaluation Index

Measures how residents evaluate their current status and outlook for the future on a scale of zero to 10. The results are then categorized with the highest rankings considered "thriving," the middle rankings considered "struggling," and the lowest rankings considered "suffering."

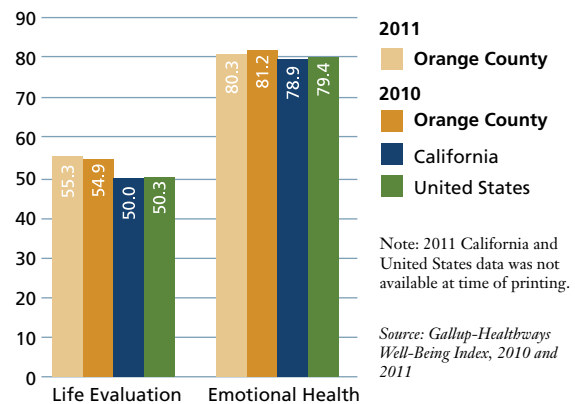
For more information, visit: [www.well-beingindex.com](http://www.well-beingindex.com).

**Life Evaluation Index: Percent "Thriving"**  
Orange County, 2008-2011

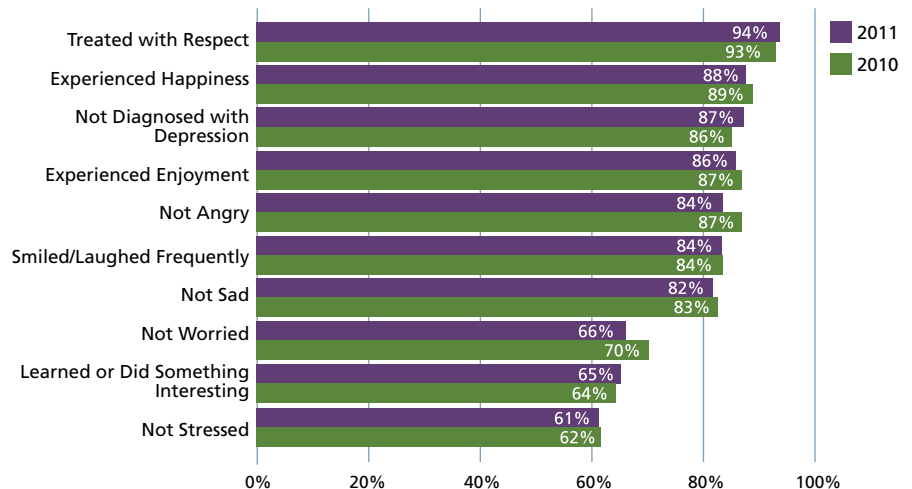


Source: Gallup-Healthways Well-Being Index, 2008-2011

**Life Evaluation and Emotional Health Composite Index Scores**  
Orange County, California and United States, 2010 and 2011



**Emotional Health Index**  
Orange County, 2010 and 2011



Source: Gallup-Healthways Well-Being Index, 2010 and 2011

# Heart Disease and Cancer Death Rates Continue to Fall

## Description of Indicator

This indicator reports mortality rates (age-adjusted deaths per 100,000 people) and progress toward the Healthy People 2020 objectives for 18 commonly measured causes of death, with detailed trend analysis for six selected leading causes.<sup>1</sup>

## Why is it Important?

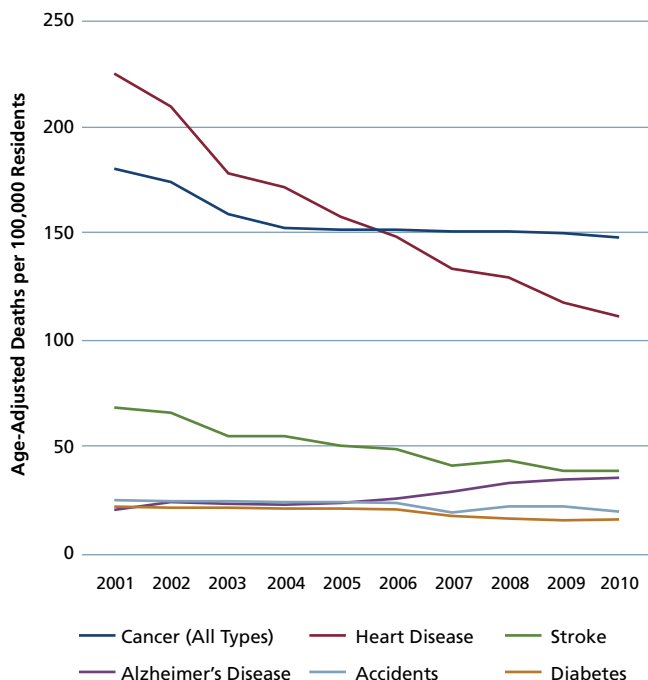
Viewing the county in relation to statewide averages and national health objectives identifies public health issues that are comparatively more or less pronounced in Orange County. This information helps the development and prioritization of public health initiatives.

## How is Orange County Doing?

Death rates for cancer and heart disease continue to fall:

- Cancer deaths declined 19% since 2001 and heart disease deaths declined 48% during the same period.
- While deaths due to stroke rose slightly in 2010, the long-term trend is strongly downward, falling 43% since 2001.
- The diabetes death rate did not change in 2010, although the long-term trend is gradually downward.
- Deaths due to accidents fell in 2010 but variable death rates over the past 10 years do not point to a discernable trend.
- Alzheimer's disease deaths continued to rise, maintaining Orange County's above-average rate in the state.
- Orange County is also above the statewide average for deaths due to the flu or pneumonia.
- For the remaining 16 commonly measured causes of death, Orange County has lower death rates than the statewide average.
- Orange County has yet to achieve the Healthy People 2020 objectives for accidents, chronic liver disease/cirrhosis, stroke and heart disease.

Age-Adjusted Death Rates for Selected Leading Causes of Death  
Orange County, 2001-2010



Source: California Department of Public Health, County Health Status Profiles ([www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx](http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx))

## Orange County Age-Adjusted Death Rate, Ranking, and Comparison to the California Average, 2010

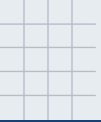
Rank Among California Counties	Cause of Death	Death Rate per 100,000
4	Accidents	21.6
5	Motor Vehicle Crashes ✓	4.9
6	Firearms Injury ✓	4.5
8	Suicide ✓	8.4
13	Chronic Lower Respiratory Disease *	32.8
14	Chronic Liver Disease and Cirrhosis	9.2
14	Homicide ✓	2.2
17	Drug-Induced ✓	9.8
18	Colon Cancer ✓	12.8
18	Lung Cancer ✓	34.5
19	Diabetes ✓	14.2
21	All Cancers ✓	146.1
26	Stroke	37.2
29	Breast Cancer ✓	20.6
31	Prostate Cancer ✓	21.0
33	Heart Disease	113.3
44	Influenza or Pneumonia *	18.5
46	Alzheimer's Disease *	32.4

Note: Ordered by Orange County's rank among California counties (one is best, 58 is worst).

- Better than California Average
- Worse than California Average
- ✓ Healthy People 2020 Target Achieved
- \* No matching Healthy People 2020 target

Source: California Department of Public Health, County Health Status Profiles ([www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx](http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx))

<sup>1</sup> See page 38 for a description of Healthy People 2020. Data reflect three-year averages (with the exception of Alzheimer's Disease deaths from 2001 to 2004, which are sourced from the Vital Statistics Query System and are single-year age-adjusted rates). For example, "2010" is an average of 2008, 2009, and 2010 data. Counties with varying age compositions can have widely disparate death rates since the risk of dying is largely a function of age. Age-adjusted rates control for this variability and enable county comparisons and the ability to track progress toward Healthy People 2020 objectives, which are also based on age-adjusted rates.





# 59% of Residents Turnout for Presidential Election

## Description of Indicator

This indicator measures voter registration and voter turnout among registered voters and the voting-eligible population. Also shown are percentages of Orange County's electorate who are voting by mail.

## Why is it Important?

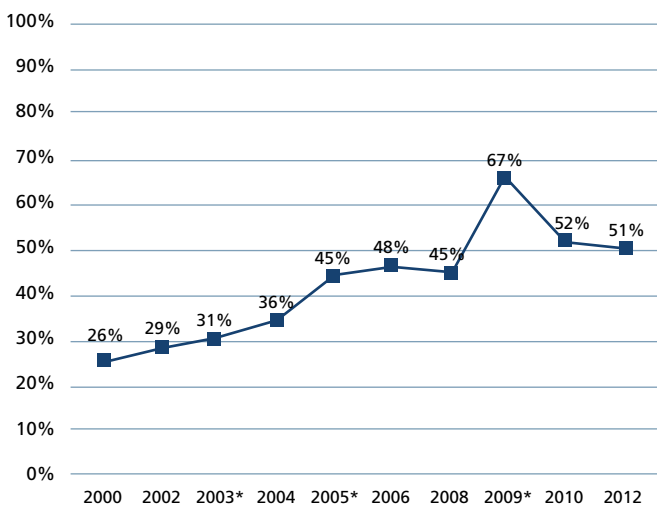
Voter participation measures civic interest and the public's optimism regarding their impact on the decision-making process. A high level of citizen involvement increases government accountability and personal investment in community issues. An increase in the number of constituents voting by mail may reduce the overall cost of holding elections.

## How is Orange County Doing?

While turnout varies depending on how it is measured, Orange County maintains high voter registration:

- As of October 2012, 87% of Orange County residents who are eligible to vote were registered.
- This rate is greater than state and national averages and all peers compared.
- Among registered Orange County voters, 67% chose to vote in the November 2012 presidential general election, lower than the statewide average and all peer counties compared.
- Among all Orange County residents eligible to vote, 59% voted in the 2012 presidential election.
- This participation rate for the voting-eligible population is higher than the statewide average and all peer counties compared except San Francisco.
- In 2012, 51% of Orange County voters chose to vote by mail, the same as voters statewide.

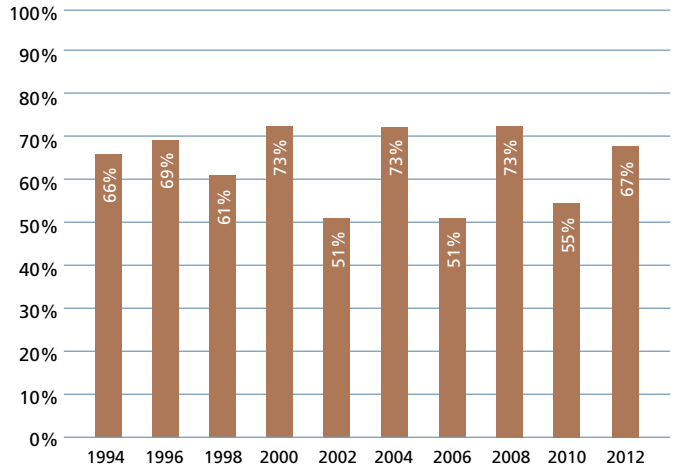
## Voting by Mail in General, Mid-Term and Special Elections Orange County, 2000-2012



\*Special Election

Source: California Secretary of State ([www.sos.ca.gov](http://www.sos.ca.gov))

## General and Mid-Term Election Turnout Among Registered Voters Orange County, 1994-2012



Source: California Secretary of State ([www.sos.ca.gov](http://www.sos.ca.gov))

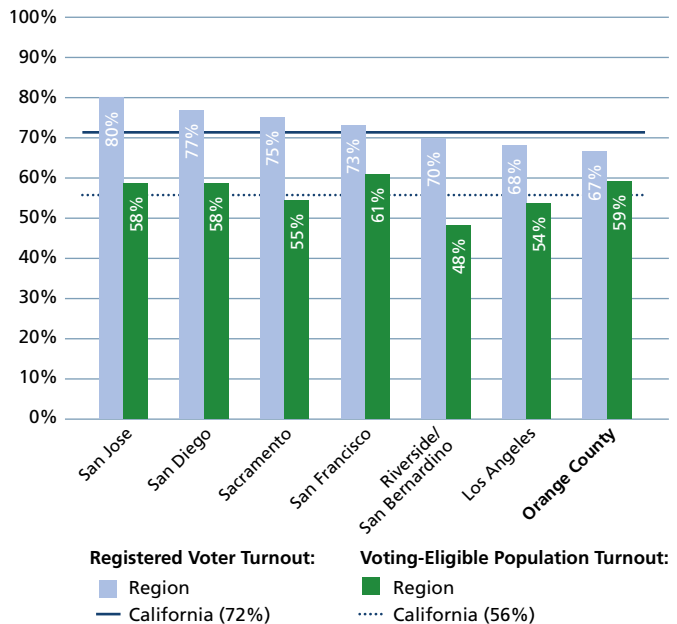
## Measuring Voter Turnout

Registered voter turnout is the number of votes cast in any given election divided by the number of residents who are registered to vote. Voting-eligible population turnout is the number of votes cast divided by the number of eligible residents (U.S. citizens 18 years of age or older who are not convicted felons in prison or on parole).

Many analysts prefer voting-eligible population turnout, viewing it as a truer picture of voter participation. It takes into account the citizens who are eligible to vote but not registered, as well as the proportion of the population that is ineligible to vote – a proportion that has increased from about 2% to 10% since the 1970's.

Source: United States Election Project, George Mason University (<http://elections.gmu.edu/EAQ.html>)

## Presidential Election Turnout Among Registered Voters and Voting-Eligible Population Regional Comparison, 2012



Source: California Secretary of State ([www.sos.ca.gov](http://www.sos.ca.gov))

# Most Charities Working with Fewer Resources

## Description of Indicator

This indicator assesses Orange County's nonprofit sector by tracking change in the number, revenue, and assets of financially active organizations (those with gross receipts over \$25,000) using analysis conducted by the Gianneschi Center for Nonprofit Research and OneOC. It also provides a comparison of nonprofits among peer regions using data from the National Center for Charitable Statistics.

## Why is it Important?

A well-funded and supported nonprofit sector is an integral part of a healthy and stable community. Nonprofit service organizations help bridge the gap between government programs and local needs, and are a valuable contributor to the economy.

## How is Orange County Doing?

Orange County's nonprofits have grown over a decade:

- Between 2000 and 2010, the number of financially active charitable organizations grew nearly 70% from 1,899 to 3,181.
- This equates to per capita growth from 6.7 to 10.6 organizations per 10,000 residents between 2000 and 2010.
- This growth is more than twice the rate of growth of charitable organizations nationwide (28%).
- In 2010, Human Services organizations comprised the highest percentage of nonprofits (29%), followed by Education (27%) and Religious (12%).
- Nonprofit revenues increased 96% from \$4.2 billion to \$8.2 billion, which equates to \$2,739 per 10,000 residents in 2010.
- Nonprofit assets increased 132% from \$7.1 billion to \$16.5 billion, for a total of \$5,479 per 10,000 residents in 2010.

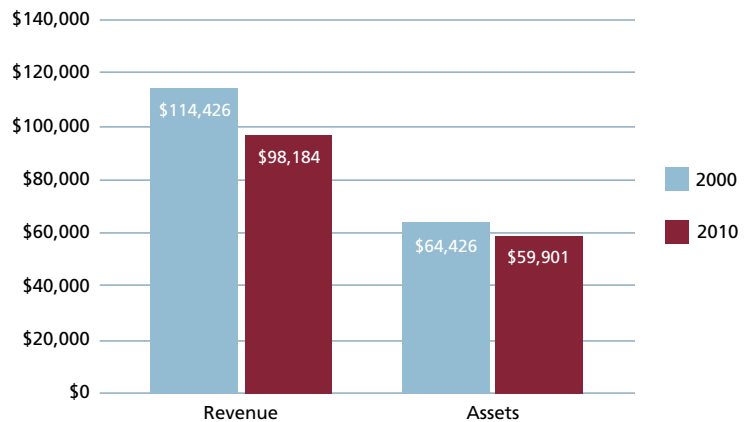
However, most Orange County nonprofits had fewer financial resources in 2010 than in 2000, based on a review of median revenues and assets:

- In 2010, median total revenues for all Orange County nonprofits were \$98,183 compared with median total revenues of \$114,426 in 2000, a decline of 14%.
- Similarly, median total assets were \$59,901 in 2010 compared with \$64,426 in 2000, a decline of 7%.
- Growth was concentrated in the largest nonprofits. The top 10 nonprofits in Orange County are hospitals and make up 54% of all nonprofit revenues.
- In contrast, 43% of nonprofits experienced a loss in 2010 and used reserves to cover expenses.

Orange County's nonprofit revenues are relatively low compared to other regions:

- In August 2012, Orange County nonprofits averaged revenue of \$3,305 per resident.
- This compares with a high of reported revenues of \$52,851 per resident in Boston and a low of \$1,446 in the Inland Empire.

**Median Nonprofit Revenues and Assets**  
Orange County, 2000 and 2010



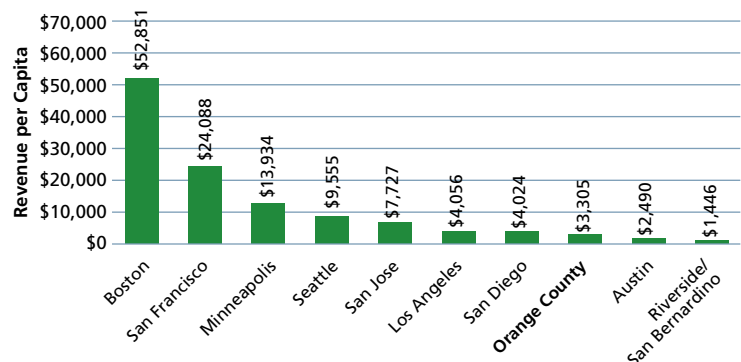
Note: A median calculation is used to assess change in revenues and assets because it moderates the dominance of the largest nonprofits, allowing for a truer picture of the majority of organizations.

Source: *Nonprofit Sector: Orange County*, Gianneschi Center for Nonprofit Research and OneOC, 2012

## Defining a Charitable Organization

The Orange County-specific analysis in this indicator is based on research conducted by the Gianneschi Center for Nonprofit Research, detailed in the report *Nonprofit Sector: Orange County 2012*. This report narrows the population of registered nonprofits to a subset of filers: those with gross receipts of \$25,000 or more for a specific filing year. This additional drill-down of data from the National Center for Charitable Statistics provides a more accurate picture of how Orange County's financially active nonprofit organizations fared between 2000 and 2010. For the regional comparison, all registered public charities, which may or may not be active, are included in the analysis.

**Registered Nonprofit Revenue Per Capita**  
Regional Comparison, August 2012



Source: National Center for Charitable Statistics (<http://nccsweb.urban.org/tableviz/bmf.php>)

Note: Data are for all registered 501(c)(3) public charities as reported by the National Center for Charitable Statistics for August 2012.

## The Community Indicators report sponsors would like to thank the following organizations for providing data and expertise in support of this effort:

Anaheim Public Utilities  
Association of California Cities – Orange County  
California Association of Realtors  
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California Department of Finance  
California Department of Justice, Criminal Justice Statistics Center  
California Department of Public Health  
California Department of Transportation  
California Division of Tourism  
California Employment Development Department  
California Energy Commission  
California Highway Patrol  
California Integrated Waste Management Board  
California Managed Risk Medical Insurance Board  
California Public Utilities Commission  
California Secretary of State  
California Solar Statistics  
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Center for Demographic Research at California State University, Fullerton  
Central County Regional Occupational Programs  
CEOs for Cities  
Chapman University  
Children and Families Commission of Orange County  
Children's HealthWatch  
Coastline Regional Occupational Programs  
Council for Community and Economic Research  
County of Orange Community Services/Office on Aging  
County of Orange Community Services/Orange County Housing Authority  
County of Orange Health Care Agency/Environmental Health and Assessment  
County of Orange Health Care Agency/Family Health Division  
County of Orange Health Care Agency/Immunization Program  
County of Orange Office of the District Attorney  
County of Orange Public Works  
County of Orange Social Services Agency  
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Federal Bureau of Investigation  
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Healthy People 2020  
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Metrolink  
Milken Institute  
Municipal Water District of Orange County  
National Center for Charitable Statistics  
National Low Income Housing Coalition  
National Transit Database  
National Venture Capital Association  
North Orange County Regional Occupational Programs OneOC  
Orange County Business Council  
Orange County Community Foundation  
Orange County Department of Education  
Orange County Transportation Authority  
Orange County United Way  
Orange County Waste & Recycling  
Orange County Water District  
Pew Research Center  
PricewaterhouseCoopers/PwC  
San Diego Gas and Electric  
Scarborough Research  
Silicon Valley Joint Venture  
South Coast Air Quality Management District  
Southern California Edison  
Thompson Reuters  
United States Bureau of Economic Analysis  
United States Bureau of Labor Statistics  
United States Census Bureau  
United States Centers for Disease Control and Prevention  
United States Department of Commerce  
United States Department of Health and Human Services  
United States Department of Housing and Urban Development  
United States Election Project  
United States Energy Information Administration  
United States Environmental Protection Agency  
United States Patent and Trademark Office  
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**Orange County Community Indicators 2013 Project Team:**  
Michael Ruane (Project Director), Children and Families Commission of Orange County  
Lisa Burke, Burke Consulting  
Mark Mendoza, Adgyld  
Kari Parsons, Parsons Consulting, Inc.  
Wallace Walrod, Tech Coast Consulting Group