



**Hoag Memorial Hospital  
Presbyterian: Newport Beach**

**2010 Needs Assessment Report**



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## **2010 Needs Assessment Report**

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# 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 SB 697 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 Information 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 Hoag Memorial Hospital Presbyterian service area:

- Health care access and coverage;
- Health care utilization;
- Preventive care or risk factors;
- Chronic diseases;
- Dental health;
- Mental/behavioral health;
- Nutrition, obesity, and exercise;
- Child health;
- Senior health;
- Maternal and infant health; and
- Disaster preparedness.



# The 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 (OC) has not been spared. Unemployment rates are estimated to be around 9.6%, as of September 2010, but many cities within OC are much higher: Santa Ana, a densely populated city, has an unemployment rate of 15%; Buena Park and Fullerton also have higher unemployment rates of 12% and 11%, respectively, more than doubling from 2007. Growing unemployment is accompanied with an increase in those living in poverty: the 2009 countywide estimate was 11%, but many OC cities have rates as high as 20%. In Anaheim over 24% of children lived at or below the Federal Poverty Level; both Buena Park and Fullerton had over 12.5% of their children living in poverty. Many OC residents have slid down the economic ladder, having lost one or more sources of family income and with it, their health care coverage.

## Access to Health Care— a Decade of Gains Lost in the Recent Economic Recession

From 1998 through 2007 the county demonstrated measurable improvements (reductions) in the number of adults and children without health coverage, dropping from a high of just under 15% to a low of 9% for adults and a high of less than 11% to a low of less than 4% for children. With the economic downturn continuing into 2010, the gains of the last 10 years have been completely erased.

Ethnic/minority populations throughout OC 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 Hispanic/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 uninsured population in OC has more than doubled from 2007 to 2009 for both adults (from 9% to 20%) and children (from under 4% to over 10%). In fact, the 2009 estimates for children and adults are higher than estimates collected in the OCHNA 1998 survey.

## Accessing Health Care Becoming More Difficult for Many: Increased Need and the Reality of 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 the federal government views these services "optional", the medical and dental communities view preventative dental care as both necessary 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 Creating 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 that the goal of access to health care is met.

# 2010 Needs Assessment Report

## Summary of Highlights

### Access to Health Care: A Decade of Gains Lost in the Recent Economic Recession

From 1998 through 2007 Orange County demonstrated measurable improvements (reductions) in the number of adults and children without health coverage, dropping from a high of just under 15% to a low of 9 % for adults and 11% to a low of less than 4% for children. With the economic downturn that started in mid 2007 and continued into 2009, the gains of the last 10 years have been completely erased.

Overall the uninsured population in Orange County has more than doubled from 2007 to 2009 for both adults (increasing from 9% to 20%), which is higher than it was in 1998, and children (increasing from under 4% to just over 10%), which is now just under the uninsured rates of 1998.

Ethnic/minority populations throughout OC have experienced the largest losses of health care coverage, with almost one in three Hispanic/Latinos (32%) 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 43% of Latino adults and 15% of all Asians are without coverage health care coverage.

### Lack of Health Coverage in the Hoag Service Area (ACS 2009)

Compared to Orange County, there was a greater proportion of children (0-17) and non-elderly adults (18-64) in the Hoag service area that were without any form of health care coverage in 2009.

- **Orange County:** 10% of children and 23% of non-elderly adults were without any form of health care coverage.
- **Hoag Service Area:** 13% of children and 27% of non-elderly adults were without any form of health care coverage.

Uninsured rates are even worse in cities that have higher proportions of low-income and minority populations; these cities have seen their unemployment rates more than double from 2007 to 2009. The countywide unemployment rate increased from an average of 4% in 2007 to 10% in September 2010.

- **Santa Ana:** 47% of Adults (18-64) and 20% of children (0-17) are uninsured; rate of unemployment rose from 6% in 2007 to 15% as of September 2010.
- **Garden Grove:** 35% of Adults (18-64) and 13% of children (0-17) are uninsured; rate of unemployment rose from 5% in 2007 to 12% as of September 2010.
- **Costa Mesa:** 28% of Adults (18-64) and 12% of children (0-17) are uninsured; rate of unemployment rose from 4% in 2007 to 9% as of September 2010.
- **Westminster:** 21% of Adults (18-64) and 9% of children (0-17) are uninsured; rate of unemployment rose from 4% in 2007 to 11% as of September 2010.

### Accessing Health Care Becoming More Difficult for Many

For the increasing number of individuals who have lost their jobs and the accompanying benefits, such as health and prescription coverage, their access to preventative care and disease management has been lost as well. This has left many to put off needed care until it becomes a trip to the Emergency Room.

Hoag Emergency Room visits have been steadily climbing since 2005. In 2009 ER encounters, not resulting in admission at the hospital, jumped up to 58,258, an increase of 5,324 encounters from 2007; during the first half of 2010 (January to June) there were 27,804 ER encounters recorded at Hoag. These increases coincide with the increase in the loss of health care coverage over the same time period.

## Body Weight, Obesity, and Chronic Diseases

Any effort to increase the quality of life and health of patients over time must consider increasing healthy eating, physical activity and healthy weight a priority, the first step to reducing and controlling chronic disease such as diabetes and heart disease.

The percentage of Orange County children and adults who are either overweight or obese has continued to rise over the last years, similar to state and national rates. The Hoag service area did slightly better than county rates, but still had significant number of both children and adults who are at an unhealthy weight according to the 2007 OCHNA survey. For both Orange County and the Hoag service area, there was a gender difference among adults, showing men as significantly more likely than women to be overweight or obese; the gender disparity applied to children as well.

- **Orange County:** 31% of children were overweight or at risk for being overweight; 54% of adults were overweight or obese.
- **Hoag Service Area:** 29% of children were overweight or at risk for being overweight; 50% of adults were overweight or obese.

The impact of obesity on health overall is dramatic, especially compared to those with a healthy body weight:

### Orange County (OCHNA 2004):

- 13% of overweight/obese adults reported having **diabetes**, compared to only 1% of healthy weight adults.
- 33% of overweight/obese adults reported **high blood pressure** and 27% reported **high cholesterol**, compared to only 13% and 16% respectively of healthy weight adults.
- 23% of overweight/obese adults had **arthritis**, compared to 15% of healthy weight adults.

### Hoag Service Area (OCHNA 2004):

- 15% of overweight/obese adults reported having **diabetes**, compared to only 1% of healthy weight adults.
- 33% of overweight/obese adults reported **high blood pressure** and 30% reported **high cholesterol**, compared to only 11% and 13% respectively of healthy weight adults.
- 23% of overweight/obese adults had **arthritis**, compared to 15% of healthy weight adults.

The fiscal impact of health problems related to obesity is just as dramatic. According to the California Center for Public Health Advocacy, it is estimated that California spent over \$41 billion on obesity related health care in 2006, with Orange County representing over \$3 billion of those costs.

## Diabetes and Other Chronic Conditions

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

### Orange County (OCHNA 2004):

- Of Orange County adults who reported having diabetes, 40% also had arthritis. In contrast, 17% of Hoag service area 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.

**Hoag Service Area (OCHNA 2004):**

- Of Hoag service area adults who reported having diabetes, **45%** also had arthritis. In contrast, **17%** of Hoag service area adults without diabetes had arthritis.
- **65%** of adults with diabetes also had high blood pressure; among those without diabetes, only **19%** had high blood pressure.
- **27%** of adults with diabetes also had heart disease; only **4%** of those without diabetes reported having heart disease.
- Nearly **19%** of adults with diabetes were also diagnosed with cancer, compared to **6%** of adults without diabetes who were diagnosed with cancer.

The average cost of a hospital stay for an individual admitted with diabetes in 2007 was approximately \$16,454. Of the 10 most costly health conditions, four (heart disease, diabetes, hypertension and hyperlipidemia) are often linked to obesity, poor nutrition and lack of exercise.

## Mental and Behavioral Health

The last decade saw some increases in the proportion of those with mental health coverage, rising along with general health care coverage rate. As coverage substantially decreased in 2008 and 2009, mental health coverage also would have decreased, leaving many with no access to needed mental health services.

**Orange County (OCHNA 2007):**

- An estimated **6%** of Orange County children between 6 and 17 years have been diagnosed with a mental or behavioral health problem.
- **8%** of parents with children (6-17) had sought out advice from their primary care physician regarding their child's emotional or behavioral problem.
- **16%** of adults expressed concerns about their own mental and emotional health in the previous year.

**Hoag Service Area (OCHNA 2007):**

- An estimated **7%** of Hoag service area children between 6 and 17 have been diagnosed with a mental or behavioral health problem.
- **9%** of parents with children (6-17) had sought out advice from their primary care physician regarding their child's emotional or behavioral problem.
- **16%** of adults expressed concerns about their own mental and emotional health in the previous year.

## Importance of Community Benefits—Concluding Remarks

With Health Care Reform requiring non-profit hospitals nationwide to address community health needs through a needs assessment, Community Benefits has acquired a national face. Orange County is at the forefront of Community Benefits due to its collaborative partnerships that have endured for over a decade, providing a model to other communities around the nation as they implement their own collaborative strategies. However, recent historic events have significantly altered the health care landscape and presented new challenges to outreach efforts: the economic downturn has amplified health needs and eroded resources, and Health Care Reform could complicate non-profit hospital efforts to address these needs as more provisions become enacted. As a result, this underscores the need to maintain and strengthen our Community Benefits partnerships in order to overcome these emerging obstacles.

# 2010 Community Benefits Key Informant Survey

## Summary of Findings

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 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, **54** key informants viewed Hoag Memorial Hospital Presbyterian 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 (n) 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, such as Medi-Cal*, and **52% (75)** indicated a need to *increase funding to community clinics*.
- **39% (56)** indicated a need for *dental services for low-income/uninsured individuals*; **37% (54)** indicated a need for *housing support for low to moderate-income*, and **35% (51)** indicated a need to *improve healthy eating and exercise in the community through comprehensive efforts*.

### Top 5 Health Care Delivery System Challenges (n=142)

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, according to 139 key informants:

- **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? (n=139)

- **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)** key informants 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)** key informants 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)** key informants 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)** key informants 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)** key informants 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)** key informants 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

79 key informants reported that Hoag Memorial Hospital Presbyterian operates in their service area. **54% (43)** of key informants indicated that hospitals in the service area are partners in providing *direct services/outreach activities*, **38% (30)** indicated that hospitals provide *direct donations or grants for their services/programs*, and **28% (22)** indicated that hospitals *are not involved enough*.

- **74** key informants rated their overall relationships with service area hospitals. The majority (**59% or 44**) selected “satisfied” to “very satisfied,” with **83% (5)** of Hospital key informants reporting positively on relationships with other service area hospitals and **17% (1)** responding “neither satisfied nor dissatisfied.”
- **11% (8)** selected “dissatisfied to very dissatisfied,” and **26% (19)** picked “neither satisfied nor dissatisfied”; this could mean that respondents could have mixed, uncertain, or neutral opinions about the relationships. Of the **27** key informants that picked the negative or neither/nor choice, the majority, or **59% (16)**, would like to see more involvement from service area hospitals. **33% (9)** were collaborative partners with service area hospitals for direct services/outreach activities.

## Key Informant Collaborative Partners

**54** key informants selected Hoag Memorial Hospital Presbyterian as a current collaborative partner. The **54** Hoag partners also collaborated with other organizations; the top ten groups are presented below:

- County of Orange, Health Care Agency (**80% or 43**)
- Hoag Foundation (**65% or 32**)
- St. Joseph Hospital (**74% or 40**)
- CalOptima (**61% or 33**)
- UCI Medical Center (**74% or 40**)
- United Way of Orange County (**56% or 30**)
- Kaiser Permanente (**72% or 39**)
- Save our Selves Medical Clinic (**50% or 27**)
- St. Jude Medical Center (**63% or 34**)
- Pacific Life Foundation (**50% or 27**)

Of the **53** Hoag collaborative partners that defined the relationships between their organization and service area hospitals:

- **62% (33)** reported that service area hospitals (including Hoag Memorial Hospital Presbyterian) were *collaborative partners in providing direct services/outreach activities*.
- **23% (12)** believed that service area hospitals (including Hoag Memorial Hospital Presbyterian) were not involved enough. This suggests that they may like to see more involvement from service area hospitals.

**51** Hoag collaborative partners rated their relationships with service area hospitals. Of these the majority, or **76% (38)**, were “satisfied” to “very satisfied” with their service area hospital relationships (including Hoag Memorial Hospital Presbyterian).

# Description of Hoag Hospital Service Area

The Hoag Memorial Hospital Presbyterian at Newport Beach service area encompasses 9 cities in Orange County, California: **Costa Mesa, Fountain Valley, Garden Grove, Huntington Beach, Irvine, Laguna Beach, Newport Beach, Santa Ana, and Westminster**. Census data shows that the service area is racially and ethnically diverse with a large proportion of Vietnamese, Other Asian or Pacific Islander, and Hispanic/Latino individuals. This population shows lower levels of education and income and higher levels of poverty when comparing to all of Orange County; however, there are also regions within the service area with median household incomes and education levels considerably higher than the county average.

## Demographic Overview

The following table provides an overview of the main demographic features of the service area in 2009. Since the 2000 US Census, the population encountered a growth of **8.0%** (from **1,181,507** in 2000).

Table 1: Hoag Service Area Population, 2009		
	Population Estimate	Percent of OC Population
<b>Population Size</b>	1,276,426	41.6%
<b>Household Size</b>	397,841	40.1%
Age Distribution of Service Area		
Age Groups*	Population Estimate	Percent of Hoag Service Area
<b>0-5 Years</b>	105,861	8.3%
<b>6-11 Years</b>	106,346	8.3%
<b>12-17 Years</b>	99,798	7.8%
<b>18-24 Years</b>	130,833	10.2%
<b>25-44 Years</b>	381,234	29.8%
<b>45-64 Years</b>	323,486	25.3%
<b>65+ Years</b>	132,859	10.4%
Race/Ethnicity Distribution		
Race/Ethnicity	Population Estimate	Percent of Hoag Service Area
<b>White</b>	494,527	38.7%
<b>Hispanic/Latino</b>	461,847	36.2%
<b>Vietnamese</b>	120,203	9.4%
<b>Other Asian or PI</b>	148,059	11.6%
<b>Black or African American</b>	13,174	1.0%
<b>Other</b>	38,616	3.0%

\*Population estimates for age distribution may not equal 1,276,426 because OCHNA requested customized age categories from Nielsen Claritas that were calculated through different methods; please note that data is still for 2009. Source: 2009 US Census Estimates by Nielsen Claritas

- **41.6%** (1,276,426) of the Orange County population lived in the Hoag service area.
- Almost one quarter of the population was in the 45 to 64 age group.
- **24.8%** (316,877) of the population in the Hoag service area was under 18 years of age.
- One third of the population or **36.2%** in the service area were Hispanic/Latino.

*“We make a living by what we get, but we make a life by what we give.”*

—**Winston Churchill**

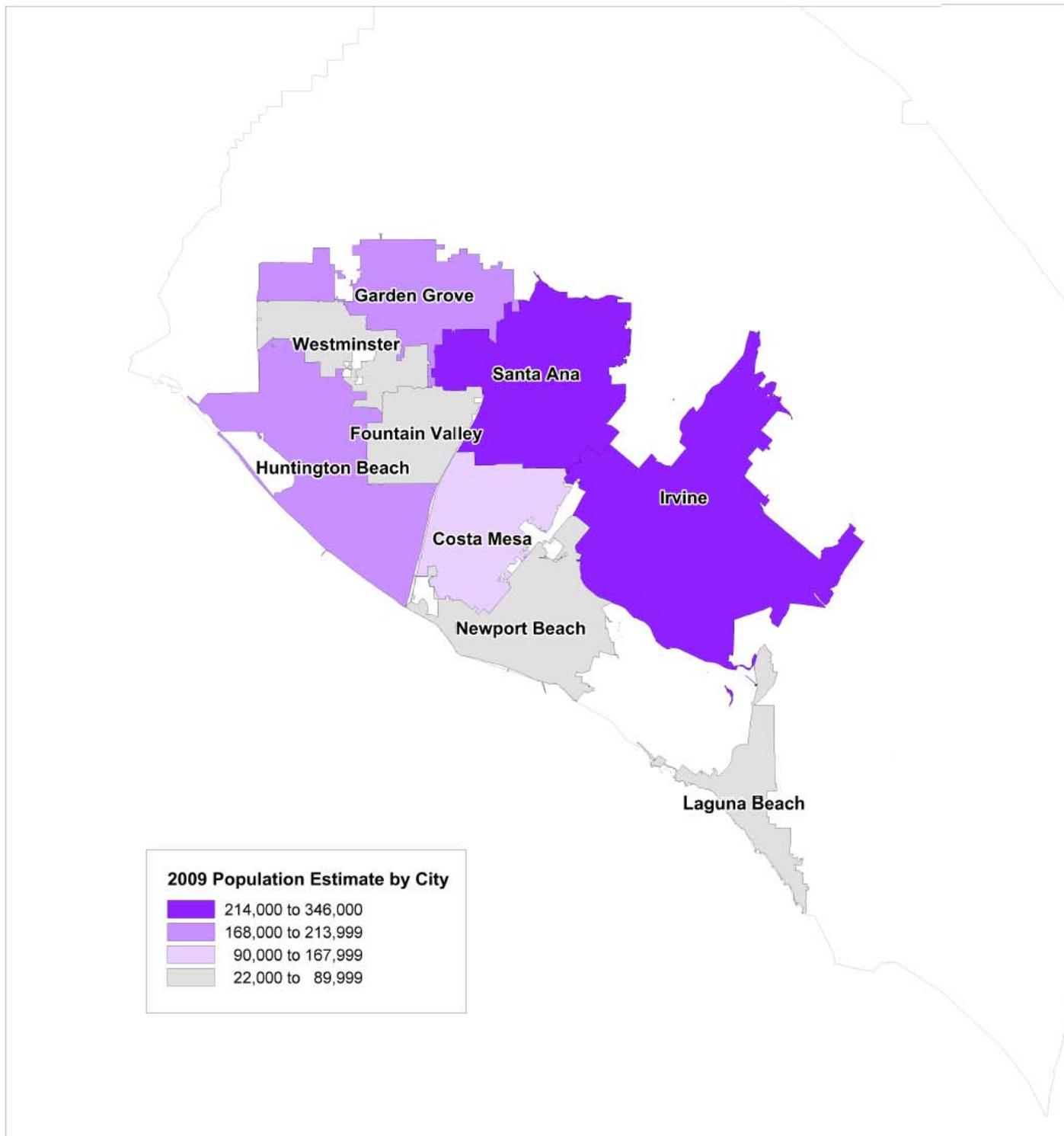
**3,068,575**  
**Orange County**  
**2009 Population**  
**Estimate\***  
 (2009 US Census Estimates by Nielsen Claritas)

**40.8% of OC children 0-17 years lived in the Hoag Hospital service area;**

**41.9% of OC adults 18+ lived in the Hoag Hospital service area.**  
 (2009 US Census Estimates by Nielsen Claritas)

# Hoag Memorial Hospital Presbyterian: Newport Beach Service Area

## Population by City, 2009



Map Produced by Orange County Health Needs Assessment, November 2010  
Data Source: Nielsen Claritas 2009 Census estimates

## Household Size and Population by City

There were a total of **397,841** households in the service area, with an average household size of **3.15** individuals in 2009, slightly greater than the Orange County average of **3.05**. Over half, or **50.5%** (200,769), of households in the service area comprised of at least three people. The household sizes varied widely for cities in the service area: Laguna Beach had an average household size of **2.06** and Santa Ana had an average household size of **4.64**.

**372,005**  
**Number of Hoag service area households in 2000**  
(US Census 2000)

City in Service Area	Estimated Population	Percent of Service Area
Costa Mesa	109,748	8.6%
Fountain Valley	56,273	4.4%
Garden Grove	168,384	13.2%
Huntington Beach	195,864	15.3%
Irvine	214,393	16.8%
Laguna Beach	22,988	1.8%
Newport Beach	73,176	5.7%
Santa Ana	345,668	27.1%
Westminster	89,804	7.0%
<b>Total Population</b>	<b>1,276,426</b>	<b>100.0%</b>

Source: 2009 US Census Estimates by Nielsen Claritas

- In 2009, **Santa Ana** was the most populous city in the Hoag service area. **Laguna Beach** was the least populous city.
- Since 2000, the population in the service area grew by **8.0%**, from **1,181,507** to **1,276,426**.

**3.05**  
**OC Average Household Size**  
(2009 US Census Estimates by Nielsen Claritas)

## Changes in Population (2007-2010)

County and city estimates based on the 2000 Census were also obtained from the [State of California, Department of Finance](#) to determine the change in population since the previous needs assessment in 2007. County estimates take into account drivers license address changes, county birth and death values, tax return forms, school enrollments, foreign and domestic migration, as well as other factors. City populations are determined through the Housing Unit Method, which estimates total and occupied housing units, household size, household population, and group quarters population (such as dormitories) information from local jurisdictions and the US Census Bureau. However, this method does not use market indicator information, such as foreclosures.

**184,400 or 46.4% of households in the Hoag Hospital service area have at least 3 people.**  
(2009 US Census Estimates by Nielsen Claritas)

- According to the Department of Finance city estimates, the population of Hoag service area cities increased by **3.4%** from 2007 (1,292,452) to 2010 (1,336,847)
- Over the same time period the Orange County population increased by **2.9%** from 3,077,656 to 3,166,461.



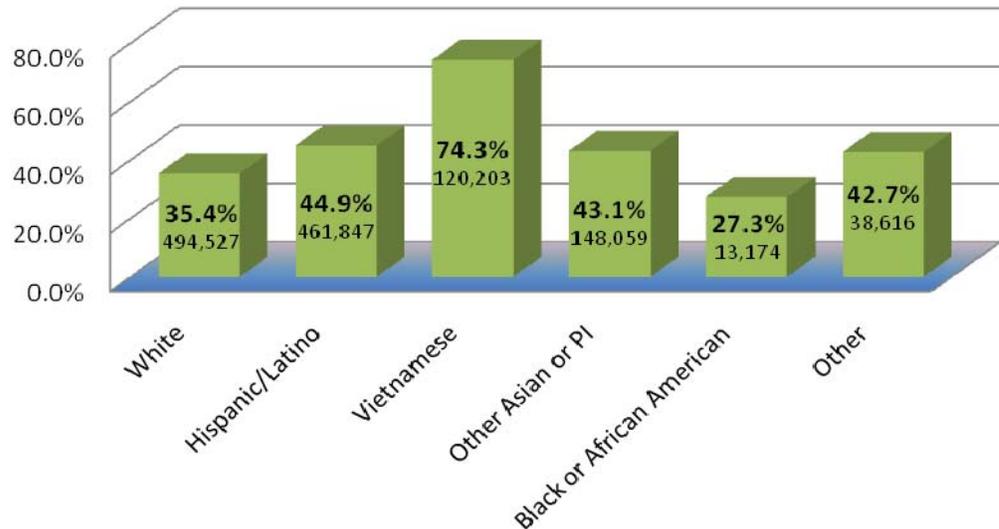
**OC-Wide Race/  
Ethnic  
Distribution:\***

- 45.5%  
White
- 33.5%  
Hispanic/Latino
- 5.3%  
Vietnamese
- 11.2%  
Other Asian or PI
- 1.6%  
Black or African American
- 2.9%  
Other

**Race/Ethnicity**

The figure below illustrates the proportion of the race/ethnic groups in Orange County living in the Hoag Hospital service area. For instance, the majority of the Orange County Vietnamese population resided in the service area.

**Figure 1: Percent of Total Orange County Race/Ethnic Group Populations Living in the Hoag Service Area, 2009**



Source: 2009 US Census Estimates by Nielsen Claritas

- Almost **three in four** of the total Vietnamese population in Orange County resided in the Hoag service area.

**Language Spoken At Home**

It is important to determine the level of English proficiency in a service area, because this can influence the ability of an individual to access and utilize various health services. The US Census Bureau collects data on languages spoken at home by individuals age 5 and older, a total of **1,187,562** individuals in the Hoag service area.

**OC-Wide  
Distribution of  
Languages Spoken  
at Home:\***

- 59.0%  
English only
- 24.6%  
Spanish
- 11.4%  
Asian or PI language
- 4.2%  
Indo-European Language
- 0.8%  
Other Language

Table 3: Language Spoken at Home (5+ Years): Hoag Service Area, 2009		
Language	Percent	Population Estimate
English Only	50.8%	603,617
Spanish	29.1%	345,586
Asian or PI Language	15.4%	182,695
Indo-European Language	4.0%	47,365
Other Language	0.7%	8,299

Source: 2009 US Census Estimates by Nielsen Claritas

- Approximately **30%** of residents spoke Spanish at home, and **15.4%** of residents spoke an Asian or Pacific Island Language. There is more diversity with respect to languages spoken at home in the Hoag service area compared to all of Orange County.
- According to the 2009 [ACS](#), **27.1%** (762,155) of Orange County residents (5+ years) spoke Spanish at home and **5.2%** (146,627) spoke Vietnamese at home.
  - **51.4%** (391,662) of Spanish speakers and **63.7%** (93,350) of Vietnamese speakers spoke English less than “very well.”

\*Source: 2009 US Census Estimates by Nielsen Claritas

### Language of the 2007 OCHNA Interview

The 2007 OCHNA survey, which had a total of **1,818** respondents in the Hoag service area, was administered in English, Spanish, and Vietnamese. **74.4%** or **1,352** respondents were interviewed in English, **5.4%** or **98** respondents were interviewed in Spanish, and **20.2%** or **368** respondents were interviewed in Vietnamese.

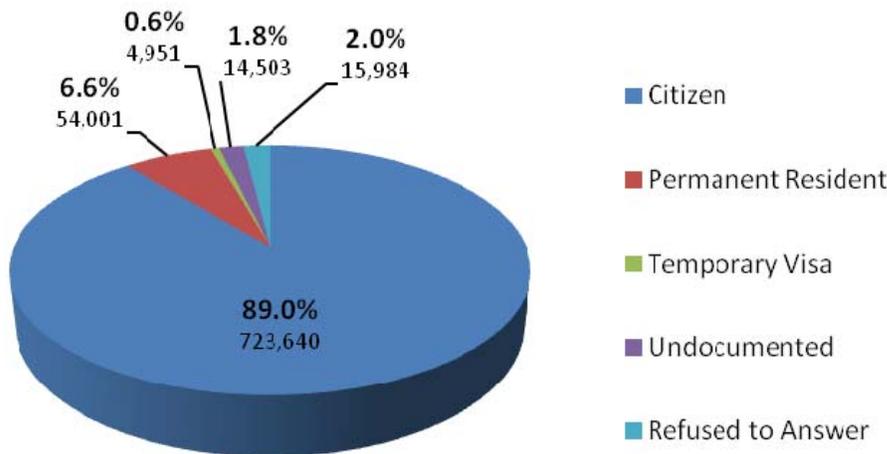
### Citizenship Status

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, they were asked the subsequent 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.

**5.7% or 133,767 of residents in Orange County were reported to be undocumented.**  
[\(OCHNA 2007\)](#)

**Figure 2: Citizenship Status of Adults 18+: Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- At least **2.4%** (19,454) of respondents were either in the US with a Temporary Visa or undocumented.

The number of undocumented adults (18+) in Orange County, using OCHNA 2007 survey results, is estimated to be approximately **133,767** or **5.7%**. It is important to remember that for both Orange County and the Hoag service area, these numbers are 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 or may have had one that has since expired. It is equally important to remember that those who refused to answer cannot be definitively designated as “undocumented.”

**Orange County:\***

**\$74,589**  
Median Household Income

**\$99,353**  
Average Household Income

**Hoag Service Area:\***

**\$72,583**  
Median Household Income

**\$97,133**  
Average Household Income

**OC-Wide Median Household Income Distribution:\***

**3.9%**  
Less than \$10,000

**8.7%**  
\$10,000 to \$24,999

**19.4%**  
\$25,000 to \$49,999

**18.4%**  
\$50,000 to \$74,999

**14.6%**  
\$75,000 to \$99,999

**35.1%**  
\$100,000 or More

**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 is said to be a better socioeconomic indicator than average household income because it is not influenced by very high or low values. While median household income in 2009 for the Hoag service area was lower than the Orange County median, there are numerous cities which appear to be more affluent. From 2000 to 2009, the median household income in the service area increased by **25.2%** (from **\$57,994** to **\$72,583**).

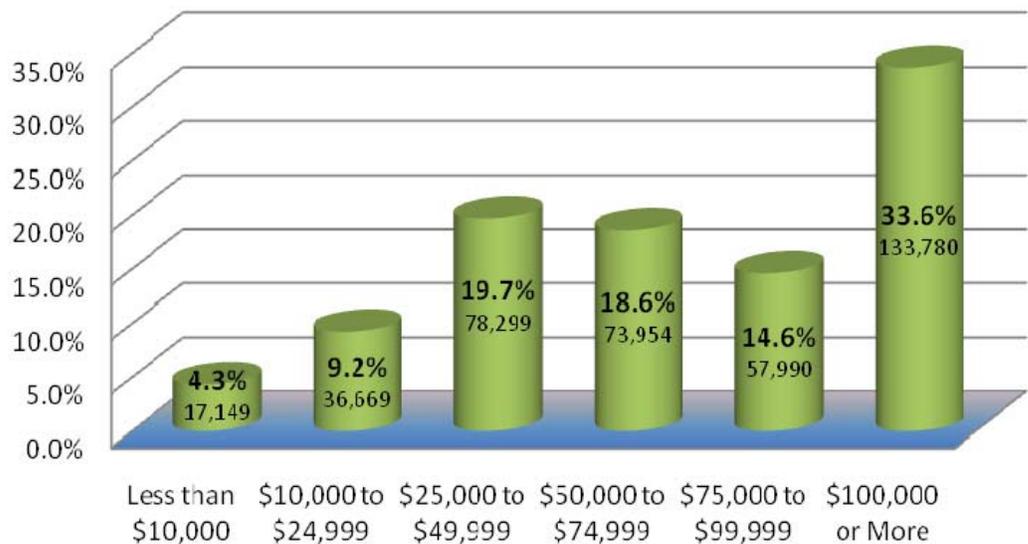
City in Service Area	Median Income
Costa Mesa	\$63,596
Fountain Valley	\$87,596
Garden Grove	\$60,282
Huntington Beach	\$81,967
Irvine	\$92,919
Laguna Beach	\$93,081
Newport Beach	\$104,652
Santa Ana	\$54,285
Westminster	\$62,017
<b>Service Area</b>	<b>\$72,583</b>

Source: 2009 US Census Estimates by Nielsen Claritas

- The median household income in 2009 was as low as **\$54,285** for the city of Santa Ana and as high as **\$104,652** for the city of Newport Beach.
- Despite having a lower median household income, Santa Ana has a larger average household size than Newport Beach (**4.64 vs. 2.13**).

The figure below provides the income distribution of all households (397,841) in the service area.

**Figure 3: Income Distribution of Households: Hoag Service Area, 2009**



Source: 2009 US Census Estimates by Nielsen Claritas

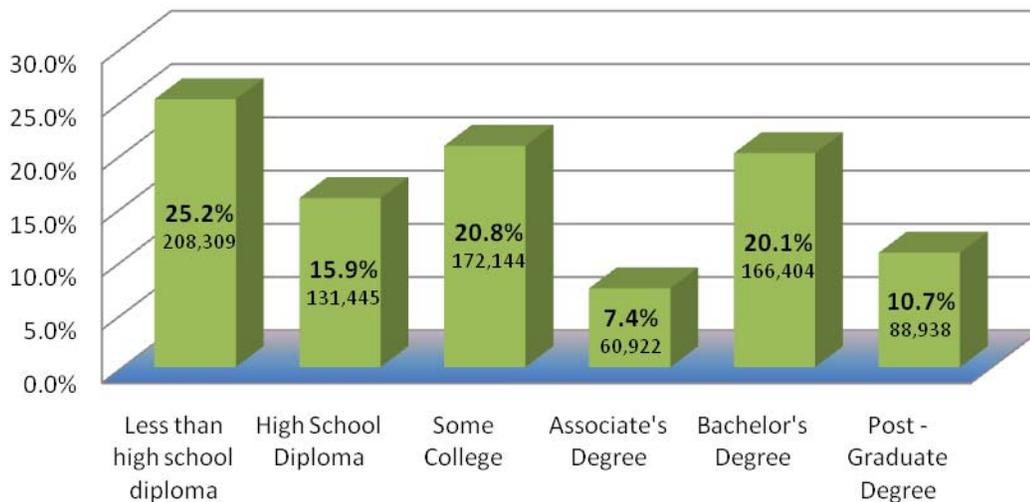
- Over **30%** (**33.2%** or 132,117) of households had an income of less than \$50,000.
- **33.6%** (133,780) of households had an income of at least \$100,000 or more.

\*Source: 2009 US Census Estimates by Nielsen Claritas

## Educational Achievement

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 levels of adults age 25 and older in the Hoag Hospital service area in 2009 (828,162).

**Figure 4: Educational Attainment of Adults (Age 25+):  
Hoag Service Area, 2009**



Source: 2009 US Census Estimates by Nielsen Claritas

- **25.2%** (208,209) of residents 25+ in the Hoag service area had less than a high school diploma, more than the proportion countywide (**20.3%**) in 2009.
- **30.8%** (255,342) of residents 25+ in the service area had at least a bachelors degree in 2009. **58.8%** and **58.4%** of adults 25+ in Newport Beach and Irvine respectively had at least a bachelor's degree. In comparison, **15.1%** and **9.2%** of adults 25+ in Garden Grove and Santa Ana respectively 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 countywide unemployment rate for September 2010 was **9.6%**, according to the State of California, [Employment Development Department](#); this is in marked contrast to the average unemployment rate of **3.9%** in 2007. It is clear that the economic recession has had a toll on many Hoag Hospital service area residents. For September 2010, the unemployment rates for Hoag service area cities ranged from **6.0%** to **15.0%**.

### OC-Wide Educational Achievement:\*

**20.3%**  
Less than High School

**17.2%**  
High School Diploma

**23.0%**  
Some College

**7.8%**  
Associate's Degree

**20.9%**  
Bachelor's Degree

**10.7%**  
Post-Graduate Degree

### Occupational Classification of Employed Individuals in Hoag Service Area:\*

**65.0%**  
White Collar

**20.8%**  
Blue Collar

**14.1%**  
Service and Farm

\*Source: 2009 US Census Estimates by Nielsen Claritas

**OC-Wide  
Unemployment:**  
([Employment Development  
Department](#))

**3.9%**  
2007 Average

**5.3%**  
2008 Average

**9.0%**  
2009 Average

**9.6%**  
September 2010

**2006-2008 ACS  
3-Year Estimate of  
GRAPI:**

**Fountain Valley**

**25.0%**  
(4,636)  
Percent of Renting  
Households

**44.7%**  
(1,961)  
Percent of Renting  
Households with  
GRAPI of 35.0  
Percent or More

**Laguna Beach**

**37.4%**  
(4,030)  
Percent of Renting  
Households

**42.4%**  
(1,538)  
Percent of Renting  
Households with  
GRAPI of 35.0  
Percent or More

As shown in the table below, Santa Ana has continuously had highest unemployment rate average from 2007 to 2009 and also in September 2010, while Newport Beach continues to have the lowest unemployment rate.

City	2007 (Average)	2008 (Average)	2009 (Average)	September 2010
Costa Mesa	3.5%	4.7%	8.1%	8.6%
Fountain Valley	3.2%	4.4%	7.5%	8.0%
Garden Grove	4.9%	6.6%	11.2%	11.9%
Huntington Beach	3.1%	4.3%	7.3%	7.8%
Irvine	2.9%	3.9%	6.8%	7.2%
Laguna Beach	2.8%	3.8%	6.6%	7.1%
Newport Beach	2.4%	3.3%	5.6%	6.0%
Santa Ana	6.3%	8.5%	14.1%	15.0%
Westminster	4.3%	5.9%	10.0%	10.6%

Source: State of California, Employment Development Department

## Housing: Ownership vs. Renting

There were a total of **397,841** housing units/households in the Hoag service area. **56.2%** (223,662) were owner-occupied and **43.8%** (174,179) were renter-occupied.

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 [ACS](#) determines the percent of gross income that households spend on mortgages or rent; in 2009 there were **39.9%** renting households in Orange County. Of those households, **10.1%** spent between 30 to 34.9 percent of their gross income on rent (GRAPI), and **44.2%** spent 35 percent or more of their gross income on rent. The table below presents the rates for individual cities in the service area.

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
Costa Mesa	21,024	56.7%	7,488	36.2%
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%
Newport Beach	15,930	45.2%	5,366	34.4%
Santa Ana	38,329	52.9%	17,476	47.0%
Westminster	11,270	44.3%	5,576	52.9%

\* Please note that data for Fountain Valley and Laguna Beach cities are unavailable for 2009 due to their population of less than 65,000; information for these cities can be found in sidebar using ACS 2006-2008 3-Year Estimates.

\*\*There were some households where the GRAPI could not be computed, and they were excluded from the GRAPI estimate.

Source: US Census Bureau, 2009 American Community Survey

The City of Santa Ana had the greatest proportion of renting households in 2009, with more than **half** renting (15,930 households). For the renting households in Santa Ana where GRAPI could be calculated, an estimated **47.0%** (17,476) spent at least 35 percent of their annual household income on rent. Westminster had the greatest proportion of renting households (where GRAPI could be calculated) spending 35 percent or more on rent.

## Poverty

The 2009 FPLs described a family of 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 [ACS](#). 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. For 2010, the FPL for a one-person household was **\$10,830** and the FPL for a four-person household was **\$22,050** ([US Dept. of Health and Human Services](#)).

**Table 6: Poverty Rates of Individuals by City: Hoag Service Area, 2009\***

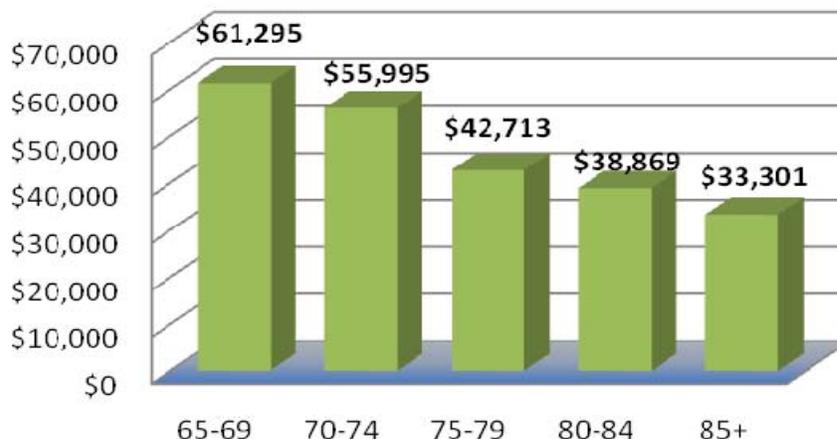
City in Service Area	Children (0-17 Years)	Adults (18-64 Years)	Older Adults (65+ Years)	Overall Poverty Rate (All Ages)
Costa Mesa	22.4%	12.7%	11.8%	12.7%
Garden Grove	22.0%	13.4%	15.5%	15.8%
Huntington Beach	11.2%	7.4%	4.4%	7.8%
Irvine	7.3%	10.8%	7.1%	9.7%
Newport Beach	9.4%	3.0%	4.1%	8.4%
Santa Ana	26.7%	17.5%	9.3%	19.8%
Westminster	17.3%	11.2%	13.3%	13.3%

\* Please note that data for Fountain Valley and Laguna Beach cities are unavailable due to their population of less than 65,000; information for these cities can be found in sidebar using ACS 2006-2008 3-Year Estimates.  
Source: US Census Bureau, 2009 American Community Survey

## Older Adults (65+ Years)

The senior population of the Hoag service area makes up **10.4%** (132,859) of the total population. In Orange County, **11.4%** (349,901) were older adults in 2009. While overall the gender distribution in the Hoag service area was even, the senior population has a high percentage of females than males. **44.2%** (58,730) of residents 65+ were male and **55.8%** (74,129) of residents 65+ were female. The figure below presents the median income of households with a senior as the household-head (**70,528** or **17.7%** of households).

**Figure 5: Median Household Income of Older Adults (65+): Hoag Service Area, 2009**



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.

### OC-Wide Poverty Rate for All People:

[\(2005-09 American Community Survey\)](#)

**8.8%**  
**2005**

**9.7%**  
**2006**

**8.9%**  
**2007**

**9.9%**  
**2008**

**10.7%**  
**2009**

**2006-2008 ACS 3-Year Poverty Rate:**

### Fountain Valley

**12.7% Children 0-17**  
**10.8% Adults 18-64**  
**6.8% Older Adults**  
**10.8% Overall Rate**

### Laguna Beach

**5.0% Children 0-17**  
**10.1% Adults 18-64**  
**6.6% Older Adults**  
**8.7% Overall Rate**

### OC-Wide Senior Median Household Income:

[\(2009 US Census Estimates by Nielsen Claritas\)](#)

**\$61,715**  
**65-69 Years**

**\$55,677**  
**70-74 Years**

**\$43,854**  
**75-79 Years**

**\$39,381**  
**80-84 Years**

**\$33,482**  
**85+**

**Healthy  
People 2020  
Objective**

Increase to 100% the proportion of people with medical insurance by 2020.

Number of Individuals without Health Coverage by City: (2009 ACS)

121,492  
Santa Ana

42,641  
Garden Grove

24,574  
Costa Mesa

22,505  
Huntington Beach

20,155  
Irvine

13,578  
Westminster

5,343  
Newport Beach

# Access to Health Care

Access to healthcare is the ability to make use of healthcare 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 Coverage

From 1998 to 2007 in Orange County, the percentage of children (0-17 years) and adults (18+ years) with health care coverage increased. Since then, economic circumstances have undermined this progress, especially for adults. Harsh economic conditions have presented threats to the health of OC residents; the unemployment rate has risen drastically from a low of 3.7% in January 2007 to 9.6% in August of 2010. As health care coverage is commonly linked to employment, increasing unemployment is connected to the dramatic loss of health care coverage among OC residents.

Beginning in 2008, the [American Community Survey](#) (ACS) estimates the rates of coverage in cities with population sizes of 65,000 or greater. 2009 data is presented below.

Table 1: Percent of Individuals Without Health Care Coverage by Available Cities: Hoag Service Area, 2009			
City	0-17 Years	18-64 Years	65+ Years
Santa Ana	20.1% 21,824	47.4% 98,821	4.4% 847
Westminster	8.8% 2,116	21.1% 11,372	0.8% 90
Garden Grove	13.0% 5,506	34.6% 36,016	5.9% 1,119
Costa Mesa	11.5% 2,616	27.7% 21,810	1.7% 148
Huntington Beach	4.9% 2,002	16.0% 19,981	2.0% 522
Irvine	7.2% 3,042	10.8% 15,891	6.3% 1,222
Newport Beach	0.8% 105	9.8% 5,122	0.8% 116
Hoag Service Area*	12.6% 37,211	27.2% 209,013	3.4% 4,064
Orange County	10.4% 78,738	23.4% 448,175	2.4% 8,260

\* Please note that the overall rate for the service area does not include the cities of Fountain Valley and Laguna Beach because data is unavailable due to their population size of less than 65,000. Source: US Census Bureau, 2009 American Community Survey

- Santa Ana adults (18-64) had the highest rate of lacking coverage (47.4%) in 2009; this was double the already high rate of Orange County adults (23.4%). The same held true for children, those living in Santa Ana were almost twice (20.1%) as likely not to have coverage as the county estimate (10.4%).
- Among this group of cites Newport Beach had the lowest rate of children (0-17 years) and adults (18-64) without health care coverage.

In 2009 almost **one in three (32.2%** or 331,599) Hispanic/Latinos (all ages) in the county lacked health coverage, and **15.4%** (76,078) of Asians lacked health coverage. Non-Hispanic whites had the lowest proportion of individuals without coverage (**8.2% or 111,473**). The table below presents the proportion of uncovered by city within age and race/ethnicity from ACS 2009.

**OC-Wide Lack of Health Coverage by Poverty Level in Past Year:**  
(2009 ACS)

**Below 100% FPL**

**18.3%**  
**0-17 Years**

**44.0%**  
**18+ Years**

**100% to 199% FPL**

**5.5%**  
**0-17 Years**

**40.2%**  
**18+ Years**

**200% to 299% FPL**

**12.2%**  
**0-17 Years**

**26.9%**  
**18+ Years**

**300% to 399% FPL**

**7.4%**  
**0-17 Years**

**22.1%**  
**18+ Years**

**400% FPL or Above**

**2.2%**  
**0-17 Years**

**7.2%**  
**18+ Years**

Table 2: Percent of Children 0-17 and Adults 18+ Within Race/Ethnicity Without Health Care Coverage for Available Cities: Hoag Service Area, 2009						
City	Asian Alone		White Alone (Non-Hispanic/Latino)		Hispanic/Latino	
	0-17	18+	0-17	18+	0-17	18+
<b>Santa Ana</b>	1.5% 92	3.1% 2,339	12.3% 376	15.5% 4,756	21.7% 21,204	53.2% 91,435
<b>Westminster</b>	9.3% 1,027	18.3% 6,446	3.1% 149	10.2% 1,826	11.7% 892	28.2% 3,043
<b>Garden Grove</b>	6.6% 870	28.2% 12,158	8.0% 391	11.8% 3,449	17.6% 4,119	44.7% 20,983
<b>Costa Mesa</b>	13.3% 173	12.3% 7,747	5.5% 445	14.6% 7,240	16.5% 1,998	50.0% 13,031
<b>Huntington Beach</b>	4.6% 156	12.2% 1,617	5.1% 1,176	10.8% 11,939	3.7% 455	29.4% 6,619
<b>Irvine</b>	9.6% 1,487	13.4% 8,139	2.8% 448	6.5% 5,298	15.0% 1,025	15.3% 2,271
<b>Newport Beach</b>	0.0% 0	16.7% 591	0.0% 0	5.9% 3,395	2.8% 60	23.3% 1,199
<b>Hoag Service Area*</b>	<b>7.4%</b> <b>3,805</b>	<b>21.1%</b> <b>39,037</b>	<b>4.2%</b> <b>2,985</b>	<b>9.9%</b> <b>37,903</b>	<b>18.3%</b> <b>29,753</b>	<b>46.2%</b> <b>138,581</b>
<b>Orange County</b>	<b>9.3%</b> <b>9,669</b>	<b>17.0%</b> <b>66,409</b>	<b>3.3%</b> <b>8,056</b>	<b>9.3%</b> <b>103,417</b>	<b>16.1%</b> <b>58,147</b>	<b>41.0%</b> <b>273,452</b>

\* Please note that the overall rate for the service area does not include the cities of Fountain Valley and Laguna Beach because data is unavailable due to their population size of less than 65,000.  
Source: US Census Bureau, 2009 American Community Survey

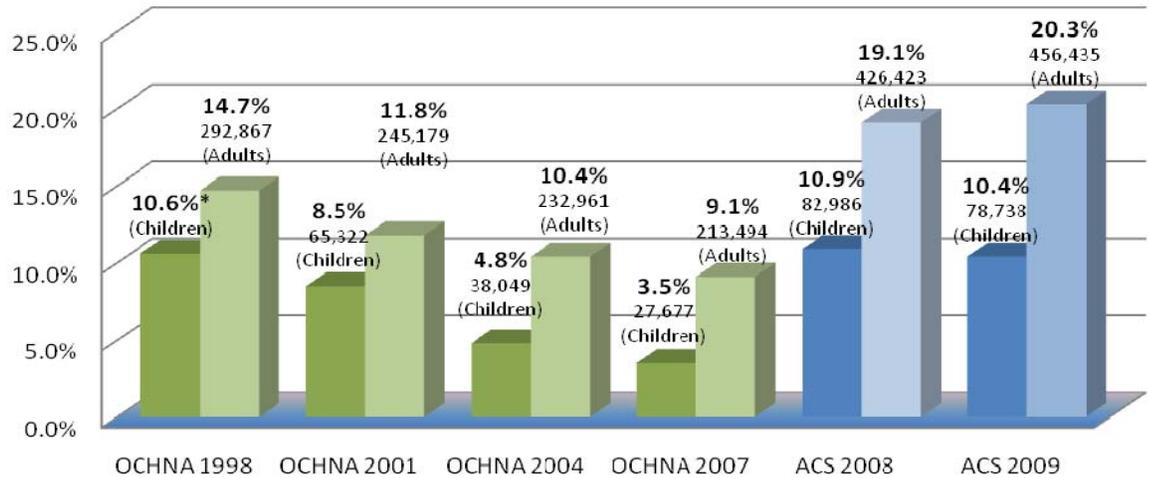
- Except for Huntington Beach, Hispanic/Latino children (0-17) were *most likely* to lack coverage compared to Asian or white children in the listed Hoag service area cities.
- Hispanic/Latino adults (18+) were *most likely* to lack coverage in all of the listed cities compared to Asians or whites.
- **Santa Ana** had the *highest rate* of non-Hispanic white and Hispanic/Latino individuals without health coverage.
- It is noteworthy that *half* of Hispanic/Latino adults in **Costa Mesa** lacked health coverage. Costa Mesa also had the greatest proportion of Asian children without health coverage, followed by Irvine.
- **Garden Grove** had the greatest proportion of Asian adults without health coverage, followed by **Westminster**.

From 1998 to 2007, the percent of OC adults without coverage decreased by 44.8%; the percent of OC children decreased by 68.2%.  
[\(OCHNA 1998-2007\)](#)

### Trends in Health Coverage Status

From 1998 to 2007 there were major gains in the proportion of individuals with health care coverage. However, data for 2008 and 2009 from the ACS show that the estimated proportion of both adults and children without health coverage in Orange County increased dramatically.

**Figure 1: Children 0-17 and Adults 18+ Without Health Care Coverage by Year: Orange County, OCHNA 1998-2007 and ACS 2008-2009**

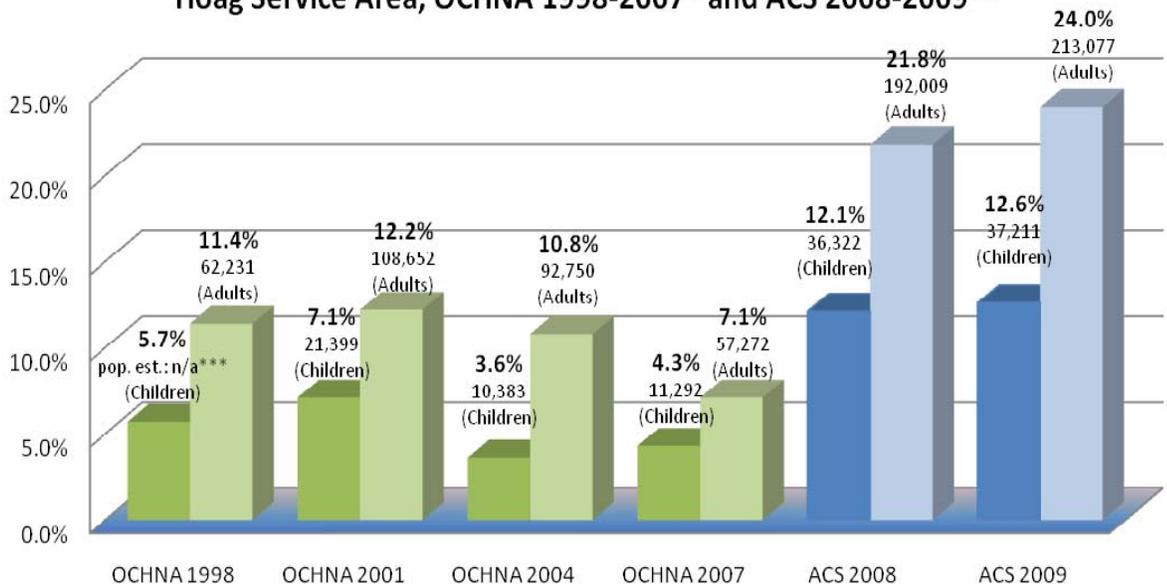


\*The 1998 OCHNA survey was adult only; the population estimate (80,271) of children is based on adult weights.  
 Source: US Census Bureau, 2008 and 2009 American Community Survey (Children 0-17 Years and Adults 18+ Years).

- The 2009 ACS estimate of uncovered adults is more than **twice** the adult estimate and almost **three times** the child estimate for 2007.

The figure below presents a similar, discouraging trend in health coverage status within the Hoag Hospital service area using OCHNA 1998-2007 data; ACS data for 2008 and 2009 was aggregated to determine the overall uncovered rate for available cities.

**Figure 2: Trend of Children 0-17 and Adults 18+ Without Health Coverage: Hoag Service Area, OCHNA 1998-2007\* and ACS 2008-2009\*\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Please note that the overall rate for the service area does not include the cities of Fountain Valley and Laguna Beach because data is unavailable due to their population size of less than 65,000.

\*\*\*1998 was an adult only survey, cannot compute population estimate for children.

Since then, the gains have been erased by the economic downturn, with one in five OC adults and over one in ten OC children without health coverage in 2009.

## Children (0-17) and Health Care Coverage

### Negative Shifts in Health Coverage

Table 3 below presents the trend data for children without health care coverage in the Hoag service area using OCHNA survey data from 1998 to 2007. The population count of children in the service area declined by **12.4%** during this time period. From 1998 to 2007, children in the Hoag service area without health care coverage declined by **24.6%**.

In addition, the table includes data from the 2009 ACS. The overall rate of lack of coverage for the available cities in the Hoag service area in 2009 was **12.6%**. Please be aware that this **does not** include children from Fountain Valley or Laguna Beach due to their population sizes of less than 65,000. The recession has reversed the gains in coverage made in the last decade from Healthy Families program, which was launched in 2000, and other outreach efforts. The dramatic nature of the downturn has led to cutbacks in public health coverage programs for children. In addition, because many coverage plans are linked to a parent or guardian's employment, children may have lost coverage when a parent's employment was terminated.

Table 3: Trend of Children 0-17 Without Health Care Coverage: Hoag Service Area, OCHNA 1998-2007* and ACS 2008-2009**						
	OCHNA 1998	OCHNA 2001	OCHNA 2004	OCHNA 2007	ACS 2008	ACS 2009
Hoag Service Area Population	N/A	301,389	288,477	263,933	300,862	294,732
Percent of Children Without Coverage	5.7%	7.1%	3.6%	4.3%	12.1%	12.6%
Population Estimate	N/A	21,399	10,383	11,292	36,322	37,211

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Please note that the overall rate for the service area does not include the cities of Fountain Valley and Laguna Beach because data is unavailable due to their population size of less than 65,000.

- The 2009 uncovered child rate of **12.6%** in the Hoag service area is higher than the Orange County rate of **10.4%**. Moreover, while the countywide rate for children decreased slightly from 2008 to 2009, this rate increased in the Hoag service area.

### Children: Health Care Coverage by Income, Race/Ethnicity, and Age, OCHNA 2007

Income and race are significant factors in whether or not a child has health care coverage. Households with an annual income under \$25,000 are less likely to have health care coverage for their child; those over \$50,000 are more likely. Racial/ethnic minority children are less likely; whites are more likely. The following pages focus on the characteristics of children 0-17 years of age without health care coverage determined by the OCHNA 2007 survey. The data provided is a snapshot of the community when economic circumstances were more favorable. Since then, the outlook has changed dramatically for the worse.

#### Income

- Annual household income played a significant role (Chi square = 19.278, p <.001) in whether or not a child had health care coverage. The higher the household income, the more likely a child will have coverage.
- While **98.7%** of children in the \$75,000 or more income category had health care coverage, only **69.9%** of children in the less than \$25,000 income category had health care coverage.
- Close to 100% of children in the Hoag service area with household incomes over \$50,000 had health care coverage.

**Percent of OC Children Without Health Care Coverage Within Household Income Level:**  
([OCHNA 2007](#))

**8.0%**  
**\$10,000 or Less**

**26.7%**  
**\$10,000 to \$24,999**

**30.1%**  
**\$25,000 to \$49,999**

**12.5%**  
**\$50,000 to \$74,999**

**6.7%**  
**\$75,000 to \$99,999**

**16.0%**  
**\$100,000 or More**

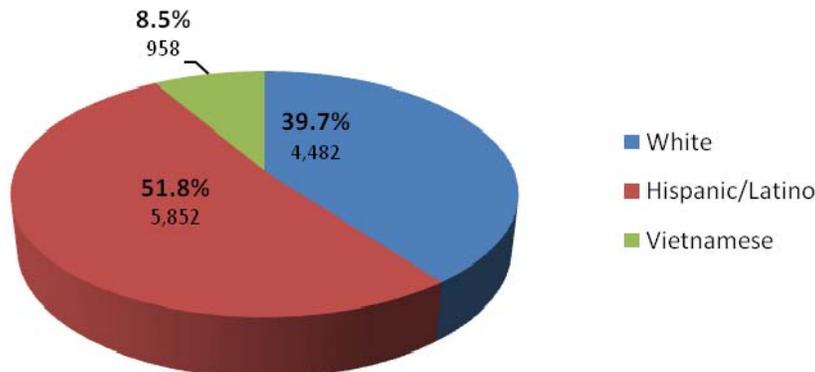
**OC Children Without Health Care Coverage Within Race/Ethnicity:\***

- 2.6% White
- 4.2% Hispanic/Latino
- 5.8% Vietnamese
- 0.2% Other Asian or PI

**Race/Ethnicity**

The figure below depicts the distribution of children without health care coverage by race/ethnicity.

**Figure 3: Race/Ethnicity of Children Without Health Care Coverage: Hoag Service Area, OCHNA 2007\***

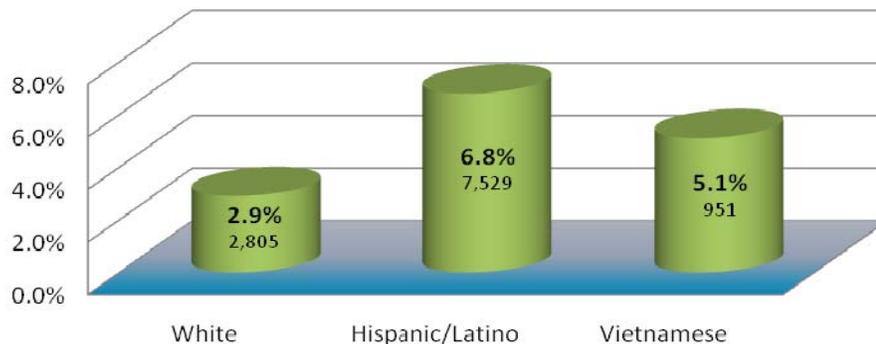


\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Of the **4.3%** of children without health care coverage, **51.8%** are Hispanic/Latino; they are overrepresented in this distribution as their population estimate for the Hoag service area is **42.0%** (110,104).

The figure below depicts children without health care coverage in the Hoag service area *within* race/ethnicity.

**Figure 4: Children Without Health Care Coverage Within Race/Ethnicity: Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Hispanic/Latino children in the Hoag service area were more than **twice** as likely to lack health care coverage as white children.

**Age**

- **5.3%** (4,759) of children ages 0-5; **5.4%** (4,360) of children ages 6-11; and **2.3%** (2,173) of children ages 12-17 were without health care coverage in 2007.

**OC Children Without Health Care Coverage Within Age:\***

- 4.3% 0-5 Years
- 3.2% 6-11 Years
- 2.9% 12-17 Years

\*Source: OCHNA 1998-2007

### Children: Sources of Health Care Coverage, OCHNA 2007

The table below displays the three most common types of health coverage for children in the Hoag service area.

Table 4: Top 3 Responses for Child's Type of Health Coverage: Hoag Service Area, OCHNA 2007*		
Type of Coverage	Percent	Population Estimate
Employer-Based	74.9%	188,958
Government Plans (Healthy Families, Medi-Cal)	13.5%	34,123
Individually Purchased	9.1%	23,050

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **13.5%** (34,123) of children with health coverage in the service area were enrolled in government plans such as Healthy Families or Medi-Cal.

The table below presents the type of health care coverage for children *within* race/ethnicity, revealing stark differences between the categories. It represents the **95.7%** (252,641) with health care coverage in the Hoag service area.

Table 5: Children's Type of Health Care Coverage <i>Within</i> Race/Ethnicity: Hoag Service Area, OCHNA 2007*				
Type of Coverage	Race/Ethnicity			
	White	Hispanic/Latino	Other Asian or Pacific Islander	Vietnamese
Employer-Based	82.8% 76,910	68.0% 69,772	91.1% 23,002	45.6% 8,055
Government Plan	4.2% 3,883	19.8% 20,323	0.0%	45.3% 8,001
Individually Purchased Plan	8.9% 8,256	9.9% 10,170	8.9% 2,258	9.1% 1,604
<b>Chi-Square=173.3, p&lt;.001</b>				

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- White and Other Asian or Pacific Islander children are much more likely to have coverage through their parent's employer than Hispanic/Latino or Vietnamese children.
- Hispanic and Vietnamese children are much more likely to have a government health care plan than white or Other Asian or Pacific Islander children. In 2007, there were no Other Asian or Pacific Islander children enrolled in a government plan in the service area.
- Close to half (**45.3%** or an estimated 8,001) of Vietnamese children in the service area are enrolled in a government health care plan.

**OC Child Source of Health Care Coverage:**  
[\(OCHNA 2007\)](#)

**73.5% Employer-Based**

**15.6% Government Plan**

**7.9% Individually Purchased**

**66.9% of OC children with health coverage received private coverage only; 30.2% of OC children with health coverage were part of a public plan only in 2009.**

**58.0% of OC children with health coverage were part of an employer-sponsored plan.**  
[\(2009 ACS\)](#)

In the [OCHNA 2007 survey](#), 3.5% of OC children lacked health coverage. Of those:

43% without coverage lacked it due to cost.

12% without coverage lacked it because they became ineligible due to age or leaving school

9% without coverage lacked it because a parent/guardian lost job or changed employers

8.2% without coverage lacked it due to a divorce or separation.

### Children: Barriers to Health Care Coverage

Statistical analysis of children’s barriers to health care coverage in the Hoag service area is not available due to too few respondents answering the question. However, the types of barriers they face are well-known to the community.

- 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

### Adults (18+) and Health Care Coverage

#### Negative Shifts in Health Coverage

The table below presents the trend data for adults 18+ without health care coverage in the Hoag service area using OCHNA survey data from 1998 to 2007. The table also presents the uncovered rate from the 2008 and 2009 ACS. The overall rate of lack of coverage for the available cities in the Hoag service area in 2009 was **21.8%**, **not including** adults from [Fountain Valley](#) or [Laguna Beach](#) (data was not available in ACS for those cities due to a population size of less than 65,000). As with children, the gains made over the years have been negated by economic circumstances, such as widespread job losses.

Table 6: Trend of Adults 18+ Without Health Care Coverage: Hoag Service Area, OCHNA 1998-2007* and ACS 2008-2009**						
	OCHNA 1998	OCHNA 2001	OCHNA 2004	OCHNA 2007	ACS 2008	ACS 2009
<b>Hoag Service Area Adult Population</b>	545,889	890,588	860,689	806,731	880,100	887,255
<b>Percent of Adults Without Coverage</b>	11.4%	12.2%	10.8%	7.1%	21.8%	24.0%
<b>Population Estimate</b>	62,231	108,652	92,750	57, 272	192,009	213,077

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Please note that the overall rate for the service area does not include the cities of Fountain Valley and Laguna Beach because data is unavailable due to their population size of less than 65,000.

Together, the Hoag service area cities had a higher uncovered rate among adults than Orange County in 2008 and 2009. In addition, the rise in lack of coverage between 2008 and 2009 was higher in the Hoag service area compared to Orange County, suggesting that the service area population has been particularly affected by the recession.

## Adults: Health Care Coverage by Income, Race/Ethnicity, and Age, OCHNA 2007

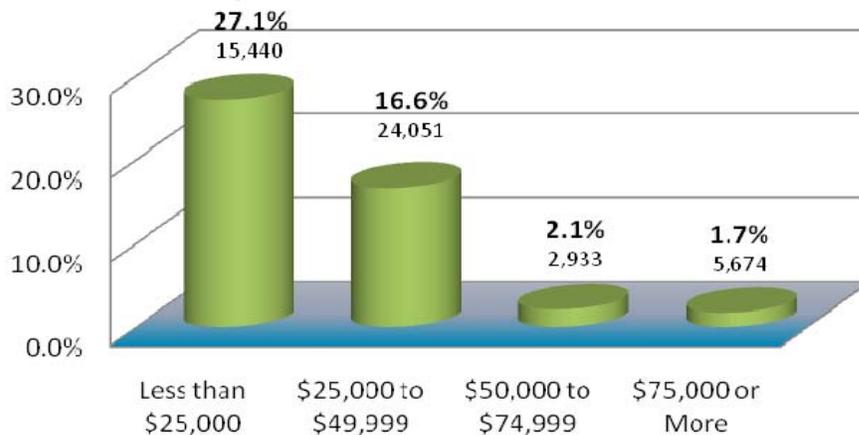
Income, race, and age were significant factors in whether or not an individual had health care coverage. Households with an annual income under \$25,000 were less likely to have had health care coverage; those over \$50,000 were more likely. Racial/ethnic minorities were less likely; whites were more likely. Young people in the age category 18-24 were less likely; those over 65 were more likely, due to the availability of Medicare.

The following pages focus on the characteristics of adults 18+ years of age without health care coverage determined by the OCHNA 2007 survey. Because the data is based on the year 2007, it is not representative of current conditions in both Orange County and the Hoag service area, as there are considerably more individuals who presently lack health care coverage.

### Income

Income level is an important predictor of an individual's health care coverage status, with individuals in the lower income categories being more likely to be without coverage.

**Figure 5: Adults Lack of Health Care Coverage Within Each Household Income Level: Hoag Service Area, OCHNA 2007\***



Chi-Square= 96.688, p < .001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- In the Hoag service area, **96.2%** (466,088) of adults with an annual household income of \$50,000 or more had health care coverage, compared to **56.3%** (162,141) of adults with an annual household income of \$49,999 or less.

**Percent of OC Adults Without Health Care Coverage Within Household Income Level: (OCHNA 2007)**

**33.0%**  
**\$10,000 or Less**

**43.2%**  
**\$10,000 to \$24,999**

**15.6%**  
**\$25,000 to \$49,999**

**4.3%**  
**\$50,000 to \$74,999**

**2.7%**  
**\$75,000 to \$99,999**

**1.7%**  
**\$100,000 or More**

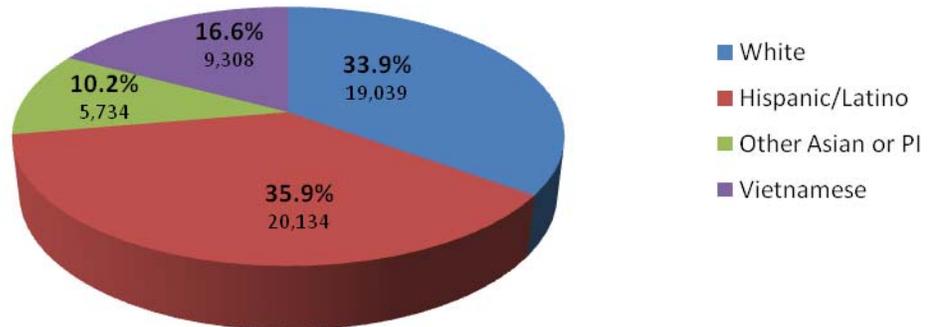
**Percent of OC Adults Without Health Care Coverage Within Race/Ethnicity:**  
(OCHNA 2007)

- 4.6% White
- 14.9% Hispanic/Latino
- 15.0% Vietnamese
- 9.8% Other Asian or PI

**Race/Ethnicity**

There were varying levels of coverage among racial/ethnic groups, with Hispanic/Latino and Vietnamese adults having the lowest rates of coverage.

**Figure 6: Race/Ethnicity of the 7.1% of Adults Without Health Care Coverage: Hoag Service Area, OCHNA 2007\***

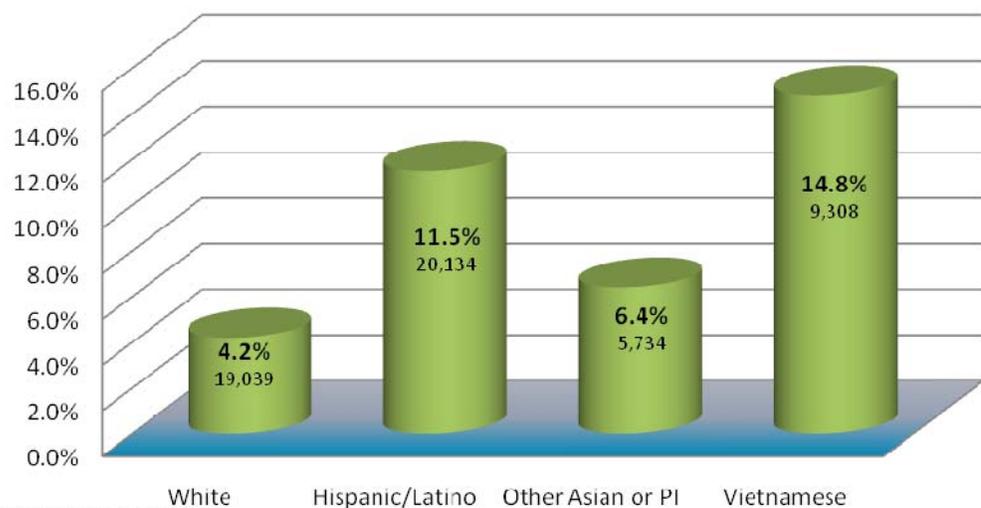


\*OCHNA population estimates are based on State of California, Department of Finance population estimates. Note: Categories Black/African American and Other do not have statistical reliability due to a small number of responses and therefore are not included in the analysis.

- Of the 7.1% of adults without health care coverage, 35.9% were Hispanic/Latino; they were overrepresented in this distribution in comparison to the service area. Vietnamese adults were also overrepresented in this distribution.

The figure below presents the percentages of adults who lack health care coverage *within* their race/ethnic category.

**Figure 7: Adults Without Health Care Coverage Within Race/Ethnicity: Hoag Service Area, OCHNA 2007\***



Chi-square= 55.555, p<.001

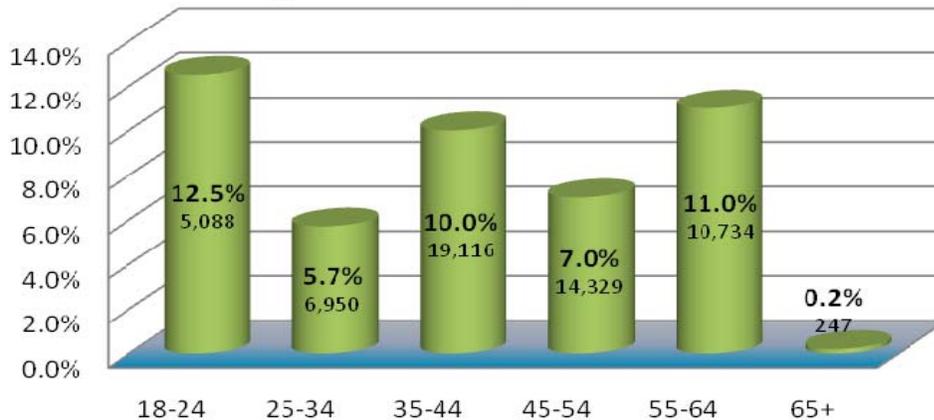
\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Vietnamese adults in the Hoag service area are more than **three times** more likely to lack health care coverage than white adults.

**Age**

Within age groups, adults 18 to 24 years had the lowest rates of coverage.

**Figure 8: Adults Lack of Health Care Coverage Within Each Age Category for Adults: Hoag Service Area, OCHNA 2007\***



Chi-square= 40.243, p<.001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

Young adults (18-24) were the most likely not to have health care coverage. It was also found that males in this age category were less likely to have coverage than females. Several factors may contribute to this age group not having coverage. Many are still in school and not participating fully in the workplace where employer-based coverage may be offered. Another possibility is they have not started a professional career where it is more likely an employer would offer coverage. Adults aged 65+ were the most likely to have health care coverage due to the availability of Medicare.

Adults 55-64 had the second highest rate of lacking health care coverage. It may be possible that some of these adults retired early, losing employer-based coverage, and have not reached the age of eligibility for Medicare.

- **0.2%** (247) of adults 65 or older were without health care coverage.

**Adults: Sources of Health Care Coverage, OCHNA 2007**

The table below displays the three most common types of health care coverage for adults in the Hoag service area.

Table 7: Top 3 Adult Responses for Type of Health Care Coverage: Hoag Service Area, OCHNA 2007*		
Type of Coverage	Percent	Population Estimate
Employer-Based	60.1%	443,382
Medicare	11.7%	86,056
Individually Purchased	7.8%	57,343

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **60.1%** (80,512) of adults aged 65 or over had Medicare coverage in the service area. The other two main types of coverage stated for this group were employer-based, **16.9%** (22,649) and individually purchased, **3.7%** (4,967).

**OC Adults 18+ Without Health Care Coverage Within Age:**  
[\(OCHNA 2007\)](#)

**18.9%**  
**18-24 Years**

**6.8%**  
**55-64 Years**

**0.1%**  
**65+ Years**

**OC Adult's Source of Health Care Coverage :**  
[\(OCHNA 2007\)](#)

**60.8%**  
**Employer-Based**

**11.4%**  
**Medicare**

**9.0%**  
**Individually Purchased**

**93.4% of OC older adults (65+) had Medicare coverage in 2009.**  
[\(2009 ACS\)](#)

76.8% of OC adults with health coverage received private coverage only; 15.4% of OC adults with health coverage were part of a public plan only in 2009.

42.3% of OC adults with health coverage were part of an employer-sponsored plan. (2009 ACS)

Lack of Coverage by Employment Status: (2009 ACS)

15.8% Full-Time in Past Year

29.6% Part-Time in Past Year

18.4% No Work

The table below presents the source of health coverage for adults *within* race/ethnicity, representing the 92.9% (749,459) of adults that had health care coverage in the service area in 2007.

**Table 8: Adults Type of Health Care Coverage Within Race/Ethnicity: Hoag Service Area, OCHNA 2007\***

Type of Coverage	Race/Ethnicity			
	White	Hispanic/Latino	Other Asian or PI	Vietnamese
Employer-Based	57.7% 245,986	64.0% 98,537	75.4% 62,699	46% 23,691
Medicare	15.8% 67,297	2.1% 3,188	5.1% 4,276	17.0% 8,768
Medi-Cal	1.4% 6,133	2.1% 3,205	0.9% 761	23.0% 11,865
Individually Purchased Plan	8.4% 35,636	9.3% 14,363	6.6% 5,518	3.2% 1,644

Chi-square= 453.6, p<.001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Of all race/ethnicities in the service area, Other Asian or Pacific Islander adults were the most likely to have employer-based coverage; Vietnamese adults were the least likely.
- 23.0% (8,768) of Vietnamese adults had Medi-Cal coverage, compared to 0.9% (761) of Other Asian or Pacific Islander Adults.
- White, Hispanic/Latino, and Other Asian or Pacific Islander adults have similar rates of having had individually purchased plans ranging from 6.6% to 9.3%; whereas only 3.2% of Vietnamese adults had individually purchased plans.
- While not reflected in the table above, 4.8% (2,497) of Vietnamese adults in the service area were enrolled in the MSI program in 2007. MSI enrollment for all other race/ethnicities was less than 0.5%.

### Adults: Barriers to Health Care Coverage, OCHNA 2007

**Table 9: Top 3 Adult Responses for Main Reason they were Without Health Care Coverage: Hoag Service Area, OCHNA 2007\***

Reasons	Percent	Population Estimate
Cost/ Cannot Afford Premiums	43.3%	25,116
Lost Job or Changed Employers	17.9%	10,414
Employer Doesn't Offer/Stopped Offering	6.8%	3,965

43.3% (25,116) of adults in the Hoag service area reported cost as the reason they were without health care coverage. Of these:

- 87.4% (18,101) had a household income under \$50,000.
- 91.0% (22,853) were either white (44.4%) or Hispanic/Latino (46.6%).
- 69.9% (17,476) were between the ages of 35-54.

Adults were asked if they could afford to buy health care coverage for themselves, what premium would they be able to afford. The table below provides the responses.

Table 10: Adult's Ability to Pay Monthly Premiums: Hoag Service Area, OCHNA 2007*		
Monthly Premium	Percent	Population Estimate
\$41 and up per Month	70.4%	537,466
\$31 to \$40 per Month	9.9%	75,707
\$21 to \$30 per Month	5.4%	41,404
\$11 to \$20 per Month	5.0%	38,043
\$5 to \$10	3.2%	24,094
Cannot Afford Any of the Above	6.2%	47,030

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Over **6.0%** of adults in the Hoag service area reported they could not afford any of the listed choices each month for a health care coverage premium.

## The Public Health Safety Net

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 recession began, there has been an overall increase in the numbers of beneficiaries in the Medi-Cal and Healthy Families programs, according to numbers provided by the State of California [Department of Health Care Services](#). 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).

Table 11: Number of Medi-Cal or Healthy Families Beneficiaries: Orange County, 2007-2010		
Month	Medi-Cal	Healthy Families
July 2007	366,314	75,985
July 2008	382,116	82,470
July 2009	408,461	87,481
July 2010	429,832	81,876
August 2010	424,998	81,683

Source: State of California, Department of Health Care Services

- From July 2010 to August 2010, there was a slight decline in the number of Medi-Cal beneficiaries.
- The proportion of Orange County children in Healthy Families has been decreasing since July 2009.

## Healthy Families

As of July 2010, **50.8%** (41,584) of Healthy Families recipients (children 0-18 years) lived in the Hoag service area; 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.

### OC Adult's Ability to Pay Monthly Premium of Following Amount: [\(OCHNA 2007\)](#)

**67.4%**  
**\$41 and up per Month**

**9.9%**  
**\$31 to \$40 per Month**

**5.9%**  
**\$21 to \$30 per Month**

**5.3%**  
**\$11 to \$20 per Month**

**4.7%**  
**\$5 to \$10**

**6.9%**  
**Cannot Afford Any of the Above**

**353,185**  
**Number of total OC**  
**CalOptima Medi-Cal**  
**Members in August**  
**2010.**

**51.7% of CalOptima**  
**members lived in**  
**the Hoag service**  
**area in August**  
**2010.**

**CalOptima**  
**Medi-Cal**  
**Membership by**  
**Age:**

**66,996 (36.7%)**  
**0-10 Years**

**35,965 (19.7%)**  
**11-20 Years**

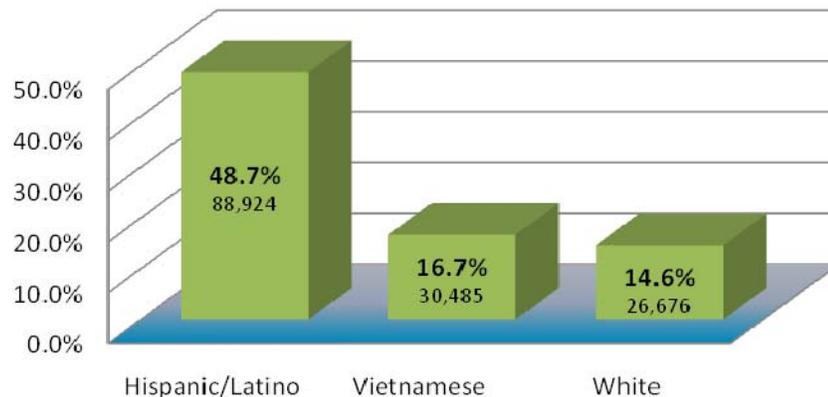
**45,142 (24.8%)**  
**21-64 Years**

**33,811 (18.8%)**  
**65+ Years**

**CalOptima**  
**Medi-Cal**

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 the Medi-Cal program ranges from full (free) and share-of-cost Medi-Cal to limited-scope Medi-Cal. CalOptima is a county-organized health managed care system that generally oversees full or share-of-cost Medi-Cal in Orange County. There were a total of **181,914** CalOptima Medi-Cal members in the Hoag service area in August 2010. More than half of CalOptima Medi-Cal beneficiaries in the Hoag Hospital service area were Hispanic/Latino in August 2010.

**Figure 9: CalOptima Medi-Cal Membership by Race/Ethnicity: Hoag Service Area, August 2010**



Source: CalOptima

The table below presents the ZIP codes (and their corresponding cities) in the Hoag service area with the highest number of CalOptima Medi-Cal members. The following 10 ZIP codes accounted for **70.0%** of all CalOptima Medi-Cal members in the Hoag service area.

<b>Table 12: Top 10 ZIP codes of Residence for CalOptima Medi-Cal Members: Hoag Service Area, August 2010</b>			
<b>ZIP Code</b>	<b>Number</b>	<b>ZIP Code</b>	<b>Number</b>
<b>92683</b> Westminster	20,256	<b>92707</b> Santa Ana	12,083
<b>92704</b> Santa Ana	18,996	<b>92840</b> Garden Grove	10,355
<b>92703</b> Santa Ana	18,533	<b>92706</b> Santa Ana	7,167
<b>92701</b> Santa Ana	14,089	<b>92627</b> Costa Mesa	7,059
<b>92843</b> Garden Grove	12,292	<b>92841</b> Garden Grove	7,022
<b>Total in Service Area</b>		<b>181,914</b>	

- **75,862** CalOptima Medi-Cal members resided in Santa Ana, **37,082** resided in Garden Grove, **20,337** resided in Westminster, **12,752** resided in Huntington Beach, and **11,403** resided in Costa Mesa in August 2010.

**Healthy Kids**

The [Healthy Kids Program](#) is low-cost health coverage plan for children and teens not eligible for 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 Hoag service area, there were a total of **272** 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 **19,300** MSI members at the beginning of August 2010 in the service area, using eligibility date information from May 2010. The table below presents the number of MSI members by the top 10 ZIP codes of residence in the service area (this excludes clients from unidentified ZIPs, homeless clients, and clients with a PO Box as their address).

Table 13: Top 10 ZIP codes of Residence for MSI Members: Hoag Hospital Service Area, August 2010			
ZIP Code	Number	ZIP Code	Number
92683 Westminster	3,351	92841 Garden Grove	946
92704 Santa Ana	1,639	92627 Costa Mesa	912
92843 Garden Grove	1,572	92844 Garden Grove	869
92703 Santa Ana	1,505	92708 Fountain Valley	795
92840 Garden Grove	1,342	92707 Santa Ana	769
<b>Total in Service Area</b>		19,300	

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

- The top 10 ZIP codes accounted for **55.9%** of all MSI members in the Hoag service area.
- **5,350** MSI members resided in Santa Ana, **4,820** resided in Garden Grove, **3,351** resided in Westminster, **1,531** resided in Huntington Beach, and **1,436** resided in Costa Mesa.

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 U.S. citizenship or legal permanent residency is required.

**34,508**  
Number of Total OC  
MSI Members in  
August 2010

**Healthy People 2020 Objective:**

Increase to **100%** the proportion of children 0-17 years with a source of ongoing care by 2020.

**82.4%** of all OC children had a medical home in 2007. (OCHNA 2007)

Only **81.0%** of children had a usual source of care in the Hoag service area; the service area **did not** meet the HP 2020 objective in 2007.

# 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. Analysis in this section pertains to OCHNA 2007 data when the economic outlook was more favorable. However, the picture of health coverage status has darkened considerably, with an estimated **10%** of children and **20%** of adults lacking coverage as of 2009. This means that there are many more individuals who are currently unable to access needed medical services.

## Child (0-17) Utilization of Health Care Services Sources of Health Care

With **95.7%** (252,641) of children in Hoag service area having some form of health care coverage, most parents have access to and choices of a health care provider for their child. The majority (**85.6%** or an estimated 221,564) of parents identified the doctor’s office or an HMO provider as the source of their child’s health care. The following table lists the top five locations children were taken for routine health care; the countywide distribution was similar.

Table 1: Top 5 Responses for Location of Child’s Usual Source of Routine Health Care: Hoag Service Area, OCHNA 2007*		
Location	Percent	Population Estimate
Doctor’s Office or HMO	85.6%	221,564
Community or Free Clinic**	7.1%	18,366
Urgent Care Center**	2.7%	7,175
Hospital Outpatient**	1.6%	4,175
Emergency Room**	0.5%	1,267

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

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

- **85.6%** (221,564) of children in the service area saw their health care provider in a doctor’s office or HMO facility:
  - **69.5%** (131,266) of these children had household incomes over \$75,000, followed by another **12.6%** (23,862) that had a household income of \$50,000 to \$75,000.
  - **78.0%** (166,770) of these children had employer-based coverage, **10.5%** (22,501) had a government plan, and **9.6%** (20,572) had an individually purchased plan.
  - There were no significant differences between racial/ethnic groups or age groups.

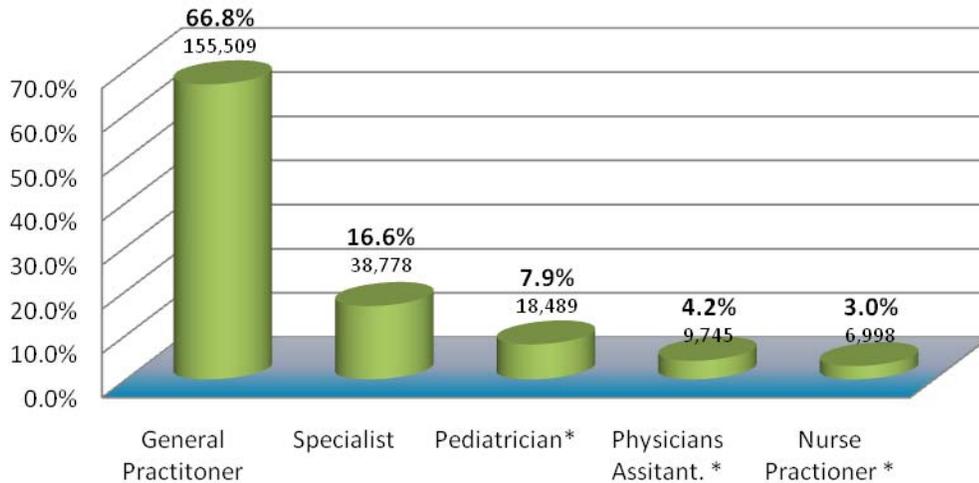
A small fraction **0.5%** (1,267) of children utilized the ER for routine health care.

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.

- In the Hoag service area, **81.0%** (211,348) of children had a usual source of care. **14.9%** (38,775) frequented two sites of care, and **3.6%** (9,505) frequented three.
- The top three reasons the **19.0%** (42,132) 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 (**22.5%**); lack of evening or weekend services (**18.2%**); and, child seldom or never gets sick (**16.3%**).

The figure below provides the top five practitioners that children visited on their last appointment.

**Figure 1: Top 5 Responses for Type of Practitioner Visited on Last Appointment: Hoag Service Area, OCHNA 2007\*\***



\*Categories have too few respondents for further statistical analysis.  
 \*\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

16.6% (38,778) of children in the Hoag service area visited a specialist on their last appointment.

- *Within race/ ethnicity*, Hispanic /Latino children were the most likely (19.4% or 18,344) to have visited a specialist, while Other Asian or Pacific Islander children were the least likely (8.5% or 1,943).

There were no significant differences to report concerning income or age group of the children who last visited a specialist.

### Emergency Room Utilization

Parents in the Hoag 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. According to the 2007 OCHNA survey, 19.4% (49,074) of children in the Hoag service area visited an ER in 2007. Of these:

- 16.3% (41,263) took their child to the ER once in 2007, 2.2% (5,447) took their child twice, and the remaining 0.9% (2,365) 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 2: Top 5 Reasons for Utilizing the ER: Hoag Service Area, OCHNA 2007*		
Reason	Percent	Population Estimate
Injury	36.7%	17,100
Difficulty Breathing/Asthma	10.0%	4,639
Laceration/Wound	7.7%	3,582
Fever	7.4%	3,452
Flu	5.7%	2,667

- Over one in three trips to the ER was for an injury.
- Utilization of flu vaccines could prevent 5.7% of children from needing the services of an ER.

95.8% of all OC children 0-17 years had 1-2 sources of care; 95.9% of children 0-17 in the Hoag service area had 1-2 sources of care. (OCHNA 2007)

32.7% of OC children without coverage had no usual source of care in 2007; 8.2% of OC children with coverage had a usual source of care. (CHIS 2007)

Percent of ED Encounters at Hoag Memorial Hospital Presbyterian by Children in 2009: (OSHPD)

1.7%  
1,001 Encounters  
Under 1 Years

9.1%  
(5,312 Encounters)  
0-9 Years

9.4%  
(5,464 Encounters)  
10-19 Years

**20.5% of OC children 0-17 years used the ER in 2007; only 2.0% of these children lacked health care coverage.**

[\(OCHNA 2007\)](#)

**Age Distribution of OC Children Visiting ER.**

[\(OCHNA 2007\)](#)

**43.8%  
0-5 Years**

**32.7%  
6-11 Years**

**23.5%  
12-17 Years**

The reasons given for utilizing the ER were varied.

- **37.1%** (18,385) stated it was the *fastest way to get care*, **27.2%** (10,625) *needed services after hours or on a weekend*, and **14.6%** (7,213) *were told by their doctor to go to an ER*.

The fact that close to **one in three** 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.

## Barriers to Health Care Utilization

The perceptions of the parents as to the need for services and the availability or convenience in accessing services influence a child's 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 OC 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.

Parents were asked how long it had been since their child last visited their doctor. **9.1%** (23,775) of children in the service area had not visited their doctor in over a year. Of these:

- **Four out of five (80.9%** or an estimated 19,237) parents stated there was no reason for a visit as the child was not ill, underscoring the need to raise parental awareness of the importance of routine checkups.
- **4.9%** (1,167) reported cost as the reason their child had not visited a doctor in over a year. Further statistical analysis is not available due to the small number of respondents in this category.

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

- **4.2%** (10,958) of parents in the Hoag service area replied that they did delay or did not get treatment for their child. Further statistical analysis is not available due to the small number of respondents in this category.

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

In the Hoag service area, **93.2%** (748,299) of adults had some form of health care coverage in 2007. The majority (**83.9%** or 670,620) of adults had a medical home; a regular place for their health care needs, and most adults utilized the services of either a general practitioner (**61.3%** or 417,867) or a specialist (**29.0 %** or 197,936). 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.

The table below lists the top five locations adults in the Hoag service area went to for routine health care.

Location	Percent	Population Estimate
Doctor's Office or HMO	82.0%	651,476
Urgent Care Center	6.4%	50,654
Community or Free Clinic	4.0%	31, 805
Hospital Outpatient	2.0%	15,833
Emergency Room	0.9%	7,510

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **82.0%** (651,476) of adults in the service area saw their health care provider in a doctor's office or HMO facility. Of these:
  - Over half (**52.2%** or 281,731) of adults had a household income over \$75,000.
  - **59.5%** (365,219) of adults had employer- based coverage, **13.8%** (84,796) had Medicare coverage, and **7.5%** (45,844) had an individually purchased plan.
  - **88.3%** (122,157) of adults over 65 years of age went to a doctor's office for routine care, compared to **74.7%** (92,155) of adults in the age range of 25-34.
  - There were no significant differences between race/ethnicity.
- A small percentage of adults **0.9%** (7,510) utilized the ER for routine health care.

A usual source of care is any medical facility viewed by an individual as a regular site of care, ensures consistency and continuity of care for an individual.

- In the Hoag service area, **83.9%** (670,620) of adults reported they did have a usual source of care.
- The top three reasons given for the **16.1%** (128,748) of adults in the Hoag service area that did not have a usual source of care are as follows:
  - They seldom or never get sick (**58.3%** or an estimated 61,483).
  - They like to go to different places for care (**10.2%** or an estimated 10,776).
  - Cost of medical care (**6.5%** or an estimated 6,838).

### Healthy People 2020 Objective:

Increase to **89.4%** the proportion of adults 18-64 years with a source of ongoing care by 2020.

**83.3%** of all OC adults had a medical home in 2007. ([OCHNA 2007](#))

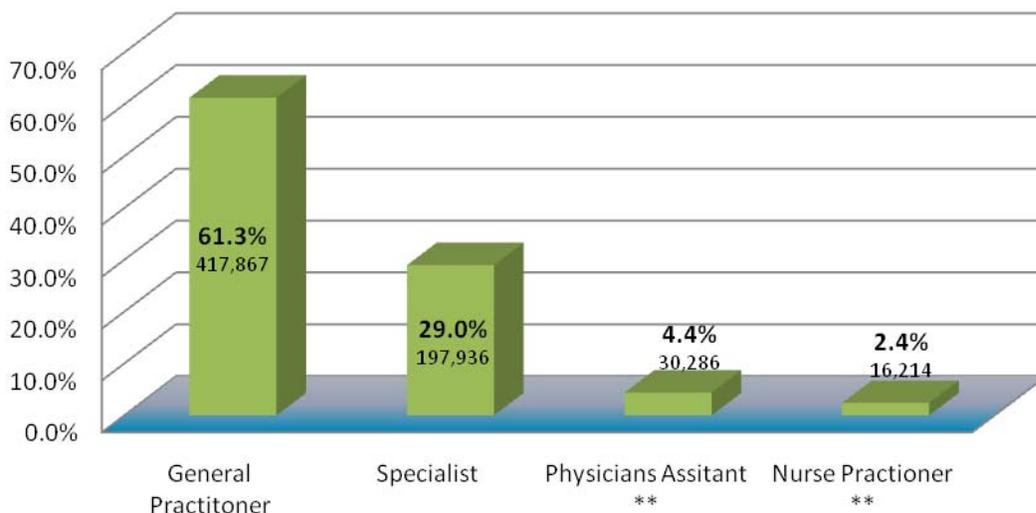
Only **83.9%** of adults had a medical home in the Hoag service area; the service area **did not** meet the HP 2020 Objective in 2007.

**52.9%** of OC adults without coverage had no usual source of care in 2005; **6.7%** of OC adults with coverage had a usual source of care. ([CHIS 2005](#))

14.9% or 348,465 OC adults 18+ years used the ER in 2007; 9.4% or 32,225 adults lacked health care coverage. (OCHNA 2007)

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

**Figure 2: Top 4 Responses for Type of Practitioner Visited on Last Appointment: Hoag, Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.  
 \*\*Categories have too few respondents for further statistical analysis.

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

- **29.0%** (197,936) of adults in the Hoag Memorial Hospital Presbyterian service area reported their last visit was with a specialist. Of these:
  - **41.1%** (34,427) of adults were in the age group 55-64.
  - **38.9%** (133,724) of adults were female, compared to **19.0%** (64,211) for males.
  - Only **9.1%** (13,057) of Hispanic/ Latinos last visited a specialist, compared to **36.8%** (147,413) of white adults.

### Emergency Room Utilization

Adults in the Hoag service area were asked how many times they visited 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.

- **13.8%** (111,063) of adults in the service area visited the ER in 2007.
  - **7.5%** (60,105) of all adults in the service area visited once.
  - **3.8%** (30,473) of adults visited twice.
  - **2.6%** (20,487) of adults visited 3 or more times.
  - There were no significant demographic differences regarding race/ethnicity, income or age, as to who visited the ER.

Percent of ED Encounters at Hoag Memorial Hospital Presbyterian by Adults in 2009: (OSHDP)

29.1% (16,939 Encounters) 20-39 Years

26.0% (15,154 Encounters) 40-59 Years

8.6% (4,982 Encounters) 60-69 Years

16.1% (9,405 Encounters) 70+ Years

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

Table 4: Top 5 Reasons for Utilizing the ER: Hoag Service Area, OCHNA 2007*		
Reason	Percent	Population Estimate
Heart/Chest Pains**	12.6%	13,126
Broken Bones**	9.2%	9,530
Difficulty Breathing/ Asthma**	7.1%	7,388
Pain**	3.9%	4,040
Injury**	3.8%	3,937

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

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

- **40.7%** (44,488) of adults stated it was the *fasted way to get care*.
- **23.8%** (26,077) of adults *needed services after hours or on weekends*.
- **11.7%** (12,801) of adults *were told by their doctor to go*.
- Only a few adults visited the ER specifically because they lacked health coverage.

The majority of OC and Hoag service area ER visits in 2007 were prompted by the need for immediate access to medical care.

### Barriers to Health Care Utilization

Cost and health care coverage status remain a barrier to obtaining needed health care services for adults, becoming even more pronounced in the current economic climate. In 2007, OCHNA estimated that **9.1%** (27,677) of adults in O.C. 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. This section explores the reasons that may have prevented health care utilization for an adult. Adults were asked how long it had been since they last visited their doctor.

- **14.0%** (112,378) of adults in the Hoag service area had not visited their doctor in over a year. Of these:
  - **21.3%** (11,913) of adults had a household income under \$25,000.
  - Over **one quarter (26.7%** or 26,047) had a high school education or less.
  - Nearly **one in three (27.8%** or 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:
  - **68.0%** (78,659) of adults reported they did not feel a need to go (no problems or illness).
  - **11.9%** (13,783) of adults reported cost or having no health care coverage as the reason they had not been to a doctor in over a year.
  - **4.9%** (5,684) of adults stated *fear, apprehension, nervousness, pain or dislike of going*.

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.

- **42.1%** (257,344) of adults in the Hoag service area reported that their provider did not offer health care services in the evenings or on weekends.

**112,378** adults in the Hoag service area did not see a doctor in over a year according to OCHNA 2007.

**9.0% or 178,799 of OC adults 18+ felt discriminated against in the past year.** (OCHNA 2007)

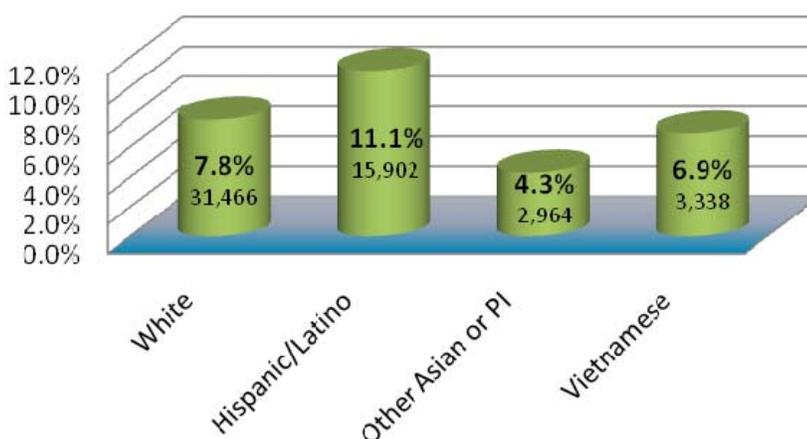
### Perceived Discrimination

The OCHNA 2007 survey explored feelings of discrimination among Orange County adults when they sought health care. Countywide, **9%** of adults felt they were treated unfairly or were not provided with all available treatment options; there were no notable differences between race/ethnicity. Of the 9% that had thought they had experienced discrimination in the previous year, almost a **third** believed it had to do with the type of health coverage they had, and almost **17%** thought it had to do with their income level or with being poor. Individuals who feel discriminated against in their health care setting may feel discouraged to seek care for future medical concerns. **Three in four** of adults (of the 9%) felt the discrimination was enough to affect how they sought health care services for themselves or someone in their household. **8.1%** (55,466) of adults in the Hoag service area reported they felt discriminated against in the health care setting.

- Between age groups, close to half (**47.5%** or an estimated 26,260) of the respondents were in the age group 45-54.

The following figure displays the **8.1%** of adults who felt discriminated against *within* each race/ ethnicity.

**Figure 4: Adults Who Felt Discriminated Against: Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- *Within* race/ ethnicity, Hispanic/Latinos were the most likely to feel discriminated against, while Other Asian or PI were the least likely.
- **25.2%** (12,909) of respondents felt it was their type of insurance (Medi-Cal, HMO, etc.).
- **5.7%** (2,911) of adults reported they were discriminated against due to their income level or being poor.
- **4.7%** (2,416) 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.

- **54.9%** (27,771) of adults in the Hoag service area reported it would determine how they sought health care services.

**Perceived Top 5 Reasons for Discrimination for the 9.0% of OC Adults:** (OCHNA 2007)

**32.1% Health Care Coverage Type**

**21.6% Poor Bedside Manner**

**16.8% Income Level (Being Poor)**

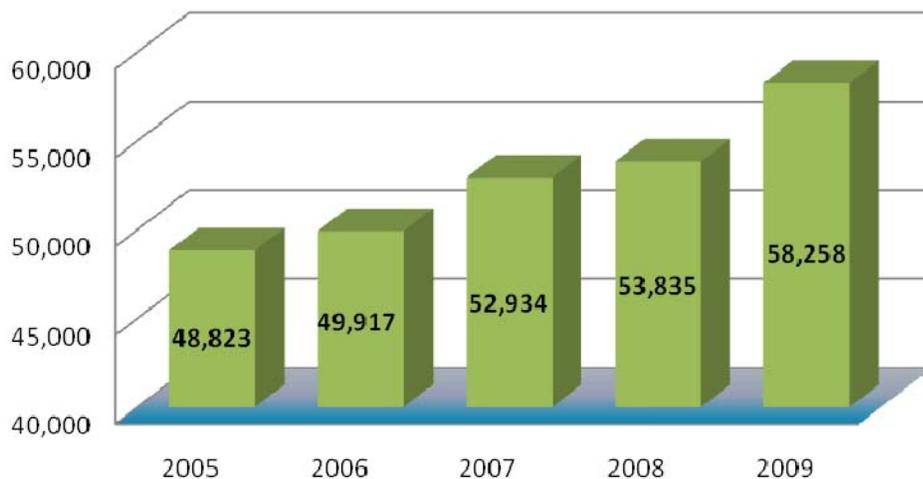
**6.8% Waiting Time**

**6.8% Worker's Compensation**

## Emergency Department Encounters (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 Hoag Hospital during 2005 to 2009, not resulting in admission at the same hospital, from the [Office of Statewide Health Planning and Development](#) (OSHPD) quarterly ED profile reports.

**Figure 3: Total Yearly Emergency Department Encounters: Hoag Hospital, 2005-2009**



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

- The number of ED encounters at Hoag Memorial Hospital Presbyterian increased each year. There was a notable increase from 2007 to 2009 of **10.0%**, which coincided with the considerable increase in the percent of individuals without health coverage.
- During the first half of 2010 (January to June), there were **27,804** ED encounters at the hospital that did not result in admission at Hoag Memorial Hospital Presbyterian.

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 not resulting in admission at the same hospital.

Table 5: Source of Pay for ED Encounters: Hoag Hospital, 2005-2009					
	2005	2006	2007	2008	2009
<b>Medi-Cal</b>	10.2% 4,948	9.9% 4,965	11.8% 6,267	11.3% 6,057	13.2% 7,678
<b>Self-Pay</b>	-	-	-	11.9% 6,402	13.5% 7,869

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

- The overall percent of Medi-Cal ED encounters at Hoag Hospital increased from 2005 to 2009.
- During the first half of 2010, there were **13.8%** (3,829) of encounters by Medi-Cal patients and **13.7%** (3,808) of encounters by Self-Pay patients.

**2009 ED Encounters at Hoag Hospital by Race/Ethnicity:**  
[\(OSHPD 2009\)](#)

**14.1% or 8,210 Hispanic/Latino**

**85.6% or 49,831 Non Hispanic/Latino**

**Top 5 ED Principal Diagnosis Group in 2009 at Hoag Hospital:**  
[\(OSHPD 2009\)](#)

**27.1% or 15,796 Injuries/Poisonings/Complications**

**25.2% or 14,652 Symptoms**

**8.2% or 4,766 Respiratory System**

**5.2% or 3,046 Genitourinary System**

**5.0% or 2,930 Musculoskeletal System**

## Countywide Very Good or Excellent Health Status

### Trends:

(OCHNA 1998-2007)

### Children 0-17 Years

82.2%  
2001

83.0%  
2004

82.1%  
2007

### Adults 18+ Years

61.0%  
1998

59.3%  
2001

58.0%  
2004

60.9%  
2007

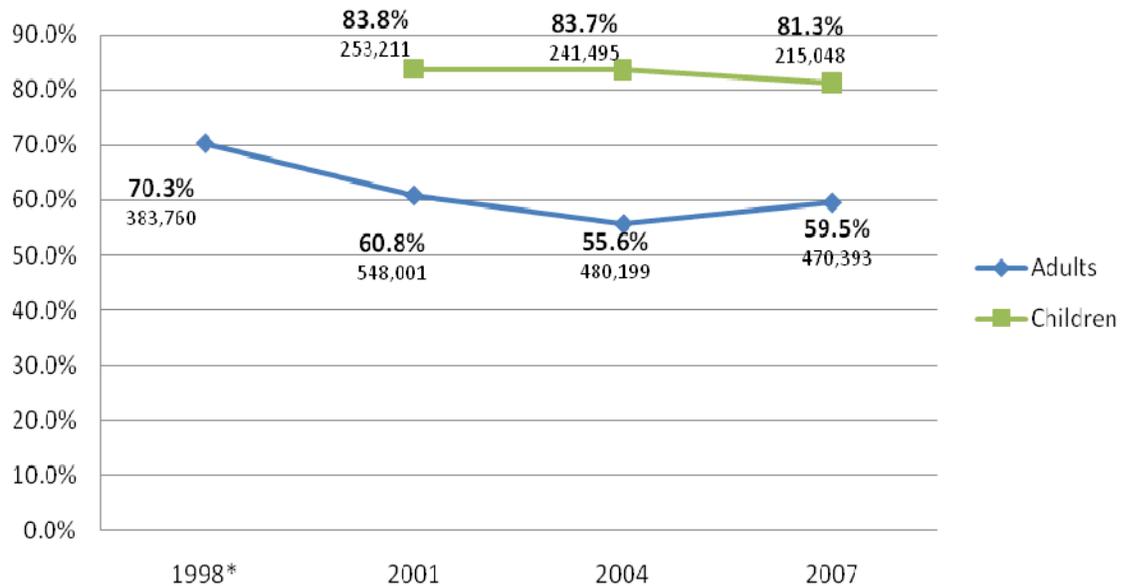
# Preventative Health and Health Behaviors

Behavioral health risk factors are those actions and choices that affect an individual's likelihood of developing health problems. Examples of these health behaviors include tobacco use, alcohol consumption, nutrition, sexual practices, and disease screenings.

## Health Status

The following figure presents a trend line (1998 to 2007) for adults' self-rating of their health status as *very good* or *excellent* and adults' rating of their children's health status as *very good* or *excellent*.

**Figure 1: Very Good or Excellent Health Status Ratings for Adults and Children: Hoag Service Area, OCHNA 2007\*\***



\*No data was available for children in 1998.

\*\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- From 2001 to 2007, adults' rating of their child's health status as *very good* or *excellent* remained fairly level, although it dropped slightly in 2007; **57.2%** (15,132) of children (0-17) in the Hoag service area had a health rating of *excellent* and **24.1%** (63,738) had a health rating of *very good*.
- **3.7%** (9,729) of Hoag service area children had a health rating of *fair* or *poor* in 2007.
- Adults' health status as *very good* or *excellent*, on the other hand, declined between 1998 to 2007; **25.1%** (202,970) of adults 18+ in the Hoag service area had an *excellent* health rating, and **33.0%** (267,423) of adults 18+ had a *very good* health rating in 2007.
- **12.2%** (98,807) of Hoag service area adults had a health rating of *fair* or *poor* in 2007.

## Preventative Health Health Screenings

Health screenings administered in routine health visits are crucial tools for identifying and addressing diseases before they become more serious and costly to treat. These examinations are even more important for adults as they grow older.

Table 1: Percent of Adults 18+ Receiving Health Screenings: Hoag Hospital Service Area, OCHNA 2004*		
Cancer Screenings	Percent	Population Estimate
Blood Stool Test for Cancer	21.2%	181,720
Clinical Breast Exam	86.3%	377,148
Mammogram or Breast Ultra Sound**	87.8%	205,749
Pap Smear	88.4%	323,115
Digital Rectal Exam	51.4%	215,013
PSA Test (Prostate Exam)***	77.1%	109,513

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Of women over 40

\*\*\*Of men over 50

- **One** out of **three** (33.7% or an estimated 145,232) white adults have had a blood stool test to check for cancer. Only **one** out of **ten** Hispanic/Latino adults (10.3% or 22,294) and Vietnamese adults (10.9% or 6,572) have had a blood stool test.

Table 2: Time Since Adult 18+ Last Received Health Screenings: Hoag Hospital Service Area, OCHNA 2004*					
	Blood Stool Test	Clinical Breast Exam	Mammogram / Ultrasound	Pap Smear	PSA Test
Within the Past Year	52.3% 94,910	84.8% 314,273	82.8% 170,428	82.1% 263,193	75.9% 83,096
Within the Past 2 Years	21.0% 38,201	9.5% 35,364	9.5% 19,646	12.3% 39,579	17.6% 19,305
More than 2 Years or Never	26.7% 48,523	5.6% 20,849	7.6% 15,675	5.6% 17,858	6.5% 7,113

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

## Flu Shots

According to the [Centers for Disease Control and Prevention](#) (CDC) there are two types of vaccines: the “flu shot,” an inactivated vaccine recommended for individuals over 6 months; and the nasal-spray flu vaccine, recommended for healthy individuals between 2-49 years of age who are not pregnant.

- The 2004 OCHNA survey found that only **one** in **three** (33.4% or an estimated 288,432) adults ages 18+ received a flu shot.
  - *Within* race /ethnicity Hispanic/Latinos had the lowest percentage of getting a flu shot (15.5% or an estimated 33,622) compared to white adults (41.6% or an estimated 181,493).

### Healthy People 2020 Objective:

Increase to 93% the proportion of women 21-65 years who receive a cervical cancer screening based on the most recent guidelines by 2020.

### Healthy People 2020 Objective:

Increase to 70.5% the proportion of adults 50-75 years who receive a colorectal cancer screening based on the most recent guidelines by 2020.

### Healthy People 2020 Objective:

Increase to 81.1% the proportion of women 50-74 years who receive a breast cancer screening based on the most recent guidelines by 2020.

## Healthy People 2020 Objective:

Increase to **80%** the proportion of non-institutionalized adults 18-64 years who are vaccinated annually against the seasonal influenza by 2020.

**One in three Hoag service area adults 18+ had the seasonal flu shot.** (OCHNA 2004)

**The Hoag service area did not meet the HP 2020 Objective.**

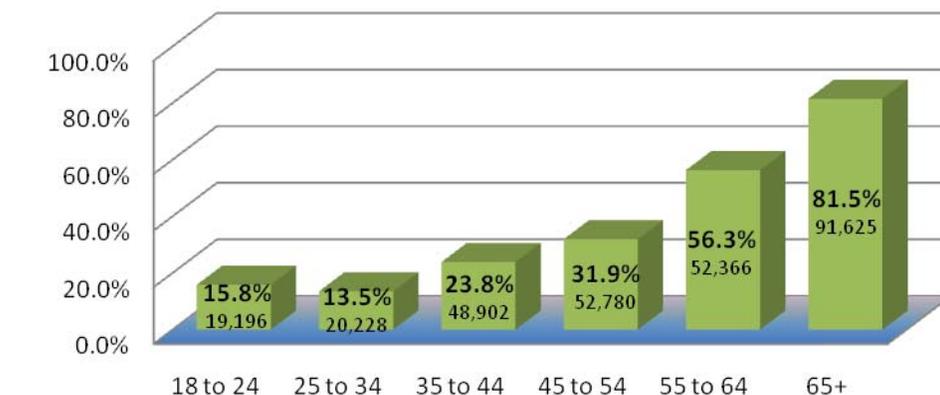
**Current Smoking Status of OC Adults 18+ :** (CHIS 2007)

**16.1% Current Smoker**

**83.9% Not a Current Smoker**

The figure below depicts adults who *did* receive a flu shot *within* age group.

**Figure 2: Adults Who Received a Flu Shot *Within* Age Group: Hoag Hospital Service Area, OCHNA 2007\***



Chi-Square= 145.0, p < .001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- There is a clear relationship between age and whether an adult received a flu shot; as age increases, so does the likelihood an individual will have received a flu shot.

## Health Behaviors

### Tobacco Use

Over the years, knowledge about the negative health effects of smoking has been mounting. Smoking not only causes diseases such as lung cancer, emphysema, and heart disease, but also plays a causal role in other diseases as well. As summarized in the 2004 [US Surgeon General Report on Smoking](#), smoking can also lead to bladder cancer, cervical cancer, kidney cancer, pregnancy complications, cataracts, and peptic ulcer disease, among a host of others.

The table below displays the smoking status of adults in the Hoag Hospital service area.

Table 3: Smoking Status of Adults: Hoag Hospital Service Area, OCHNA 2004*		
Status	Percent	Population Estimate
Have Never Smoked	71.7%	576,028
Former Smoker, But Quit Over One Year Ago	19.2%	154,316
Former Smoker, But Quit Within Last 12 Months	3.5%	28,392
Current Smoker	5.6%	44,966

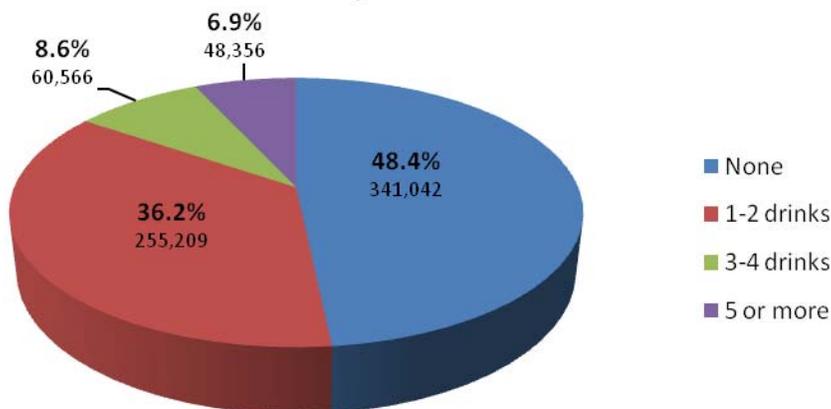
\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **22.7%** (182,708) of adults in the service area quit smoking.
- **5.6%** (44,966) of adults in the service area reported that they currently smoked.
  - **51.3%** (22,850) smoke everyday; **9.4%** (4,192) smoke most days; and **39.3%** (17,540) smoke some days.
  - At the time of the survey, *within* race/ethnicity, Other Asian or Pacific Islander adults were the least likely to be a current smoker (0.0%) and Vietnamese adults the most likely (**7.8%** or 4,713).

## Alcohol Use

According to the [Centers for Disease Control and Prevention](#) (CDC), there are approximately 79,000 deaths a year attributable to excessive alcohol use. Excessive use can be detrimental to a person's health, interpersonal relationships and even their ability to work. The CDC considers "heavy" drinking as more than one drink per day (on average) for women and more than two drinks per day (on average) for men. Some of the immediate health risks of alcohol abuse include: unintentional injuries, intimate partner violence and child maltreatment, engagement in risky sexual behaviors, miscarriage and stillbirth, and alcohol poisoning. Excessive use of alcohol can lead to many chronic diseases, neurological conditions, and social problems. In the OCHNA 2007 survey, adults were asked to consider the days that they drank in the previous 30 days and provide the average number of drinks they had on those days.

**Figure 3: Adult Consumption of Alcohol: Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Close to **half (48.4%** or 341,042) of all adults in the service area did not have any alcohol in the previous 30 days.
  - *Within race/ethnicity*, Vietnamese adults were the most likely to not have alcohol (**81.8%** or 48,151) in the previous 30 days.
- **15.5%** (108,922) of adults had an average of 3 or more than drinks on the days when they consumed alcohol in the previous 30 days.
  - *Within race/ethnicity*, Hispanic/Latino adults were the most likely to drink 3 or more alcoholic beverages (**21.7%** or an estimated 30,043) each time they had consumed alcohol in the previous 30 days.

## Healthy People 2020 Objective:

**Reduce to 25.3% the proportion of adults 18+ years who drank excessively in the previous 30 days.**

**31.1% Percent of OC Adults 18+ Binge Drinking in the Past Year.** ([CHIS 2007](#))

**Healthy People 2020 Objective:**

Reduce to 16.5% the proportion of 12-17 year olds reporting use of alcohol or any illicit drugs during the past 30 days.

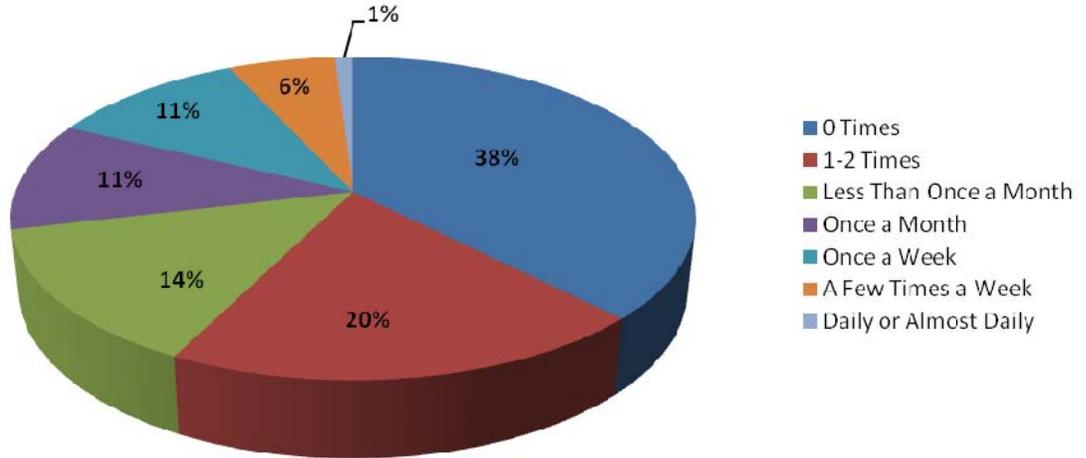
6.7% Percent of OC Youth 12-17 Years Binge Drinking in the Past Month. (CHIS 2007)

11.2% Percent of OC Youth 12-17 Ever Trying Marijuana, Cocaine, Sniffing Glue, Other Drugs. (CHIS 2007)

**Youth Access to Alcohol**

The Alcohol and Drug Education and Prevention Team (ADEPT) of the Orange County Health Care Agency conducted a written survey in 2006 that explored underage Orange County youth access to alcohol. The [Youth Access to Alcohol Study](#) was completed by 1,925 high school and community college students between 16 to 20 years of age from the north, central, and south parts of the county. The figure below presents the number of times youth had consumed an alcoholic beverage in the previous six months.

**Figure 4: Frequency of Youth (16-20 Years) Drinking in Previous 6 Months in Overall Sample: Orange County, YAAS 2006**



Source: Orange County Health Care Agency, 2006 Youth Access to Alcohol Study

- Overall, **62%** of youth had consumed an alcoholic beverage in the previous 6 months according to the 2006 survey. **37%** of survey respondents in South County reported drinking frequently, compared to **26%** in Central County and **21%** in North County.
- The survey reported that youth who drank most often consumed alcohol at a friend's home (**52%**) or their own home (**24%**). A very low proportion of youth consumed alcohol at stadiums/arenas, concert sites, parks, beaches, at a relative's home, or in a vehicle (all **1%** each).

# Major and Chronic Diseases

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 Diagnosis: Adults 18+

The following table compares the prevalence of common chronic diseases in Hoag’s service area compared to the entire county.

Table 1: Adults (18+) Indicating Major or Chronic Disease Diagnosis: Hoag Service Area, OCHNA 2004; Orange County, CHIS 2005, 2007		
Disease/Condition	OCHNA 2004* (Hoag Service Area)	CHIS 2005/2007 (Orange County)
High Blood Pressure	22.0% 186,829	21.7% (2007) 489,000
High Blood Cholesterol	21.1% 176,796	21.7% (2005) 434,000
Arthritis	18.7% 159,970	17.0% (2005) 375,000
Cancer	6.8% 58,613	9.5% (2005) 210,000
Asthma	5.9% 50,309	12.9% (2007) 291,000
Diabetes	7.7% 66,154	5.8% 128,000
Heart Disease	5.8% 49,304	5.4% (2007) 118,000
Bone Disease or Osteoporosis	3.1% 26,102	-**
Respiratory Disease	2.6% 21,945	-**
Stroke	1.8% 15,449	1.9% (2005) 43,000
Liver Disease (Cirrhosis)	2.5% 21,485	-**
Tuberculosis	0.5% 4,158	-**

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Data was not collected by CHIS.

31.3% (252,699) of adults in the service area of Hoag Hospital 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).

Orange County or the Hoag service area **met** the HP 2020 Objective in 2004.

### Healthy People 2020 Objective:

Reduce to 13.5% the percent of adults 20+ with high total blood cholesterol levels (240 mg/dL or greater).

Orange County or the Hoag service area **did not meet** the HP 2020 Objective in 2004.

**13.4% of OC adults reported they/ household member was limited in daily activities due to impairments or health problem.**  
(OCHNA 2007)

**Major Impairment/ Health Problem Limiting 13.4% of OC Adults:**  
(OCHNA 2007)

**13.0% Fractures, Bones/ Joint Injury**

**11.0% Back or Neck Problems**

**10.5% Arthritis/ Rheumatism**

**8.8% Heart Problems**

**7.1% Walking Problem**

## Major Impairments: Adults 18+, OCHNA 2007

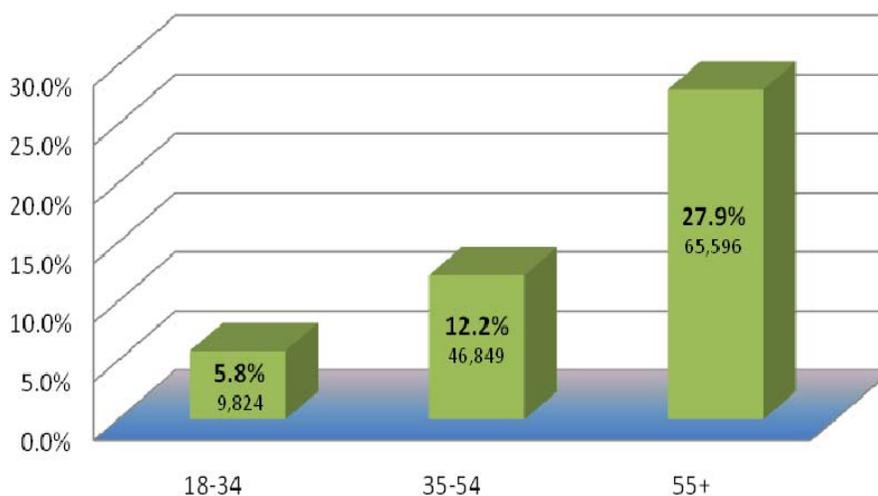
In the Hoag Hospital service area, **15.4%** (124,116) of adults reported that they, or a member of their household, were limited in their daily activities because of a major impairment or health problem

- **17.5%** (21,086) of the reported impairments were back or neck problems.
- **14.4%** (17,304) were arthritis.

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=14.373, p=0.002). **20.0%** (68,354) of adults with household annual incomes less than \$75,000 are limited by a major impairment, compared to **11.4%** (38,121) 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: Hoag Service Area, OCHNA 2007\***



Chi-square=21.930, p=0.001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **27.9%** of adults who are 55 or older are limited by a major impairment, whereas only **5.8%** of adults ages 18-34 are limited by a major impairment.

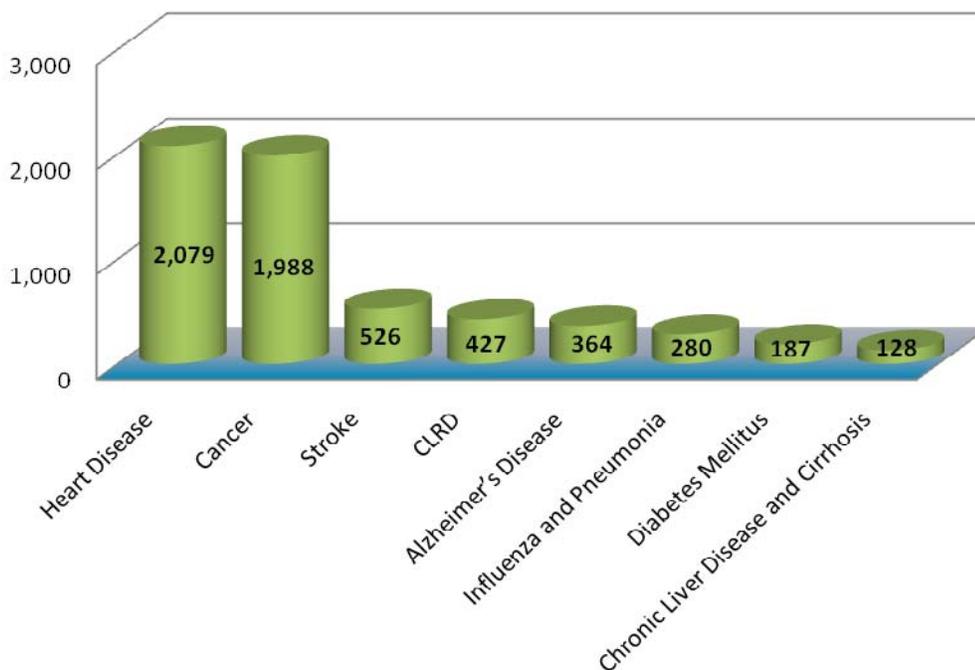
Because of an impairment or health problem, **20.5%** (24,420) of adults needed help with their own personal care (e.g., eating, bathing, dressing, or getting around the house), and **34.6%** (41,355) needed the help of others for their own medical needs (e.g., making appointments, calling for test results, obtaining prescriptions, or attending medical visits).

## Mortality from Chronic Diseases

The [California Department of Public Health](#) lists the number of deaths in 2008 by ZIP code, however only ZIP codes with 5 or more deaths are listed.

- In 2008, there were **7,947** deaths listed by ZIP codes within the Hoag Memorial Hospital Presbyterian service area.

**Figure 2: Number of Deaths by Chronic or Major Disease: Hoag Service Area, 2008**



Source: State of California, Department of Public Health, 2008 Death Profiles by ZIP

- Heart disease was the leading cause of death in the Hoag Memorial Hospital Presbyterian service area in 2008, accounting for **26.2%** of deaths during 2008.
- Cancer was the second leading cause of death in the Hoag Memorial Hospital Presbyterian service area, accounting for **25.0%** of deaths in 2008.

The following pages present the numbers and crude rates of death by each code in 2005 from the 2008 [OCHCA Health Indicators Report](#).

There were **7,947** OC deaths in 2008.

**OC-Wide Deaths by Disease**  
[\(CDPH 2008\)](#)

**4,534**  
**Heart Disease**

**4,203**  
**Cancer**

**1,102**  
**Stroke**

**959**  
**Chronic Lower Respiratory Disease**

**907**  
**Alzheimer's Disease**

**557**  
**Influenza or Pneumonia**

**425**  
**Diabetes**

**293**  
**Chronic Liver Disease or Cirrhosis**

Table 5.13  
**Orange County**  
**All Residents Deaths, 2005**  
**Rate by ZIP Code of Residence**

ZIP Code	2005	2005 Population	Crude Rate	ZIP Code	2005	2005 Population	Crude Rate
90620	312	44,784	696.7	92679	73	41,144	177.4
90621	144	35,542	405.2	92683	589	90,906	647.9
90623	105	16,010	655.8	92688	102	48,489	210.4
90630	301	47,768	630.1	92691	313	47,848	654.2
90631	408	69,005	591.3	92692	316	48,045	657.7
90680	191	32,188	593.4	92694	31	18,000	172.2
90720	174	23,451	742.0	92697	0	824	0.0
90740	520	24,461	2,125.8	92701	150	58,268	257.4
90742	6	887	676.4	92703	231	73,474	314.4
90743	2	451	443.5	92704	280	91,875	304.8
92602	32	6,242	512.7	92705	322	47,004	685.0
92603	46	10,798	426.0	92706	200	36,737	544.4
92604	120	30,220	397.1	92707	213	65,020	327.6
92606	46	22,701	202.6	92708	415	55,613	746.2
92610	25	15,617	160.1	92780	254	56,454	449.9
92612	150	24,115	622.0	92782	41	19,938	205.6
92614	61	25,582	238.4	92801	376	57,972	648.6
92617	3	13,054	23.0	92802	245	46,292	529.2
92618	34	8,758	388.2	92804	544	90,617	600.3
92620	110	41,705	263.8	92805	263	70,455	373.3
92624	67	7,753	864.2	92806	181	33,614	538.5
92625	120	12,552	956.0	92807	209	34,336	608.7
92626	248	47,669	520.3	92808	69	21,259	324.6
92627	304	64,586	470.7	92821	223	37,003	602.7
92629	190	28,129	675.5	92823	14	1,867	749.9
92630	379	59,550	636.4	92831	178	35,260	504.8
92637	13	15,568	83.5	92832	155	24,994	620.1
92646	412	56,447	729.9	92833	287	51,164	560.9
92647	303	60,592	500.1	92835	247	21,978	1,123.9
92648	256	46,400	551.7	92840	271	52,292	518.2
92649	202	34,184	590.9	92841	218	31,679	688.2
92651	167	25,180	663.2	92843	208	45,226	459.9
92653	899	31,899	2,818.3	92844	83	24,948	332.7
92655	55	9,049	607.8	92845	122	15,593	782.4
92656	119	45,422	262.0	92861	43	6,006	716.0
92657	21	8,006	262.3	92862	0	19	0.0
92660	223	33,292	669.8	92865	115	18,312	628.0
92661	38	3,951	961.8	92866	101	16,211	623.0
92662	24	2,897	828.4	92867	232	43,488	533.5
92663	170	22,191	766.1	92868	138	24,030	574.3
92672	208	39,328	528.9	92869	196	40,790	480.5
92673	115	22,057	521.4	92870	272	51,262	530.6
92675	245	38,072	643.5	92886	252	43,875	574.4
92676	11	2,089	526.6	92887	73	23,598	309.3
92677	310	65,626	472.4	Other/Unknown	70		
<i>Source of Population: Claritas 2005</i>				<b>Total</b>	<b>16,804</b>	<b>3,039,607</b>	<b>552.8</b>

# Orange County Deaths by ZIP Code of Residence (2005)

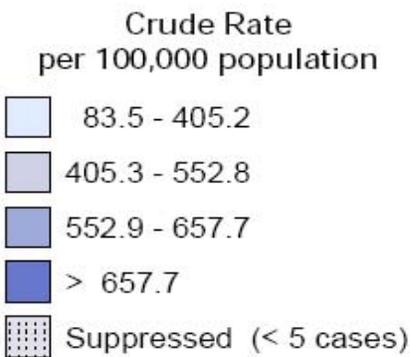
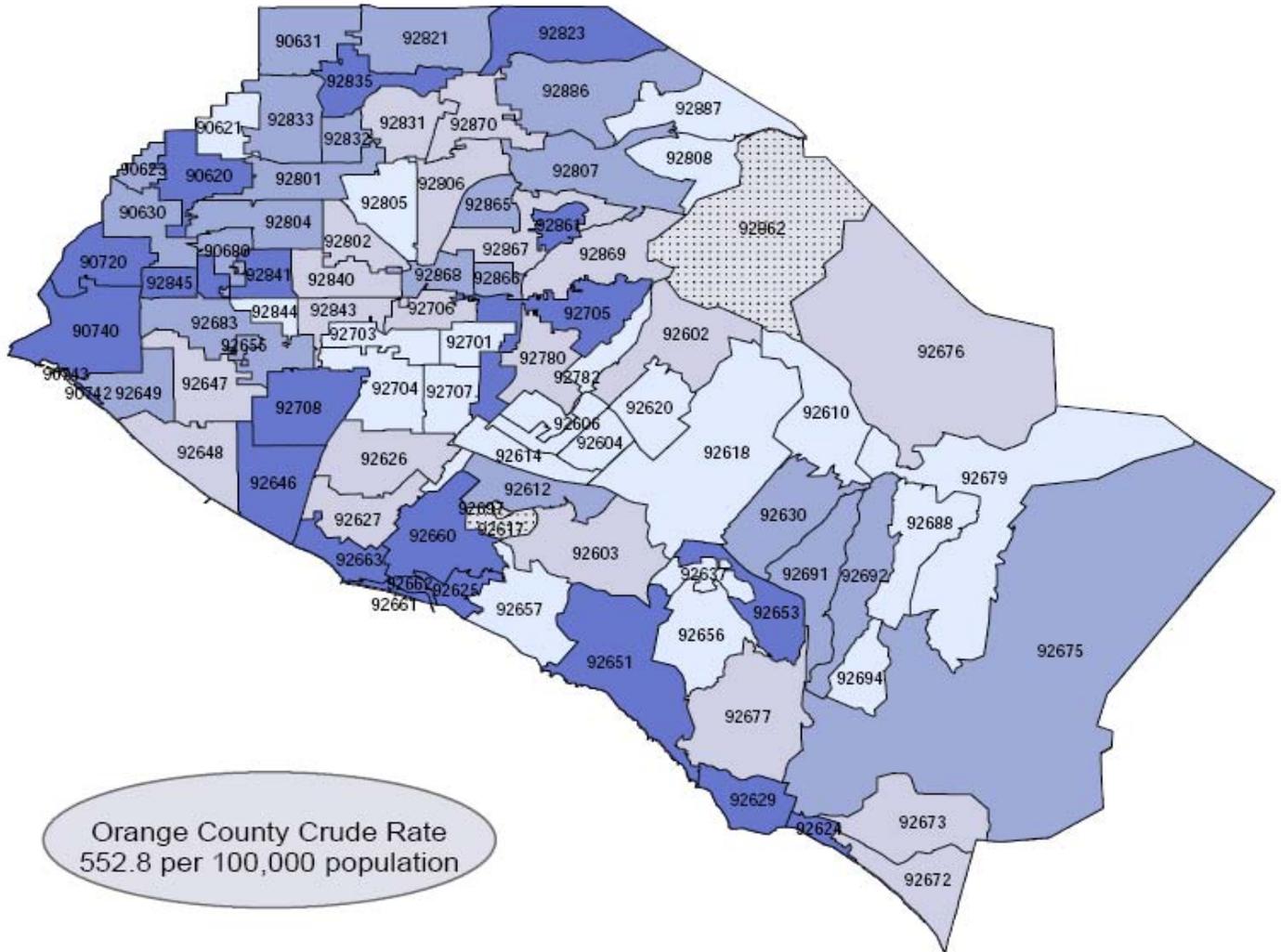


Table 5.20  
**Orange County**  
**Heart Disease Deaths, 2005**  
**Rate by ZIP Code of Residence**

ZIP Code	2005	2005 Population	Crude Rate	ZIP Code	2005	2005 Population	Crude Rate
90620	91	44,784	203.2	92679	16	41,144	38.9
90621	44	35,542	123.8	92683	151	90,906	166.1
90623	25	16,010	156.2	92688	23	48,489	47.4
90630	90	47,768	188.4	92691	90	47,848	188.1
90631	134	69,005	194.2	92692	100	48,045	208.1
90680	59	32,188	183.3	92694	4	18,000	22.2
90720	51	23,451	217.5	92697	0	824	0.0
90740	162	24,461	662.3	92701	41	58,268	70.4
90742	1	887	112.7	92703	52	73,474	70.8
90743	0	451	0.0	92704	63	91,875	68.6
92602	3	6,242	48.1	92705	82	47,004	174.5
92603	9	10,798	83.3	92706	60	36,737	163.3
92604	29	30,220	96.0	92707	58	65,020	89.2
92606	12	22,701	52.9	92708	113	55,613	203.2
92610	6	15,617	38.4	92780	64	56,454	113.4
92612	49	24,115	203.2	92782	9	19,938	45.1
92614	14	25,582	54.7	92801	107	57,972	184.6
92617	0	13,054	0.0	92802	78	46,292	168.5
92618	14	8,758	159.9	92804	168	90,617	185.4
92620	27	41,705	64.7	92805	63	70,455	89.4
92624	19	7,753	245.1	92806	49	33,614	145.8
92625	24	12,552	191.2	92807	57	34,336	166.0
92626	53	47,669	111.2	92808	13	21,259	61.2
92627	91	64,586	140.9	92821	71	37,003	191.9
92629	50	28,129	177.8	92823	2	1,867	107.1
92630	122	59,550	204.9	92831	54	35,260	153.1
92637	5	15,568	32.1	92832	52	24,994	208.0
92646	102	56,447	180.7	92833	90	51,164	175.9
92647	79	60,592	130.4	92835	98	21,978	445.9
92648	80	46,400	172.4	92840	82	52,292	156.8
92649	64	34,184	187.2	92841	62	31,679	195.7
92651	46	25,180	182.7	92843	60	45,226	132.7
92653	316	31,899	990.6	92844	14	24,948	56.1
92655	12	9,049	132.6	92845	37	15,593	237.3
92656	28	45,422	61.6	92861	11	6,006	183.2
92657	2	8,006	25.0	92862	0	19	0.0
92660	69	33,292	207.3	92865	23	18,312	125.6
92661	11	3,951	278.4	92866	34	16,211	209.7
92662	8	2,897	276.1	92867	56	43,488	128.8
92663	63	22,191	283.9	92868	29	24,030	120.7
92672	50	39,328	127.1	92869	41	40,790	100.5
92673	35	22,057	158.7	92870	75	51,262	146.3
92675	83	38,072	218.0	92886	76	43,875	173.2
92676	1	2,089	47.9	92887	16	23,598	67.8
92677	90	65,626	137.1	Other/Unknown	17		
<b>Total</b>					<b>4,784</b>	<b>3,039,607</b>	<b>157.4</b>

Source of Population: Claritas 2005

# Orange County Heart Disease Deaths by ZIP Code of Residence (2005)

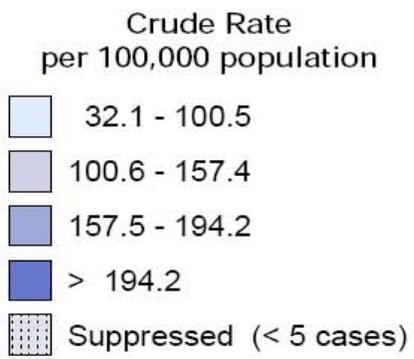
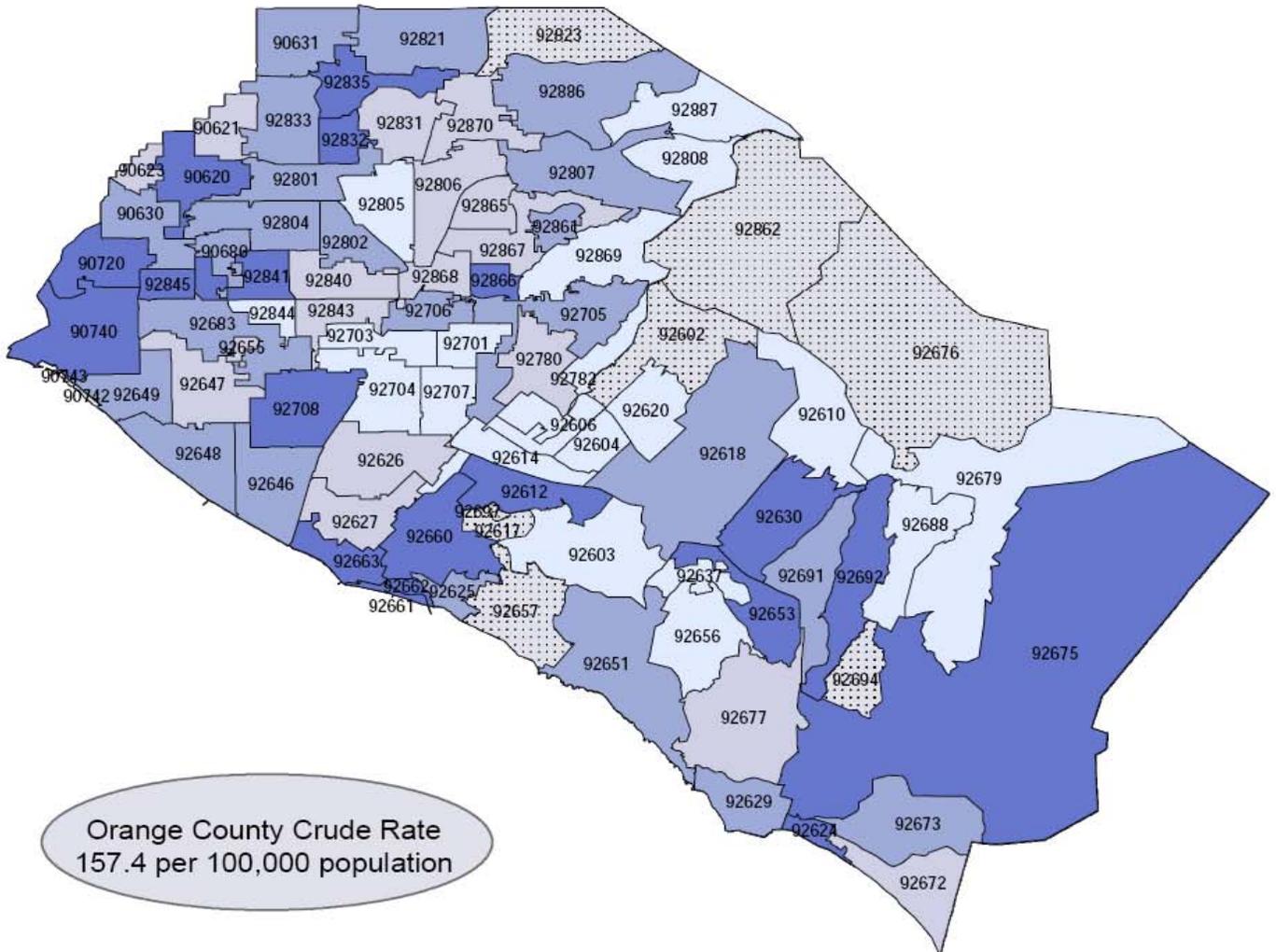


Table 5.21  
**Orange County**  
**All Cancer Deaths, 2005**  
**Rate by ZIP Code of Residence**

ZIP Code	2005	2005 Population	Crude Rate	ZIP Code	2005	2005 Population	Crude Rate
90620	82	44,784	183.1	92679	25	41,144	60.8
90621	41	35,542	115.4	92683	132	90,906	145.2
90623	34	16,010	212.4	92688	33	48,489	68.1
90630	90	47,768	188.4	92691	64	47,848	133.8
90631	88	69,005	127.5	92692	87	48,045	181.1
90680	45	32,188	139.8	92694	12	18,000	66.7
90720	49	23,451	208.9	92697	0	824	0.0
90740	119	24,461	486.5	92701	24	58,268	41.2
90742	2	887	225.5	92703	47	73,474	64.0
90743	1	451	221.7	92704	82	91,875	89.3
92602	13	6,242	208.3	92705	84	47,004	178.7
92603	14	10,798	129.7	92706	40	36,737	108.9
92604	33	30,220	109.2	92707	35	65,020	53.8
92606	15	22,701	66.1	92708	114	55,613	205.0
92610	9	15,617	57.6	92780	62	56,454	109.8
92612	45	24,115	186.6	92782	6	19,938	30.1
92614	18	25,582	70.4	92801	81	57,972	139.7
92617	1	13,054	7.7	92802	56	46,292	121.0
92618	5	8,758	57.1	92804	107	90,617	118.1
92620	35	41,705	83.9	92805	44	70,455	62.5
92624	12	7,753	154.8	92806	46	33,614	136.8
92625	38	12,552	302.7	92807	47	34,336	136.9
92626	61	47,669	128.0	92808	16	21,259	75.3
92627	55	64,586	85.2	92821	61	37,003	164.9
92629	56	28,129	199.1	92823	6	1,867	321.4
92630	81	59,550	136.0	92831	33	35,260	93.6
92637	4	15,568	25.7	92832	25	24,994	100.0
92646	128	56,447	226.8	92833	65	51,164	127.0
92647	80	60,592	132.0	92835	49	21,978	223.0
92648	58	46,400	125.0	92840	49	52,292	93.7
92649	59	34,184	172.6	92841	45	31,679	142.0
92651	53	25,180	210.5	92843	49	45,226	108.3
92653	192	31,899	601.9	92844	24	24,948	96.2
92655	10	9,049	110.5	92845	27	15,593	173.2
92656	30	45,422	66.0	92861	11	6,006	183.2
92657	3	8,006	37.5	92862	0	19	0.0
92660	76	33,292	228.3	92865	32	18,312	174.7
92661	11	3,951	278.4	92866	26	16,211	160.4
92662	5	2,897	172.6	92867	72	43,488	165.6
92663	40	22,191	180.3	92868	35	24,030	145.7
92672	65	39,328	165.3	92869	50	40,790	122.6
92673	27	22,057	122.4	92870	66	51,262	128.8
92675	55	38,072	144.5	92886	68	43,875	155.0
92676	3	2,089	143.6	92887	20	23,598	84.8
92677	83	65,626	126.5	Other/Unknown	11		
				<b>Total</b>	<b>4,092</b>	<b>3,039,607</b>	<b>134.6</b>

Source of Population: Claritas 2005

# Orange County All Cancer Deaths by ZIP Code of Residence (2005)

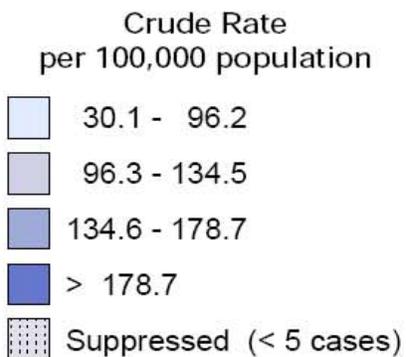
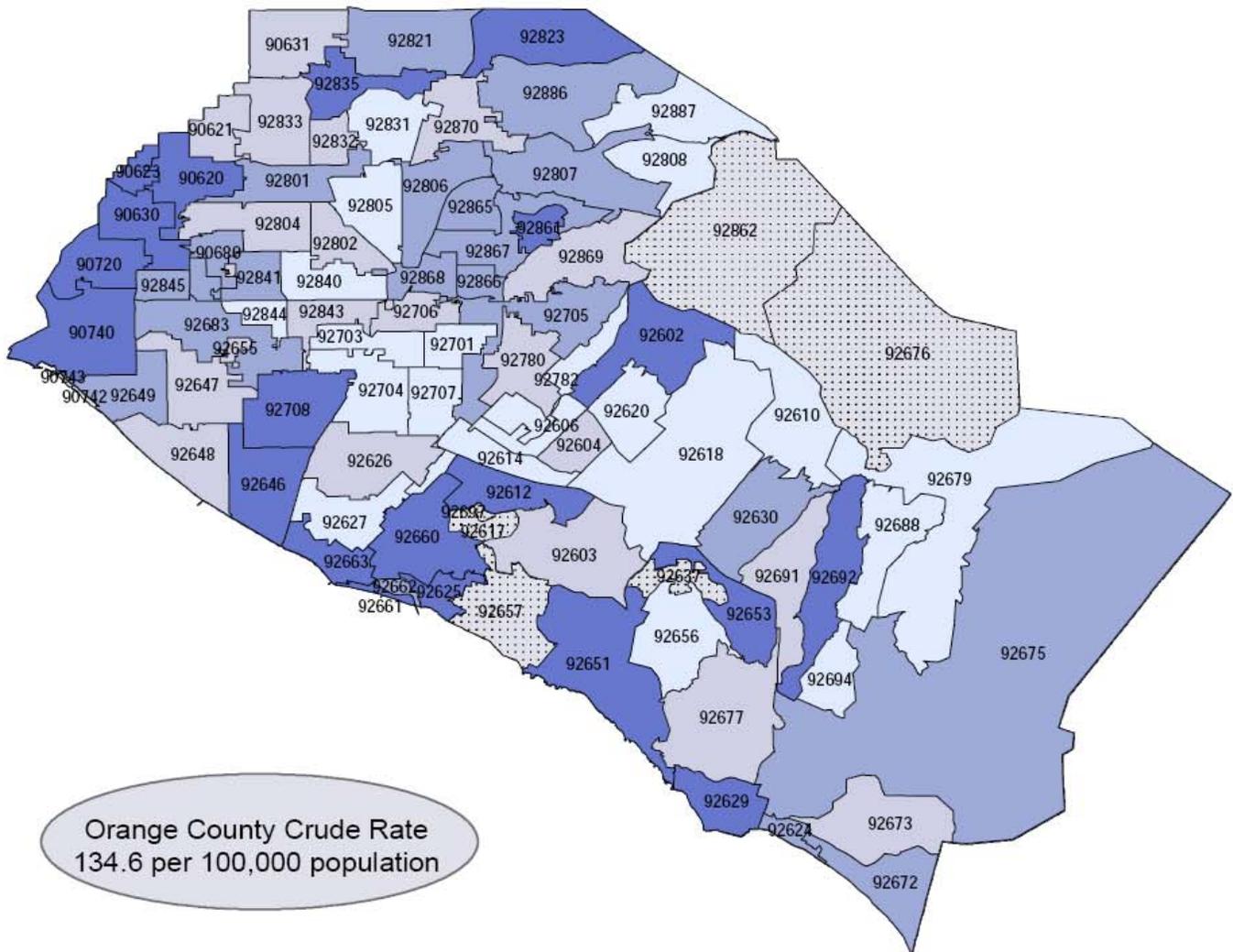
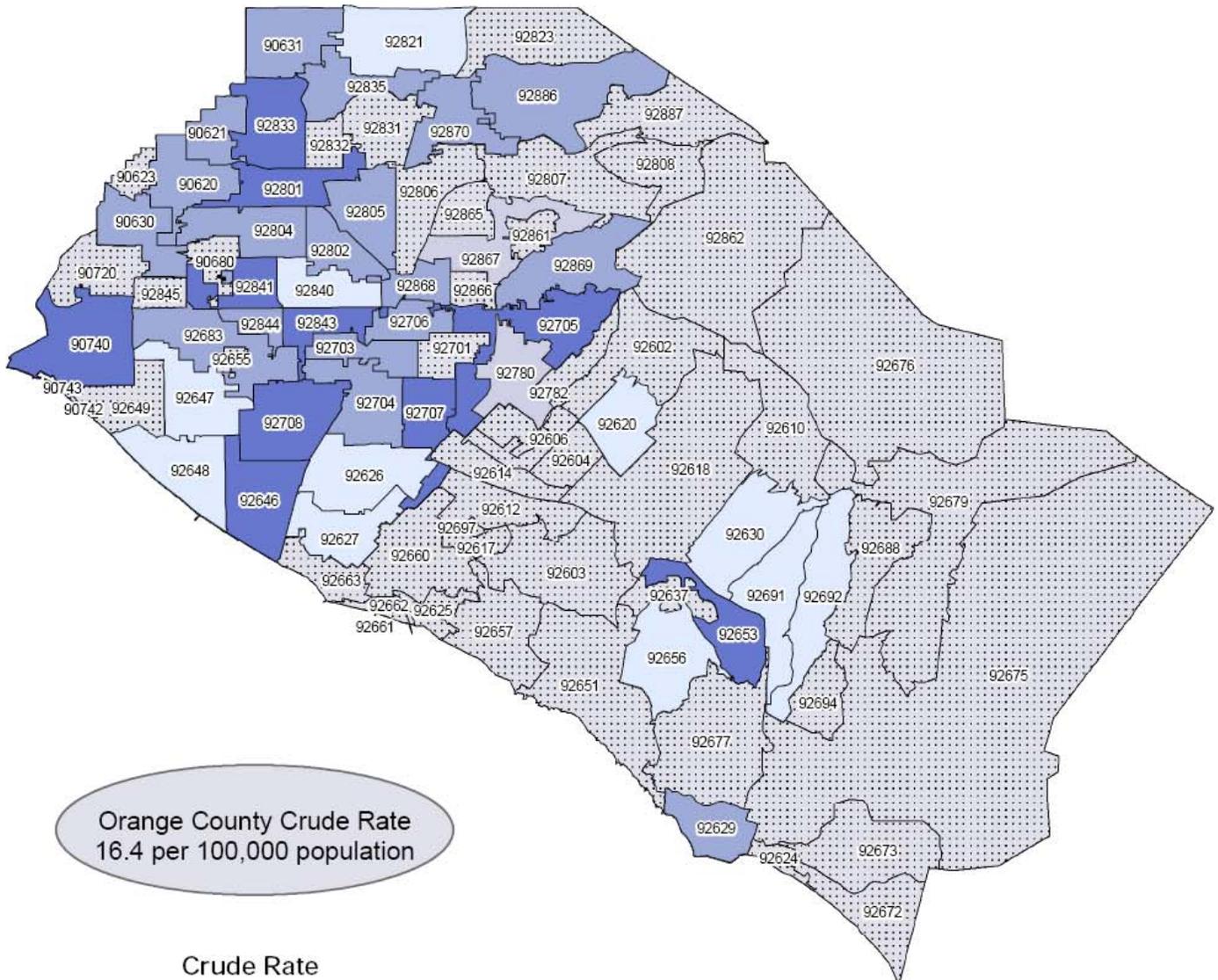


Table 5.29  
Orange County  
Diabetes Deaths, 2005

ZIP Code	2005	2005 Population	Crude Rate	ZIP Code	2005	2005 Population	Crude Rate
90620	10	44,784	22.3	92679	0	41,144	0.0
90621	6	35,542	16.9	92683	18	90,906	19.8
90623	2	16,010	12.5	92688	3	48,489	6.2
90630	9	47,768	18.8	92691	7	47,848	14.6
90631	16	69,005	23.2	92692	6	48,045	12.5
90680	4	32,188	12.4	92694	0	18,000	0.0
90720	3	23,451	12.8	92697	0	824	0.0
90740	16	24,461	65.4	92701	3	58,268	5.1
90742	1	887	112.7	92703	13	73,474	17.7
90743	0	451	0.0	92704	17	91,875	18.5
92602	0	6,242	0.0	92705	13	47,004	27.7
92603	1	10,798	9.3	92706	8	36,737	21.8
92604	3	30,220	9.9	92707	18	65,020	27.7
92606	2	22,701	8.8	92708	14	55,613	25.2
92610	0	15,617	0.0	92780	9	56,454	15.9
92612	0	24,115	0.0	92782	0	19,938	0.0
92614	3	25,582	11.7	92801	16	57,972	27.6
92617	0	13,054	0.0	92802	8	46,292	17.3
92618	0	8,758	0.0	92804	16	90,617	17.7
92620	5	41,705	12.0	92805	13	70,455	18.5
92624	1	7,753	12.9	92806	3	33,614	8.9
92625	1	12,552	8.0	92807	4	34,336	11.6
92626	5	47,669	10.5	92808	4	21,259	18.8
92627	6	64,586	9.3	92821	5	37,003	13.5
92629	6	28,129	21.3	92823	0	1,867	0.0
92630	8	59,550	13.4	92831	3	35,260	8.5
92637	0	15,568	0.0	92832	4	24,994	16.0
92646	14	56,447	24.8	92833	13	51,164	25.4
92647	8	60,592	13.2	92835	5	21,978	22.8
92648	5	46,400	10.8	92840	8	52,292	15.3
92649	4	34,184	11.7	92841	11	31,679	34.7
92651	1	25,180	4.0	92843	12	45,226	26.5
92653	24	31,899	75.2	92844	5	24,948	20.0
92655	3	9,049	33.2	92845	3	15,593	19.2
92656	5	45,422	11.0	92861	1	6,006	16.7
92657	0	8,006	0.0	92862	0	19	0.0
92660	3	33,292	9.0	92865	3	18,312	16.4
92661	2	3,951	50.6	92866	0	16,211	0.0
92662	1	2,897	34.5	92867	7	43,488	16.1
92663	2	22,191	9.0	92868	5	24,030	20.8
92672	2	39,328	5.1	92869	8	40,790	19.6
92673	3	22,057	13.6	92870	10	51,262	19.5
92675	4	38,072	10.5	92886	8	43,875	18.2
92676	0	2,089	0.0	92887	3	23,598	12.7
92677	3	65,626	4.6	Other/Unknown	1		
				<b>Total</b>	<b>500</b>	<b>3,039,607</b>	<b>16.4</b>

Source of Population: Claritas 2005

# Orange County Diabetes Deaths by ZIP Code of Residence (2005)



Orange County Crude Rate  
16.4 per 100,000 population

- Crude Rate  
per 100,000 population
- 9.3 - 15.3
  - 15.4 - 16.4
  - 16.5 - 23.2
  - > 23.2
  - Suppressed (< 5 cases)

### Number of Cases of Cancer in OC: (California Cancer Registry, 2007)

**2,370**  
Breast Cancer

**1,663**  
Prostate Cancer

**1,275**  
Colon and Rectal Cancer

**1,249**  
Lung Cancer

**714**  
Skin Cancer

There were **4,203** Orange County deaths from Cancer in 2008. (CDPH 2008)

Age-Adjusted Cancer Death Rate per 100,000 population:

**128.8**  
(2,083 Deaths)  
Females

**174.9**  
(2,120 Deaths)  
Males

**147.2**  
Overall Rate

## 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) and internal (hormones, immune conditions, and inherited mutations) factors. According to the [CDC](#), cancer was the second leading cause of death in the US in 2007.

- The OCHNA 2004 survey estimated that **6.8%** (58,613) of adults 18+ in the Hoag Hospital service 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.

Table 2: Cancer Incidence Rates: Orange County, California Cancer Registry 2003-2007*						
Year	2003	2004	2005	2006	2007	2003-2007
<b>Total Cases</b>	12,318	12,905	13,082	12,525	12,926	63,756
<b>Crude Rate Per 100,000</b>	417.96	435.16	440.57	421.65	434.23	429.93
<b>Age-Adjusted Rate Per 100,000**</b>	469.39	478.95	476.59	448.18	449.83	464.21

\*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: Cancer Surveillance Program of Orange County

## Cancer by Demographics

The Registry shows varying rates of cancer incidence among different race/ethnicities in Orange County during 2007:

- For the Non-Hispanic White population, there were **46,381** cases of cancer—this translated to an age-adjusted rate of **510.06** per 100,000 Non-Hispanic White.
- For the Hispanic population, there were **7,725** cases of cancer, translating to an age-adjusted rate of **344.76** per 100,000 Hispanics.
- Finally, there were **6,502** cases of cancer in the Non-Hispanic Asian/Pacific Islander population, giving an age-adjusted rate of **310.54** per 100,000 people.
- 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.

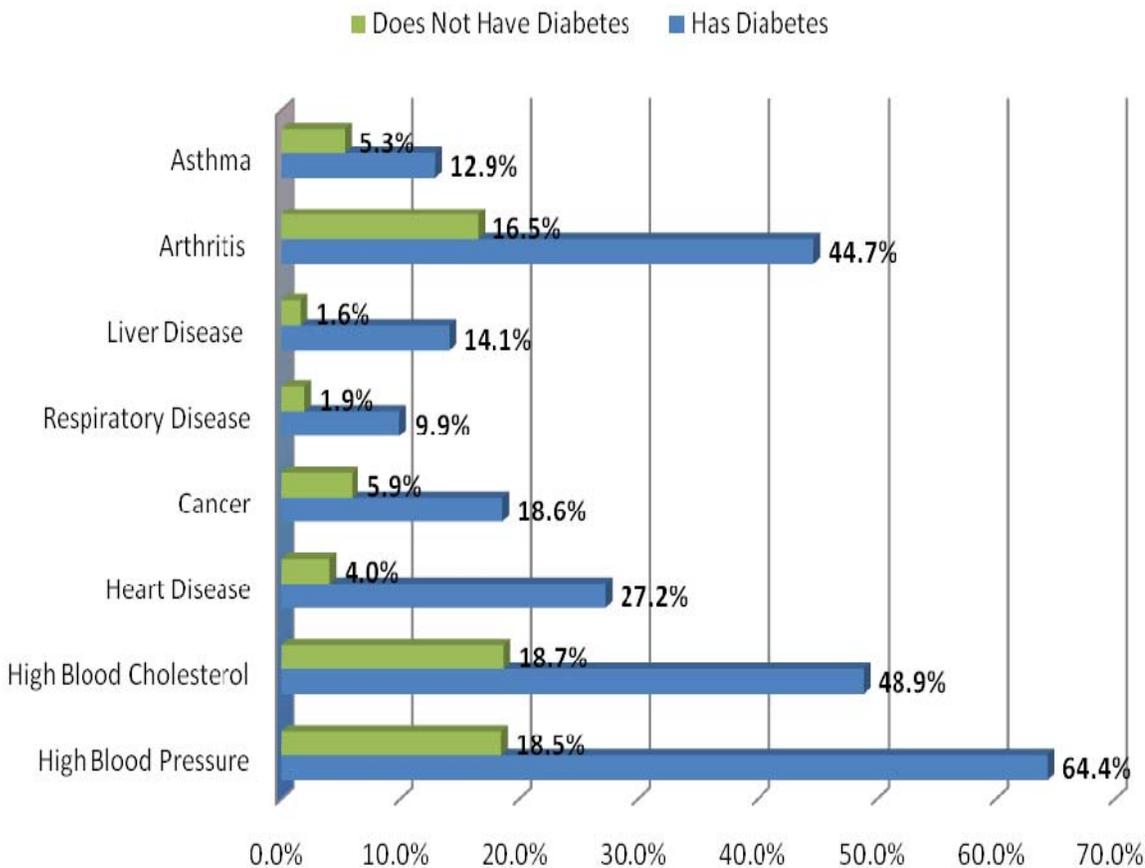
## Diabetes

Diabetes was the seventh leading cause of 2007 deaths in the US, according to the [CDC](#).

- In the Hoag service area, **7.7%** (66,154) of adults 18 years and older reported that they had diabetes in the OCHNA 2004 survey; according to the CDC [National Diabetes Surveillance System](#), **6.2%** of Orange County adults age 20+ years were diagnosed with diabetes in 2007.
- Higher percentages of diabetes are related to lower household income (Chi-square=19.365, p<0.001). **10.9%** (13,966) of adults with less than \$25,000 annual household income have diabetes. Only **6.1%** (23,522) of adults with annual household income \$50,000 or more have diabetes.
- There is also a relationship between weight status and having diabetes (Chi-square=61.106, p<0.001). Of adults in the service area who had diabetes in 2004, **4.9%** (3,184) were normal weight, **52.4%** (34,369) were overweight, and **42.8%** (28,066) 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 3: Medical Conditions of Adults With/Without Diabetes:  
Hoag Hospital Service Area, OCHNA 2004\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

**8.1% of adults 20+ statewide were diagnosed with diabetes in 2008.**  
[\(CDC\)](#)

### 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**

**Orange County surpassed the HP 2020 Objective in 2008.**

**Healthy People 2020 Objective:**

Reduce to **100.8** coronary heart disease deaths per 100,000 population by 2020.

There were **4,534** Orange County Heart Disease deaths in 2008. (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

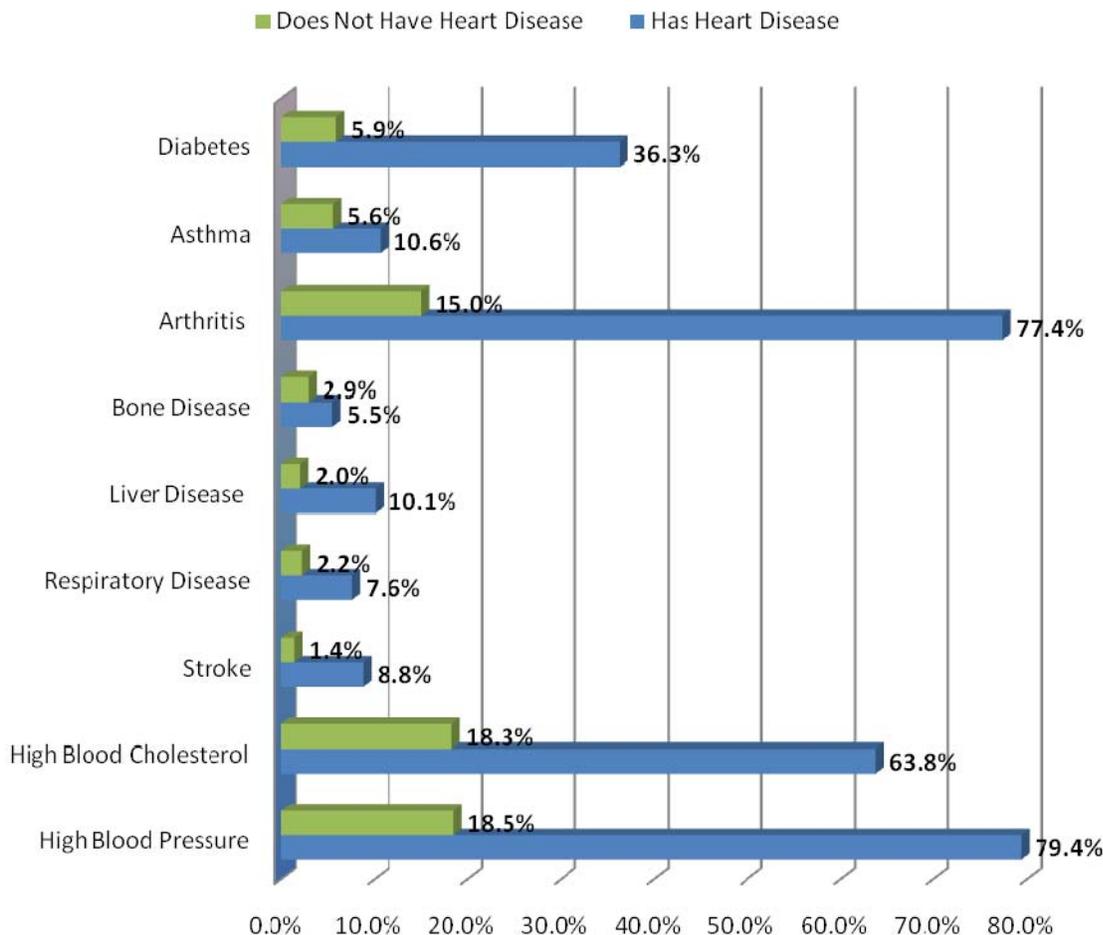
**Heart Disease**

In the Hoag Hospital service area, an estimated **5.8%** (49,304) 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=50.067, p<0.001). **11.7%** (15,005) of adults with annual household income less than \$25,000 have heart disease, compared to **4.1%** (22,925) of adults with annual household income of \$25,000 or more.
- There is also a relationship between weight status and heart disease (Chi-square=19.282, p<0.001). Of adults with a normal weight, **3.4%** (13,160) have heart disease, and **4.9%** (16,373) of adults who are overweight have heart disease. **25.7%** (19,216) 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 4: Medical Conditions of Adults With/Without Heart Disease: Hoag Hospital Service Area, OCHNA 2004\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

## Infectious Diseases

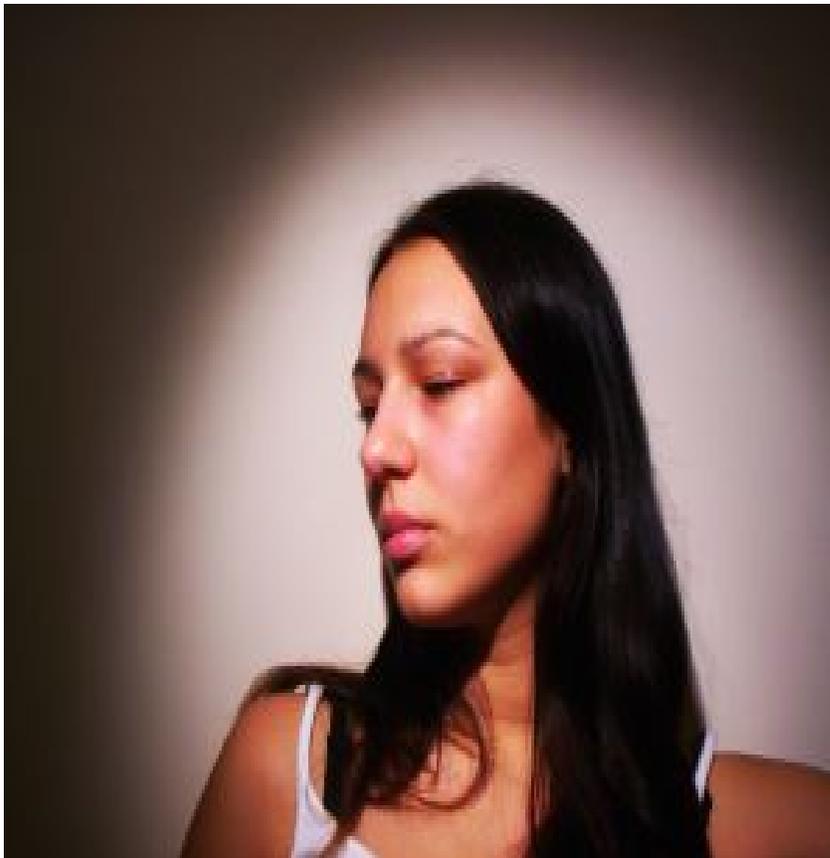
### HIV/AIDS

The 2008 [OCHCA Health Indicators Report](#) presented a countywide incidence rate of **17.95** per 100,000 population from 2005 to 2007 (**1,649** new cases). In the Hoag Hospital service area, the rate was **21.7** per 100,000 population from 2005 to 2007 (**948** new cases).

### Tuberculosis

Tuberculosis (TB) is highly infectious and has a great tendency to become chronic. Although the lung is the major site of disease, any organ can be affected. The 2008 [OCHCA Health Indicators Report](#) presented a countywide incidence rate of **7.46** per 100,000 population from 2005 to 2007 (**685** new cases). In the Hoag service area, the rate was **8.9** per 100,000 population from 2005 to 2007 (**388** new cases).

The following pages presents the incidences rates of HIV/AIDSs and TB Infections in Orange County by ZIP code from 2005 to 2007 from the OCHCA report.



### Healthy People 2020 Objective:

Reduce to **13** new case of AIDS per 100,000 persons 13+ years by 2020.

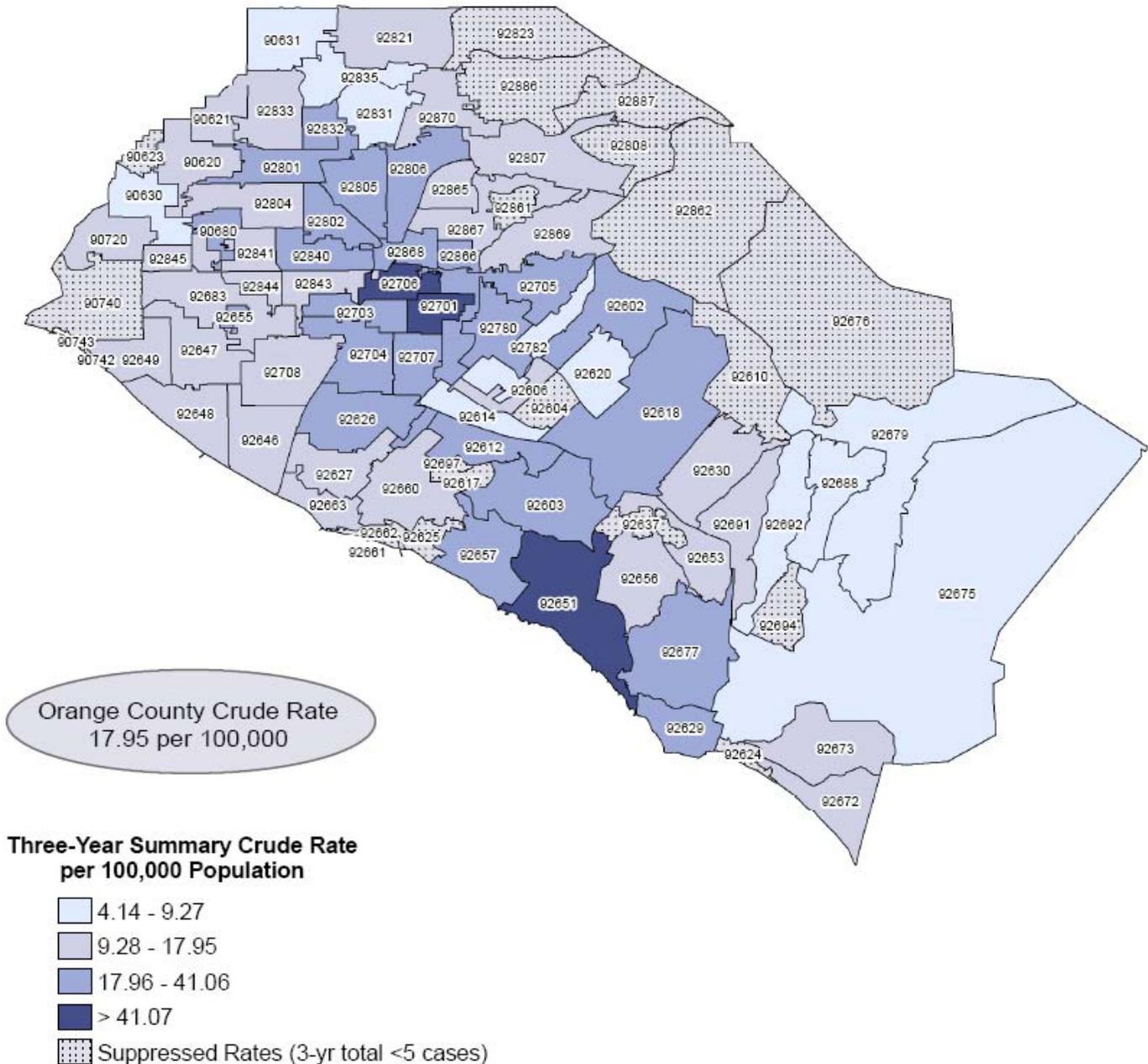
The Hoag service area **did not** meet the HP 2020 Objective.

### Healthy People 2020 Objective:

Reduce to **1.0** new case of TB per 100,000 population by 2020.

The Hoag service area **did not** meet the HP 2020 Objective.

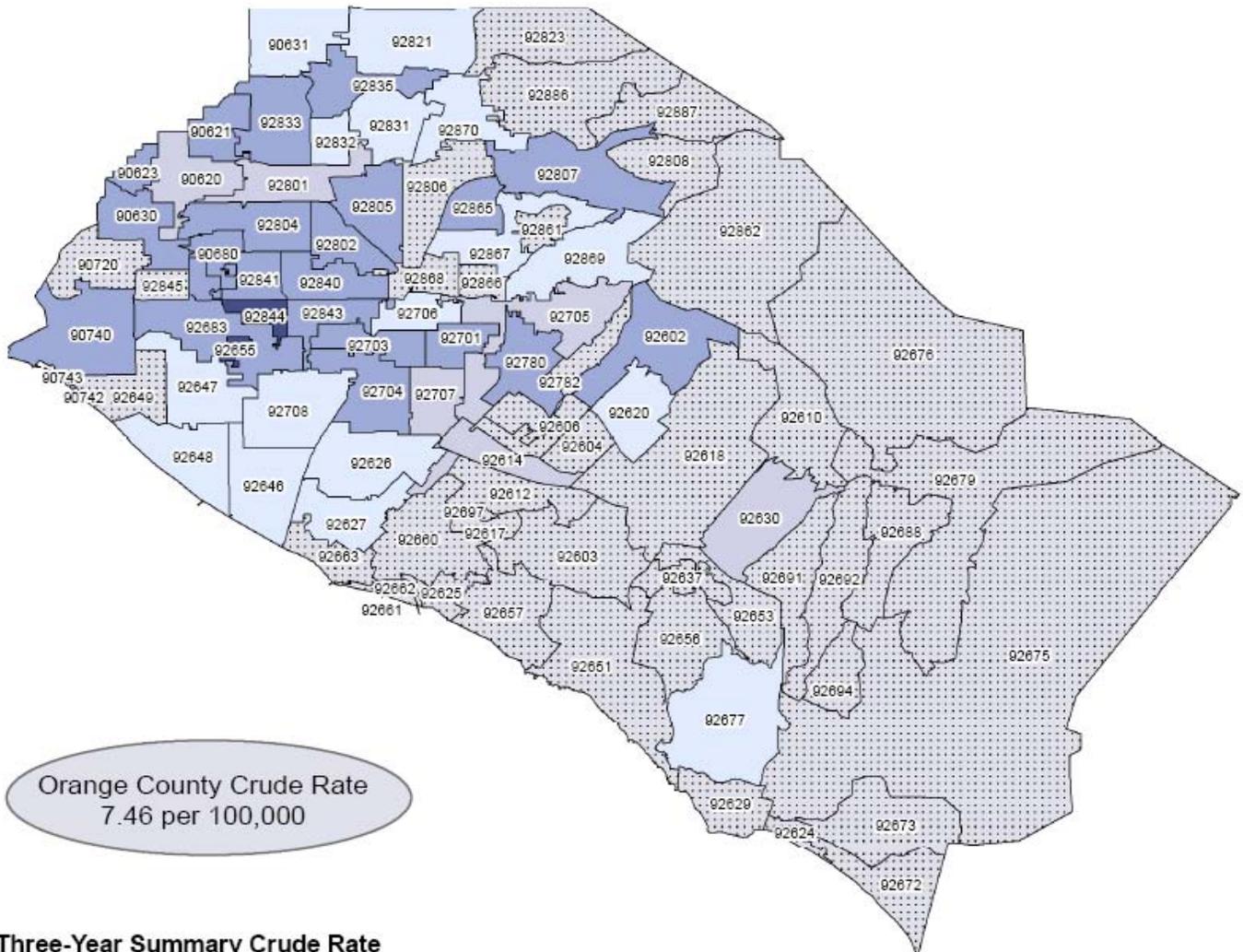
## Reported Incidence of HIV/AIDS Rates by ZIP Code of Residence (2005-2007)



2% of total HIV/AIDS cases (33/1649) with inaccurate ZIP codes or post office box addresses are not displayed on the map

Data Source: County of Orange, Health Care Agency, HIV/AIDS Surveillance, Data as of December 31, 2007

## Reported Incidence of Tuberculosis Rates by ZIP Code of Residence (2005-2007)



**Three-Year Summary Crude Rate  
per 100,000 Population**

- 2.42 - 6.55
- 6.56 - 7.46
- 7.47 - 30.29
- > 30.29
- Suppressed Rate (3-yr total < 5 cases)

0.29% of total tuberculosis cases (2/685) with post office box addresses or missing ZIP codes are not displayed on the map

Data Source: County of Orange Health Care Agency, Pulmonary Disease Services, unpublished data, March 2008

**33.080**  
**Total Discharges**  
**from Hoag Hospital**  
**in 2009.**  
[\(OSHDP 2009\)](#)

## Impact of Selected 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

[OSHDP](#) lists the discharge information of patients by their principal diagnosis for each hospital. The data for Hoag Hospital discharges are from 2009:

- There were **1,871** discharges of patients with a principal diagnosis of the **respiratory system**.
- There were **2,472** discharges of patients with a principal diagnosis of **cancer**.
- There were **658** discharges of patients with a principal diagnosis of an **endocrine system disease** (including diabetes).
- There were **3,633** discharges of patients with a principal diagnosis of a **circulatory system disease**.

### Hospital Costs

The [Medical Expenditure Panel Survey](#) (MEPS) provides the average cost of care at hospitals for various health conditions. In 2007:

- Nationwide, the average cost of care for an individual hospitalized for **chronic obstructive pulmonary disease or asthma** totaled **\$26,419**.
- Nationwide, the average cost of care for an individual hospitalized for **cancer** totaled **\$26,419**.
- Nationwide, the average cost of care for an individual hospitalized for a **heart condition** totaled **\$19,123**, and the average cost of care for an emergency room (ER) visit due to a heart condition totaled **\$1,389**.
- Nationwide, the average cost of care for an individual hospitalized for **diabetes mellitus** totaled **\$16,454**, and the average cost of care for an emergency room (ER) visit due to diabetes mellitus totaled **\$1,067**.

The Office of Statewide Health Planning and Development (OSHDP) collects data on the average length of stay and the charges per day for selected conditions at Orange County short-stay hospitals. Analysis of the [2006 dataset](#) is presented in the 2008 [OCHCA Health Indicators Report](#):

- The average length of stay at an Orange County short stay hospital for a patient with a first-listed diagnosis of **asthma** was **3.4** days; the charges per day were **\$7,748**.
- In Orange County, the average length of stay at a short stay hospital for a patient with a first-listed diagnosis of **malignant cancer** was **6.7** days; the charges per day were **\$14,112**.
- In Orange County, the average length of stay at a short stay hospital for a patient with a first-listed diagnosis of **diabetes** was **4.7** days; the charges per day were **\$8,786**.
- In 2006 the average length of stay at an Orange County short stay hospital for a patient with a first-listed diagnosis of **heart disease** was **4.1** days; the charges per day were **\$12,241**.

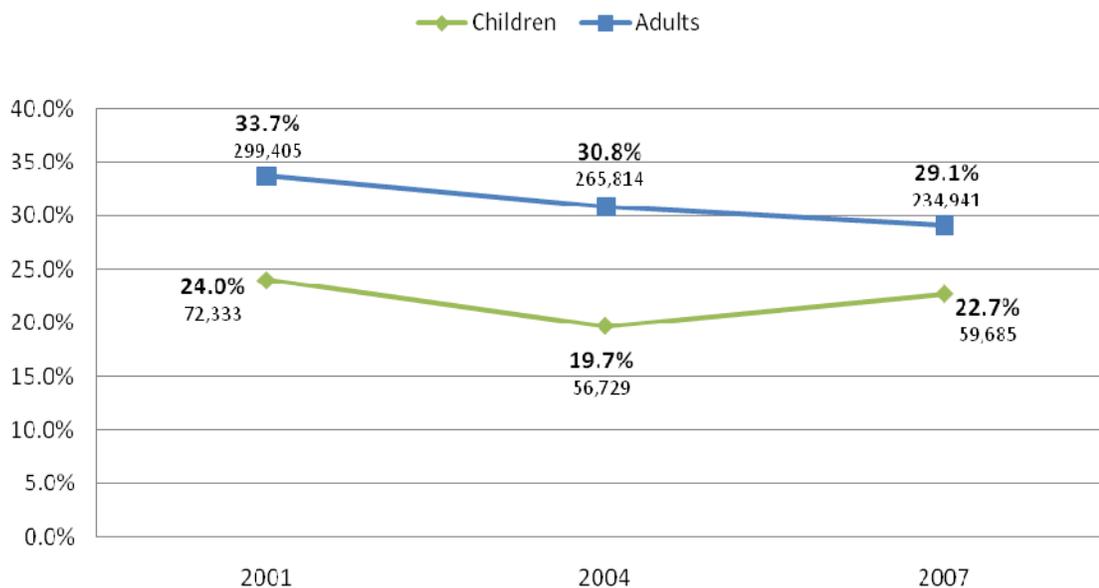
# Dental Care Access and Utilization

The US Surgeon General Report on Oral Health highlights that the health of the mouth may reflect the health condition of the body (such as Vitamin B deficiency). This emphasizes the fact that oral health is closely linked to the overall health of an individual.

## Access to Dental Coverage

Dental coverage can help offset the costs associated with preventative care, which helps detect early signs of oral health problems, prevent further damage, and, in some cases, reverse oral problems. The figure below examines the changes in dental health coverage status among children (0-17 years) and adults (18+ years) in the service area of Hoag Hospital.

**Figure 1: Trend of Children (0-17) and Adults (18+) With No Dental Health Coverage: Hoag Service Area, OCHNA 2001-2007**



- In 1998, **34.2%** (681,365) of adults countywide did not have dental coverage (OCHNA 1998).
- In the Hoag Hospital service area, the percentage of adults with no dental coverage gradually decreased over the survey years. In 2001, **33.7%** of adults did not have dental coverage. This percentage dropped to **29.1%** in 2007.
- The percentage of children with no dental coverage fell from 2001 to 2004, but then rose again from 2004 to 2007.
- While we do not have data on the percent of children and adults that currently lack dental coverage, it is expected that this proportion has too increased. Dental coverage benefits are usually 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 dental 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 dental coverage in the same year.

**OC-Wide Trend of Individuals Lacking Dental Coverage:**  
[\(OCHNA 2007\)](#)

**Children 0-17 Years**

**24.3%**  
**2001**

**19.3%**  
**2004**

**18.7%**  
**2007**

**Adults 18+ Years**

**33.2%**  
**2001**

**28.8%**  
**2004**

**30.2%**  
**2007**

**OC Individuals Without Dental Coverage Within Annual Household Income:** [\(OCHNA 2007\)](#)

**Children 0-17 Years**

- 3.1%  
Less than \$10,000
- 9.2%  
\$10,000 to \$24,999
- 23.1%  
\$25,000 to \$49,999
- 14.4%  
\$50,000 to \$74,999
- 17.7%  
\$75,000 to \$99,000
- 32.5%  
\$100,000 or more

**Adults 18+ Years**

- 51.1%  
Less than \$10,000
- 63.5%  
\$10,000 to \$24,999
- 33.4%  
\$25,000 to \$49,999
- 20.0%  
\$50,000 to \$74,999
- 17.1%  
\$75,000 to \$99,000
- 17.9%  
\$100,000 or more

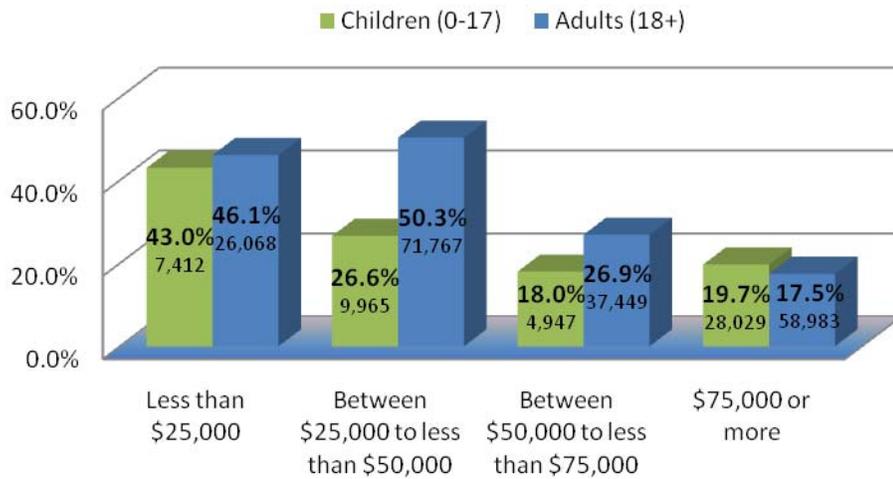
## Demographics of Children and Adults without Dental Coverage

The OCHNA 2007 survey estimated that **29.1%** (234,941) of adults in the Hoag Hospital service area did not have dental coverage, and **22.7%** (59,685) of children did not have dental coverage. The following figures will provide the demographic breakout of adults with no dental coverage by income category, race/ethnicity, and age group. Children with no dental coverage will be broken out by income, but not by race/ethnicity or age group because there were no significant differences across those categories.

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

The following figure breaks out children and adults with no dental coverage *within* income categories.

**Figure 2: Children and Adults with No Dental Coverage Within Income Categories: Hoag Service Area, OCHNA 2007\***



Children: Chi-square=8.557, p=0.036  
 Adults: Chi-square=81.012, p<0.001

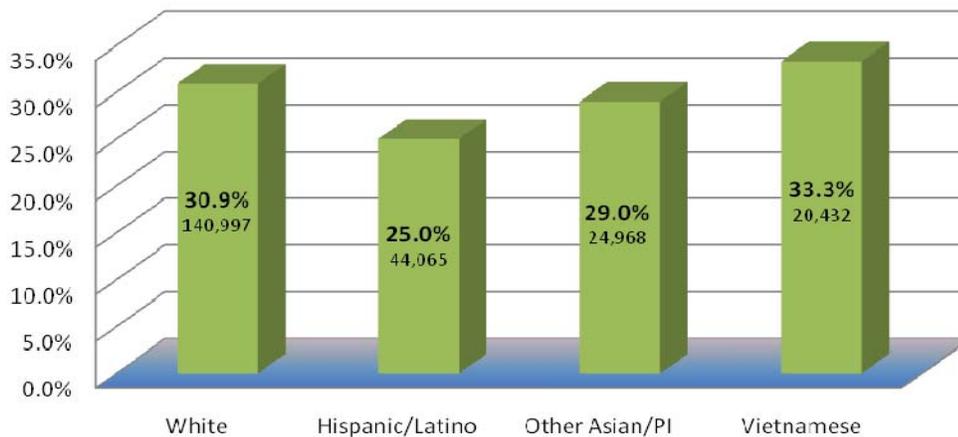
\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- As income levels increase, the rates of dental coverage also increase. Adults in lower income categories are more likely to not have dental coverage.
- Children in households with lower income are more likely to not have dental coverage.

### Race: Adults (18+)

The following figure shows adults with no dental coverage *within* race/ethnicity.

**Figure 3: Adults (18+) with No Dental Coverage *within* Race/Ethnicity: Hoag Service Area, OCHNA 2007\***



Chi-square=17.4, p=0.004

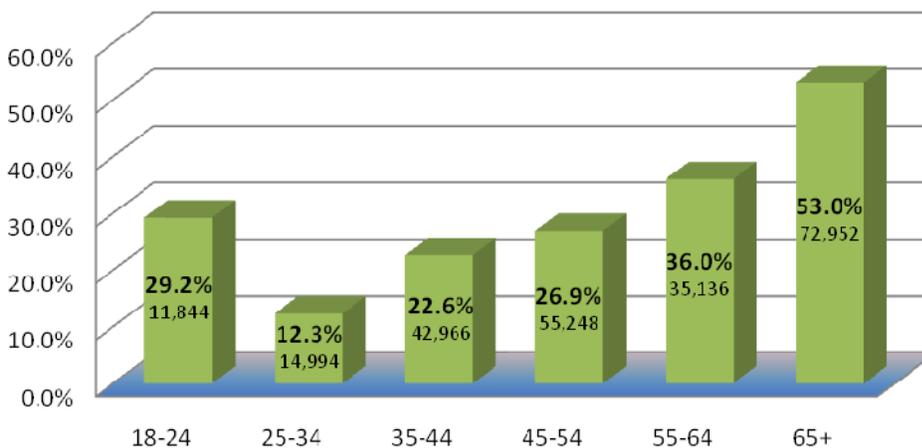
\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Vietnamese had the highest percentage of adults with no dental coverage compared to the other ethnic groups.

### Age: Adults (18+)

The following figure compares the percentages of adults with no dental coverage within age groups.

**Figure 4: Adults (18+) with No Dental Coverage *within* Age Group: Hoag Service Area, OCHNA 2007\***



Chi-square=30.285, p<0.001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- More than half (**53.0%**) of seniors (65+) in the Hoag Hospital service area had no dental coverage. Adults in the pre-retirement age group (ages 55-64) also had low rates of dental coverage. Over **one in three (36.0%)** pre-retirement adults did not have dental coverage.
- Approximately **one in three** young adults (18-24) did not have dental coverage.

**OC Adults 18+ Without Dental Coverage Within Age: (OCHNA 2007)**

**36.0%**  
18-24 Years

**21.8%**  
25-34 Years

**22.4%**  
35-44 Years

**27.0%**  
45-54 Years

**31.9%**  
55-64 Years

**53.2%**  
65+ Years

**Healthy People 2020 Objective:**

Increase to 49% the percent of individuals 2+ years who use the oral health care system each year.

The Hoag service area **did meet** the HP 2020 Objective for both children and adults.

13.7% of OC children 0-17 and 24.3% of adults 18+ had not been to a dentist in the past year. (OCHNA 2007)

8.8% of OC children under 17 could not get needed dental care due to cost. (CHIS 2007)

**Dental Health Utilization and Prevention Practices Children (0-17)**

The [American Dental Association](#) recommends that a child should be taken to a dentist as soon as he or she turns one or as soon as the first tooth appears. According to the OCHNA 2007 survey:

- 14.8% (39,130) of children in the Hoag Hospital service area had never been to the dentist, a slightly larger proportion than the whole county. The majority of these children, or 82.8% (32,389), were ages 0 to 5.
- Of those children who visited the dentist, the majority of them, or 92.0% (207,137), visited the dentist within the previous year. 87.4% (179,339) visited the dentist for a routine check-up and cleaning.
- 98.2% (234,949) of children in the Hoag Hospital service area brushed their teeth daily.

**Adults (18+)**

Maintaining good dental health is as important for adults as it is for children. Adults have been exposed to bacteria that cause decay for far longer than children, and may also be susceptible to more harmful diseases like oral cancer. In addition, the aging process may cause the oral structures to weaken due to years of use.

**Table 1: Top Four Main Reasons for Visiting a Dentist other than Routine Check-Up/Cleaning: Hoag Service Area, OCHNA 2007\***

Main Reason	Percent	Population Estimate
Crown or Bridge	24.7%	51,709
Filling, Cavity	24.6%	51,659
Exam	21.2%	44,448
Root Canal	9.8%	20,642

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- 76.3% (611,266) of adults ages 18+ in Hoag’s service area visited a dentist within the last year for a dental cleaning or a routine check-up.
- 34.4% (210,058) of adults who visited a dentist within the last year also went for reasons other than just a cleaning/ routine check-up.

23.7% (190,205) of adults in the Hoag Hospital service area had not visited a dentist within the past year. The reasons why are provided below.

**Table 2: Top Five Reasons for Not Visiting a Dentist in the Past 12 Months: Hoag Service Area, OCHNA 2007\***

Reason	Percent	Population Estimate
Cost	26.8%	48,896
No Reason to Go, Don’t Need it, No Pain	20.8%	37,893
Other Priorities (Work, Family)	10.6%	19,348
Fear, Apprehension, Nervousness, Pain, Dislike Going	9.7%	17,667
No Teeth	5.2%	9,512

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

Of the adults who did not visit a dentist for a routine check-up/cleaning within the previous year, 53.7% (100,618) had dental coverage, so having coverage does not necessarily translate to high rates of dental care utilization.

## Dental Care Costs as a Barrier to Utilization

Overall, **26.7%** (214,098) of adults in the Hoag Hospital service area could not get needed work done (e.g., crowns, bridges, fillings, cavities, root canal) because of cost, according to the OCHNA 2007 survey.

- Of adults who could not afford to get needed dental work done, **37.3%** of adults did not have coverage, while **62.7%** did have coverage.
- **35.2%** (79,559) of adults without dental health coverage could not get needed dental work because of cost.
- **71.4%** (573,100) of adults in Hoag's service area did have dental coverage. Of those with coverage though, many still avoided getting needed dental work. Of those **with** dental coverage, **23.4%** (133,476) still could not get needed dental work because of cost, pointing to the inadequacy of dental coverage in covering needed services.

## Impact of Unmet Dental Health Needs

Untreated dental disease can seriously impact a person's health, causing unrelieved pain and discomfort that interferes with daily routine, and even contributing to absences from work and school. Dental caries is the most common dental disease, also known as tooth decay or cavity. Many believe that dental cavities are a result of decaying food sitting on the teeth, but in actuality, dental caries is an infectious, transmissible, and progressive disease wherein bacterial processes damage hard tooth structure. If left untreated, the disease can lead to pain, tooth loss, infection, and death in severe cases.

- According to the OCHNA 2007 survey, **2.6%** (20,767) of adults in the Hoag service area missed work due to untreated dental problems.



**7.5% or 43,000**  
**OC children 0-17**  
**missed one or more**  
**days of school in**  
**the past year due to**  
**dental problems.**

[\(CHIS 2007\)](#)

*“The energy of the mind is the essence of life.”*  
—Aristotle

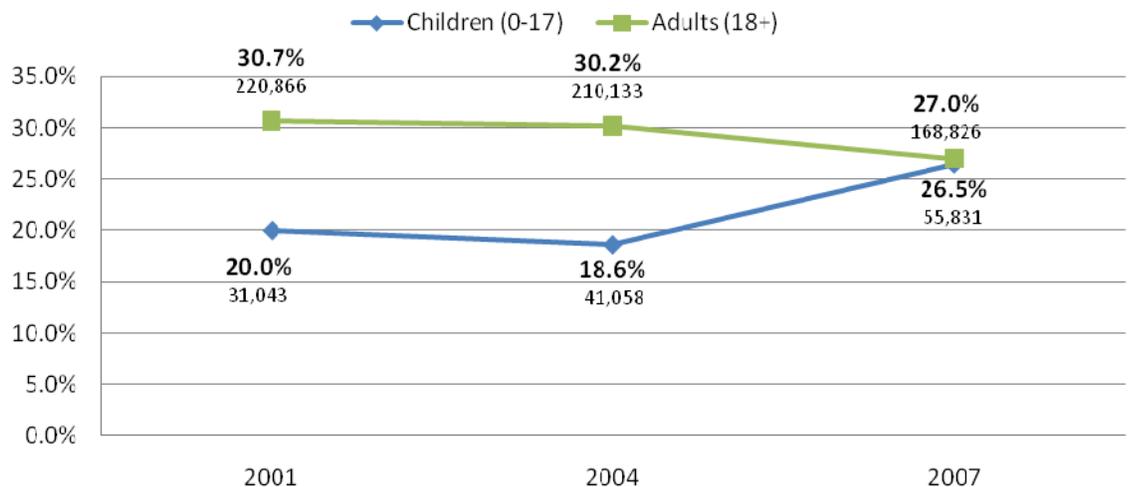
# Mental Health Access and Utilization

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. This misunderstanding of and stigma associated with mental illness may discourage individuals from seeking treatment, leaving those who need help to go without help.

## Access to Mental/Behavioral Health Coverage

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

**Figure 1: Trend of Children and Adults Without Mental Health Coverage: Hoag Service Area, OCHNA 2001-2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- The percentage of adults with *no* mental health coverage has been decreasing over the years and fell sharply from 2004 to 2007, experiencing a percentage decrease of **10.6%**. This may be correlated with the fact that the rate of health care coverage among adults also increased from 2004 to 2007, as mental health coverage is usually part of the larger health coverage plan.
- The percentage of children with *no* mental health coverage experienced a large increase from 2004 to 2007, growing by **42.5%**. This correlation may be connected to the fact that the percent of children in the Hoag service area without health care coverage decreased from 2004 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.

### OC-Wide Trend of Individuals Lacking Mental/Behavioral Coverage: (OCHNA 2007)

#### Children 0-17 Years

**23.8%**  
2001

**20.3%**  
2004

**25.3%**  
2007

#### Adults 18+ Years

**30.4%**  
2001

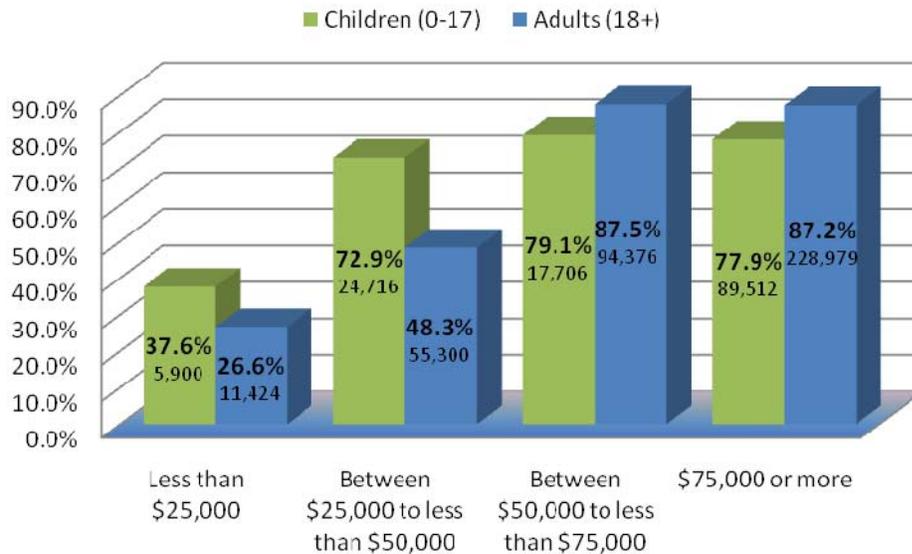
**29.5%**  
2004

**28.5%**  
2007

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

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

**Figure 2: Children (0-17) and Adults (18+) with Mental Health Coverage *Within* Income Categories: Hoag Service Area, OCHNA 2007**



Children: Chi-square=35.465 p<0.001

Adults: Chi-square=163.1, p<0.001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Children in households with annual household income of \$25,000 or more are more likely to have coverage for mental health than children in households with annual income of less than \$25,000.
- Adults in higher income categories have much higher rates of mental health coverage than those in lower income categories. Over **87%** of adults who had a household annual income of \$50,000 or more in Hoag Hospital service area had mental health coverage, whereas only **26.6%** of adults who had an annual household income of less than \$25,000 had coverage for mental health.

### Percent of OC Individuals Without Mental/Behavioral Coverage *Within* Household Income Level:

#### Children 0-17 Years

- 76.7%  
Less than \$10,000
- 48.0%  
\$10,000 to \$24,999
- 35.6%  
\$25,000 to \$49,999
- 26.6%  
\$50,000 to \$74,999
- 18.9%  
\$75,000 to \$99,000
- 15.6%  
\$100,000 or more

#### Adults 18+ Years

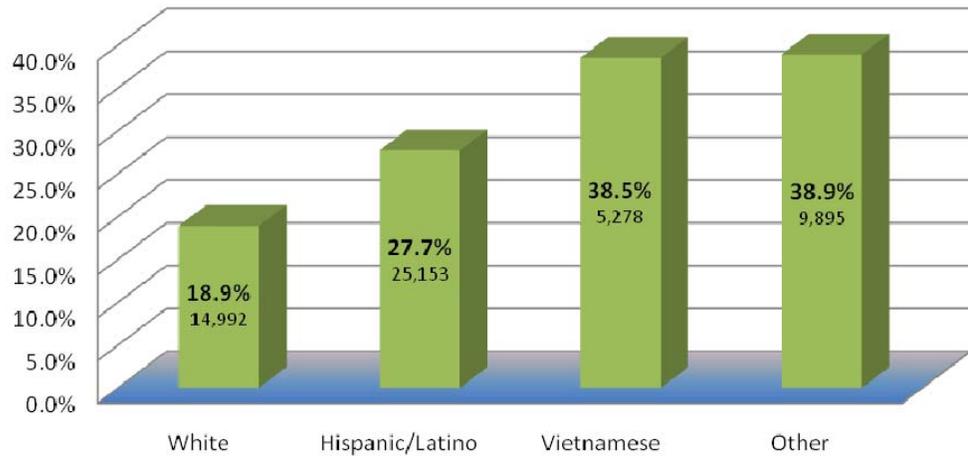
- 61.9%  
Less than \$10,000
- 79.2%  
\$10,000 to \$24,999
- 46.5%  
\$25,000 to \$49,999
- 19.3%  
\$50,000 to \$74,999
- 11.7%  
\$75,000 to \$99,000
- 11.6%  
\$100,000 or more

**55,831**  
 The number of children 0-17 in the Hoag service area without mental/behavioral 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 3: Children (0-17) with No Mental Health Coverage within Race/Ethnicity: Hoag Service Area, OCHNA 2007\***



Chi-square=48.289, p<0.001

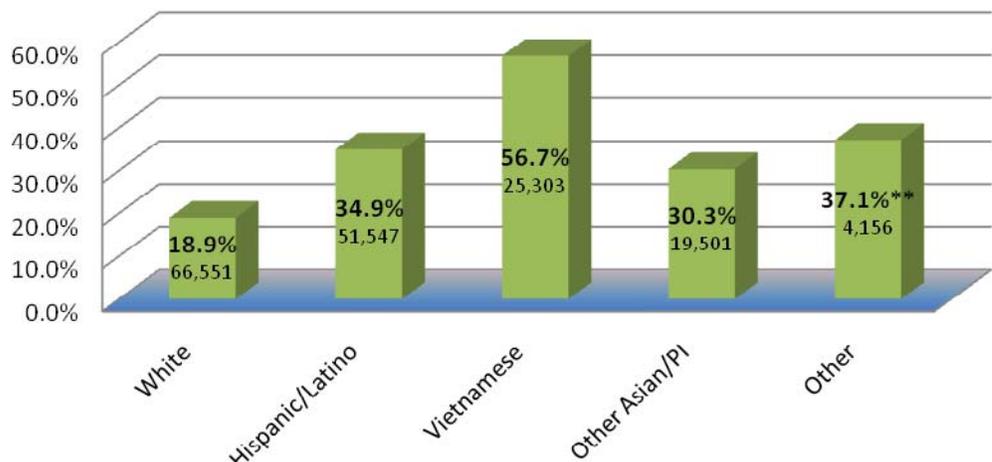
\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Vietnamese and those in the Other category (other Asian/Pacific Islanders, Blacks, and other ethnic groups) are the ethnicities with the highest percentages of children who go without mental health coverage.
- Over 1 out of 4 Hispanic children in the service area did not have mental health coverage in 2007.

**168,862**  
 The number of adults 18+ in the Hoag service area without mental/behavioral health coverage.  
 (OCHNA 2007)

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

**Figure 4: Adults (18+) with No Mental Health Coverage within Race/Ethnicity: Hoag Service Area, OCHNA 2007\***



Chi-square=120.0, p<0.001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\* The number of responses in the Other category are too small to produce statistically reliable population estimates.

- **56.7%** of Vietnamese adults did not have mental health coverage.
- There were also high percentages of Hispanics/Latinos and other Asians/Pacific Islanders with no mental health coverage.

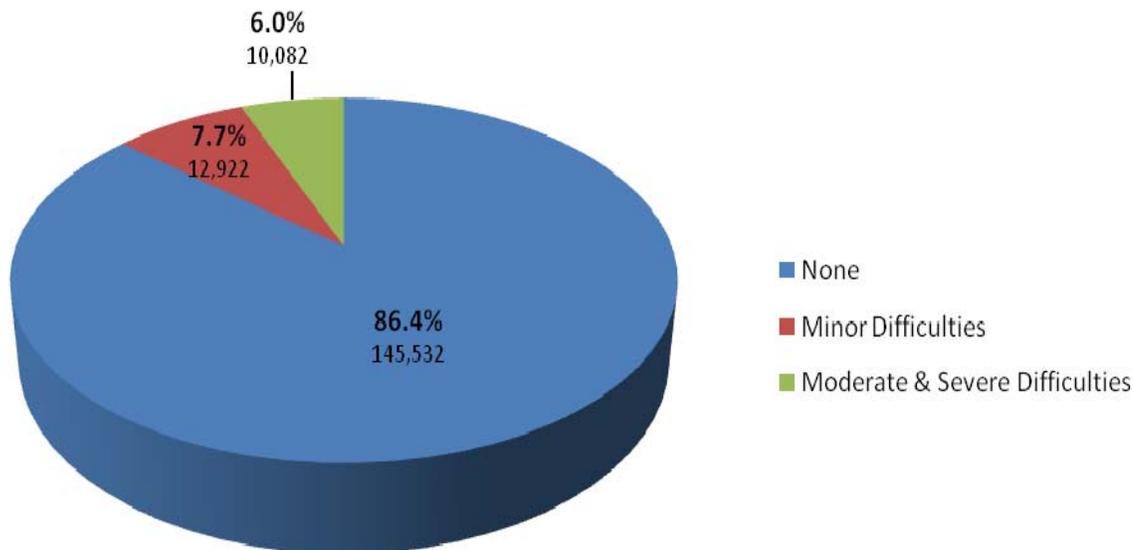
## Mental Health of Children (6-17)

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

In the Hoag Hospital service area, the 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 5: Mental/Behavioral Health Difficulties of Children (6-17) reported by Parents: Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **13.6%** (23,003) 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, **8.1%** (6,486) of parents reported that their child had problems with his/her emotions, concentration, behavior, or ability to get along with others. **24.6%** (4,438) of parents of overweight children indicated the same [Chi-square=12.4, p=0.006].

**5.9% or 30,939** of OC children 6-17 years were diagnosed with a mental or behavioral disorder. [\(OCHNA 2007\)](#)

**Mental Health Diagnosis of 5.9% of OC Children:** [\(OCHNA 2007\)](#)

**39.0% ADHD**

**18.4% Mood Disorder**

**13.6% Autism**

**8.4% Anxiety Disorders**

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

**30.9% A Great Deal**

**44.1% A Little**

**25.1% Not At All**

**8.3% of OC Teens (12-17 years) received psychological or emotional counseling in the previous year.**  
(CHIS 2007)

**9.0% of OC adults 18+ experienced psychological distress during the past year, compared to 8.5% of adults statewide.**  
(CHIS 2007)

**Statewide Mean Number of Poor Mental Health Days for Adults 18+:** (CDC)

**3.2 days 2000**

**3.5 days 2004**

**3.7 days 2008**

## Commonly Diagnosed Mental and Behavioral Disorders

An estimated **7.2%** (12,013) of children in the Hoag Hospital service area have been diagnosed with a mental or behavioral disorder. **43.9%** (5,210) of the parents/guardians of these children reported that their child's symptoms placed a great burden on the family.

The most common diagnosis in the service area is for ADD/ADHD, comprising **37.1%** (5,342) of problems reported by parents during the OCHNA 2007 survey.

## Seeking Mental Health Care for Children

### Primary Care

In the Hoag Hospital service area, an estimated **9.2%** (15,444) 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.

### Schools

In the Hoag Hospital service area, an estimated **15.0%** (25,343) 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, **27.1%** (4,191) were prescribed medication for their difficulties.

**45.3%** (7,030) 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.

## Mental Health of Adults (18+)

### Poor Mental Health Days

# of Poor Mental Health Days	Percent	Population Estimate
0	81.1%	646,463
1-6	11.7%	93,607
7-13	2.1%	16,518
14-29	2.4%	18,815
All 30	2.8%	22,047

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **9.5%** (76,343) of adults in the 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.
- **18.9%** (150,987) of adults in the service area of Hoag Hospital had at least one day of poor mental health in the past 30 days.

### Unmet Mental Health Needs & Barriers to Care

In the Hoag Hospital service area, **21.9%** (23,290) 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.

## Personal Concerns about Mental and Emotional Well-Being

In the Hoag Hospital service area, **16.3%** (127,093) of adults expressed concerns about their mental, emotional, or behavioral problems in the previous year.

- **31.0%** of them were told by a doctor or other health care provider to seek specialty mental health care.
- Only **11.5%** (14,763) of adults who were concerned about their mental health problems actually sought professional help.

**35.7%** (45,524) of adults who had concerns about their mental health problems considered their problems severe enough to seek professional help, yet only **29.6%** (12,452) of these adults sought professional help.

Of adults who expressed concerns about their mental health in the previous year, **34.1%** (52,952) were still bothered or concerned about their emotional, mental, and/or behavioral problem, but only **33.3%** (17,613) of those adults who still had concerns were currently receiving treatment.

## Commonly Diagnosed Mental Disorders

In the service area of Hoag Hospital, **7.4%** (59,391) of adults reported that they were diagnosed with emotional, mental, and behavioral health disorders by a doctor or other health care provider. **20.7%** (11,860) of them have never received treatment for their condition. The following table presents the most common diagnoses. Some adults indicated more than one condition.

Table 2: Commonly Diagnosed Mental Disorders: Hoag Service Area, OCHNA 2007*		
Type of Disorder	Percentage	Estimated Value
Major Depressive Disorder	26.5%	14,891
Chronic, Mild Depressive Disorder	24.1%	13,538
Generalized Anxiety Disorder (GAD)	20.0%	11,217
Estimated Total Number of Disorders	100.0%	56,186

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **50.6%** (28,429) of the diagnoses were depression, both major and chronic.

**16.5% of OC adults 18+ felt they needed help for emotional/mental health problems or use of alcohol/drug.**  
[\(CHIS 2007\)](#)

**6.8% or 158,971 of OC adults 18+ were diagnosed with a mental or behavioral disorder.**  
[\(OCHNA 2007\)](#)

**Mental Health Diagnosis of 6.8% of OC Adults:**  
[\(OCHNA 2007\)](#)

**49.4% Depression (Major and Chronic)**

**16.5% Anxiety Disorders**

**6.7% Bipolar Disorders**

**2.5% Schizophrenia**

## Healthy People 2020 Objective:

Increase to **64.6%** the percent of adults 18+ years with serious mental illness (SMI) who receive treatment by 2020.

Of the 158,971 (6.8%) of adults, **22.1%** did not receive treatment. ([OCHNA 2007](#))

**4.6%** or **138,272** of OC 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.

## Seeking Mental Health Care

In the Hoag service area, **10.9%** (88,091) of adults had a health care provider express concerns about their mental health and suggest consultation with a mental health professional.

**5.2%** (42,414) of all adults in the service area sought professional help *within the previous year*.

- **30.8%** (13,056) of these adults sought help from their family doctor.
- **32.0%** (13,564) sought help from a psychiatrist, and **13.3%** (5,643) sought help from a psychologist.



## 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 Orange County.

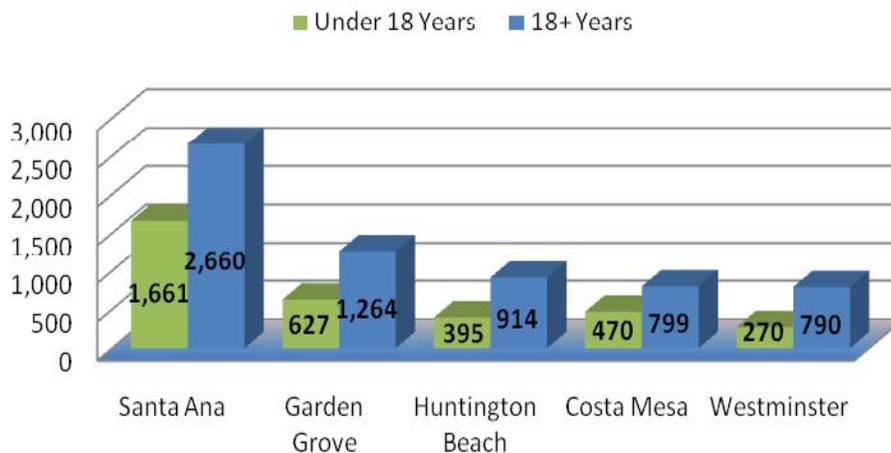
Table 3: Top 10 Primary Mental Health Diagnosis of Clients Receiving Services from Behavioral Health Services, Orange County FY 2009-10			
Diagnosis	Less than 18 Years	18+ Years	Total
Disruptive/Impulsive	4,106	422	4,528
Substance Related	390	3,113	3,503
Depression - Other	1,686	1,732	3,418
Adjustment 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: Orange County Health Care Agency, Behavioral Health Services

- More children and youth were primarily diagnosed with *disruptive/impulsive* and *adjustment disorders* than adults 18+ years.

The figure below presents the five cities in the Hoag Hospital service area 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 6: Top 5 Cities of Residence of Behavioral Health Services Clients, Hoag Service Area, FY 2009-10**



Source: Orange County Health Care Agency, Behavioral Health Services

- **27.2%** (14,582) of all BHS clients resided in Santa Ana, Garden Grove, Huntington Beach, Costa Mesa, and Westminster in FY 2009-10.

**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**

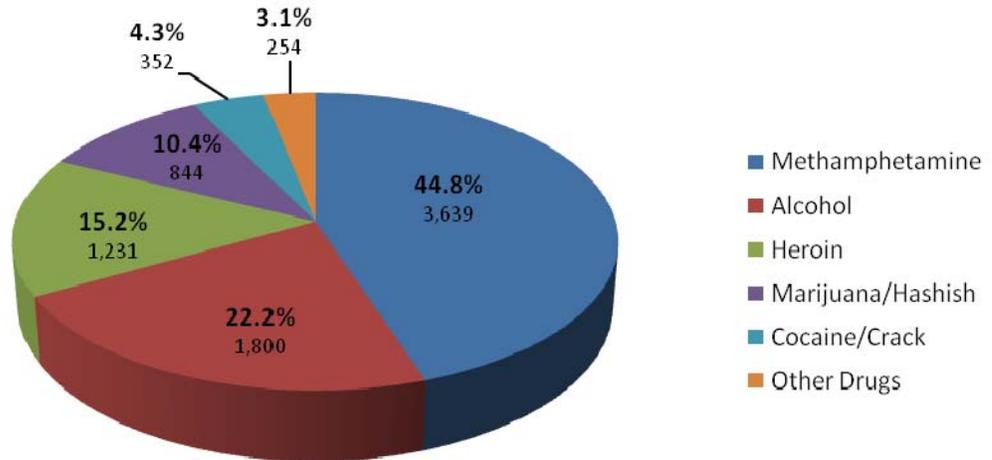
**7,944**  
**The number of homeless BHS clients (all ages).**  
[\(BHS FY 2009-10\)](#)

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

## Alcohol and Drug-Related Treatment Services—CalOMS

CalOMS (California Outcomes Measurement System) Treatment is California's data collection and reporting system of alcohol or drug-related admissions to publicly-funded or state-licensed recovery and treatment services. The data below presents the counts of individuals in Orange County receiving alcohol and drug-related treatment services from January to August 2010; this totaled **8,120**.

**Figure 7: Counts of Alcohol- and Drug-Related Treatment Services Provided to Individuals: Orange County, January to August 2010**



Source: Orange County Health Care Agency, Behavioral Health Services

- Almost **45%** of treatment services in CalOMS concerned Methamphetamine abuse.

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

Table 4: Top 5 Cities of Residence with the Highest Number of CalOMS Counts: Hoag Service Area, January to August 2010	
City	Number of Admissions
Santa Ana	1,090
Garden Grove	383
Huntington Beach	366
Costa Mesa	330
Westminster	208

Source: Orange County Health Care Agency, Behavioral Health Services

- **29.3%** of treatment services in CalOMS were provided to individuals living in Santa Ana, Garden Grove, Huntington Beach, Costa Mesa, and Westminster from January to 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

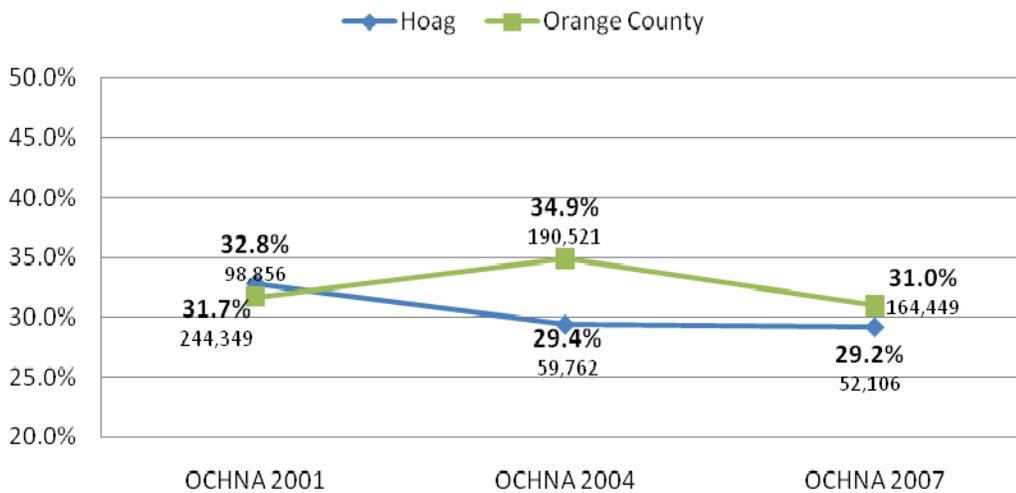
# Obesity, Nutrition, and Exercise

*“Eat to live, not live to eat.”*  
—Benjamin Franklin

## Scope of the Obesity Crisis

Obesity has become a priority public health issue because it seems that children and adults are getting heavier. 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 service area of Hoag Hospital as well as the entire county. Among the Hoag Hospital service area, it appears that the rate of *at risk of overweight/overweight children* has in fact been declining from 2001 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 At Risk of Overweight/Overweight Children (2-17): OCHNA 2001-2007\***



\*Child weight status was not reported for 1998 because height and weight data was not collected; OCHNA population estimates are based on State of California, Department of Finance population estimates

The percentage of children who are at risk of being overweight or who are overweight in the service area decreased substantially from 1998 to 2004 and 2007.

**Table 1: Trend of Overweight/Obese Adults (18+): OCHNA 1998-2007\***

Area	1998	2001**	2004	2007	% Change from 1998-2007
Hoag Hospital Service Area	41.9% 228,727	-	51.6% 416,731	49.4% 342,000	17.9% increase
Orange County	44.5% 886,571	-	51.8% 1,079,511	53.5% 1,069,198	20.2% increase

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

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

- In 2004, **51.6%** (416,731) were overweight or obese in the Hoag Hospital service area, nearly an equal percentage to the county. In 2007, the percent of overweight/obese adults in the Hoag Hospital service area fell to **49.4%**, a percentage decrease of **4.3%**. Overall, there has been an increase from 1998 to 2007 for the service area and Orange County, because many of the public health efforts to combat obesity have concentrated on children rather than adults, signaling a need to target this population.

**Healthy People 2020 Objective**

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

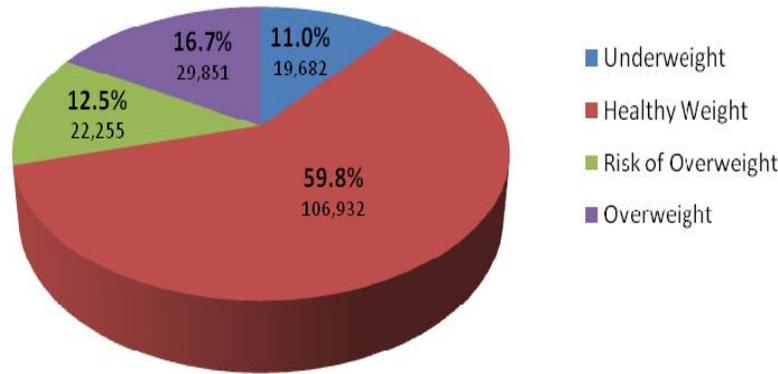
**Healthy People 2020 Objective**

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

**Weight Status of Children (2-17) and Adults (18+)**

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 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), At 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): Hoag Hospital Service Area, OCHNA 2007\*



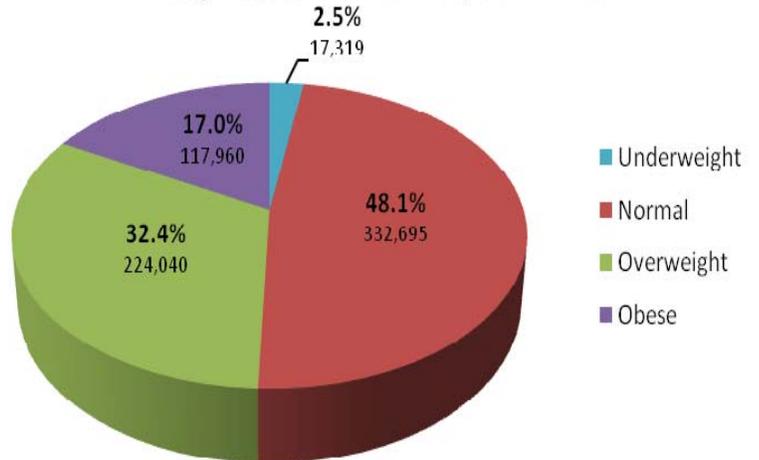
- The Hoag Hospital service area falls short of the Healthy People 2020 Objective of **14.6%** of children and adolescents who are overweight; **16.7%** (29,851) were overweight in 2007, **2.1** percentage points *more* than the HP 2020 Objective.

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

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.

- 17.0%** of adults in the service area were obese in 2007, very similar to the county estimate; **17.3%** of adults in all of Orange County were obese.
- The service area meets the Healthy People 2020 target for reducing the proportion of adults who are obese to 15%.

Figure 3: Weight Status of Adults (18+): Hoag Hospital Service Area, OCHNA 2007\*



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

## 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 Hoag Hospital service area.

Table 2: Weight Status of Children and Adults <i>Within Age Groups:</i> Hoag Service Area, OCHNA 2007*				
Children (2-17 Years)				
Weight Status	2-5 45,294	6-11 49,374	12-17 84,050	
Risk of Overweight	10.1%**	15.9%	11.7%	
Overweight	26.1%	19.8%	9.9%	
Children: Chi square=52.975, p<0.001				
Adults (18+ Years)				
Weight Status	18-34 158,478	35-44 149,033	45-64 244,290	65+ 131,053
Overweight	25.3%	32.8%	35.3%	32.4%
Obese	15.8%	16.3%	15.3%	23.3%
Adults: Chi square=21.689, p=0.01				

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.  
\*\*Percent and population estimate is statistically unstable due to the small number of survey responses.

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

### Gender

There are also notable differences of weight status within gender in the Hoag Hospital 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> Hoag Service Area, OCHNA 2007*				
	Children (2-17)		Adults (18+)	
	Female	Male	Female	Male
Healthy Weight	96,763 62.7%	81,955 56.5%	319,459 59.4%	372,556 38.4%
Overweight or Obese	22.6%	36.9%	37.1%	60.0%
Children: Chi square=12.339, p=0.002 Adults: Chi square=23.902, p<0.001				

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

### Race/Ethnicity

- White and Hispanic/Latino are the two largest race/ethnic groups in the Hoag Hospital service area. **30.9%** (19,201) of Hispanic/Latino children (2-17) were overweight or at risk of overweight, compared to **27.6%** (20,973) of white children (2-17).
- **53.3%** (212,786) of white adults and **50.7%** (71,348) of Hispanic/Latino adults in the Hoag Hospital service area were determined to be overweight or obese.

**OC Children At Risk of Overweight/Overweight:**  
[\(OCHNA 2007\)](#)

**Within Age**  
**40.3%**  
**2-5 Years**

**38.5%**  
**6-11 Years**

**21.6%**  
**12-17 Years**

**Within Race/Ethnicity**  
**26.4%**  
**White**

**35.6%**  
**Hispanic/Latino**

**23.4%**  
**Other Asian or PI**

**36.1%**  
**Vietnamese**

**OC Adults Overweight/Obese:**  
[\(OCHNA 2007\)](#)

**Within Age**  
**26.5%**  
**18-24 Years**

**51.5%**  
**25-44 Years**

**59.4%**  
**45-64 Years**

**57.5%**  
**65+ Years**

**Within Race/Ethnicity**  
**55.8%**  
**White**

**60.6%**  
**Hispanic/Latino**

**30.3%**  
**Other Asian or PI**

**25.7%**  
**Vietnamese**

**OC Children—  
Overweight/Obese  
Within Income:**  
[\(OCHNA 2007\)](#)

**Less than \$25,000**  
**56.5%**  
**\$75,000 or more**  
**28.5%**

**OC Adults—  
Overweight/Obese  
by Income:**

**Less than \$25,000**  
**54.1%**  
**\$75,000 or more**  
**53.0%**

**OC Diabetes Rates:**  
[\(CHIS 2007\)](#)

**Healthy Weight  
Adults 3.2%**

**Obese Adults 9.9%**

**OC Heart Disease  
Rates:** [\(CHIS 2007\)](#)

**Healthy Weight  
Adults 5.0%**

**Obese Adults 6.1%**

**OC High Blood  
Pressure Rates:**  
[\(CHIS 2007\)](#)

**Healthy Weight  
Adults 16.1%**

**Obese Adults**  
**26.6%**

## Annual Household Income

Income appears to be one determinant of weight status in the 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.

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>	43.1%** 1,872	46.5% 8,175	31.4% 6,905	26.0% 29,529
<b>Adults (18+): Overweight or Obese</b>	40.5% 18,311	61.1% 70,042	45.1% 56,453	51.0% 154,314

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Percent and population estimate is statistically unstable due to the small number of survey responses.

- The percentage of children who are overweight or at risk of overweight is higher in lower-income households.
- Adults in the \$25,000 to \$50,000 annual household income category have higher rates of obesity than adults in other income categories (Chi-square=20.346, p=0.002).

## Consequences of Overweight and Obesity

The various negative impacts resulting from obesity can lead to considerable financial burdens on individuals, employers, and hospitals.

### 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 Hoag Hospital service area, **11.9%** (38,462) of adults at healthy weight rated their health as fair or poor, while **12.7%** (27,971) of overweight adults and **14.1%** (16,603) of obese adults rated their health as fair or poor. The impact of unhealthy weight in the service area, as well as Orange County, is also apparent with OCHNA 2004 and CHIS 2007 survey findings on self-reported rates of common chronic diseases.

Area		Arthritis	Diabetes	Heart Disease	High Blood Pressure	High Cholesterol
<b>Hoag Service Area (OCHNA 2004)</b>	<b>Healthy Weight</b>	14.6%	0.8%	3.4%	11.0%	12.8%
	<b>Overweight or Obese</b>	23.2%	15.1%	8.7%	33.4%	30.2%
<b>Orange County (CHIS 2007)</b>	<b>Healthy Weight</b>	n/a*	3.2%	5.0%	16.1%	n/a*
	<b>Overweight or Obese</b>	n/a*	9.9%	6.1%	26.6%	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 service area, the OCHNA 2004 survey estimated that overweight or obese adults had higher rates of diabetes (Chi-square=39.610, p<0.001), high blood pressure, (Chi-square=33.313, p<0.001), and high cholesterol (Chi-square =11.467, p<0.001), compared to healthy weight adults.

Overweight and obesity can also have emotional and social consequences:

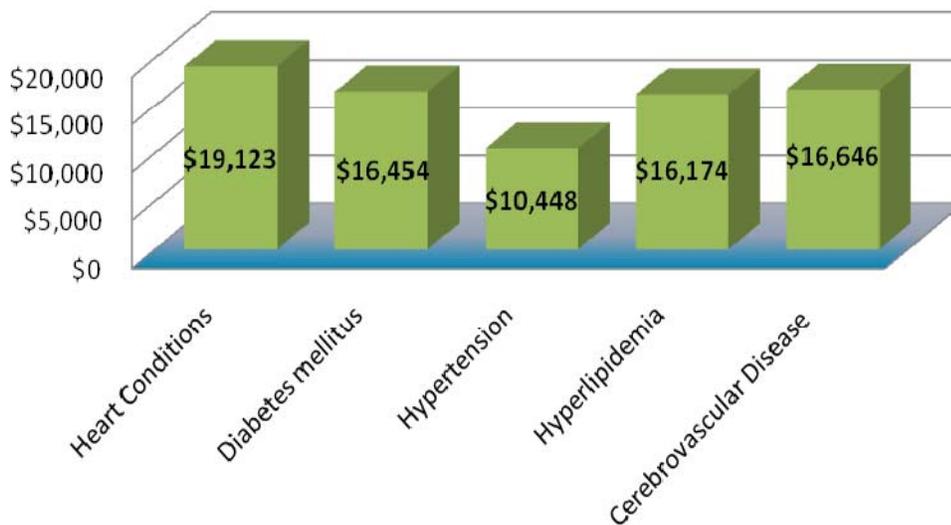
- **16.5%** (54,223) of adults (18+) in the service area who were at normal or healthy weight reported having at least one poor mental health day in the past month (OCHNA 2007).
- In contrast, **30.7%** (36,098) of adults in the service area who were obese reported having at least one poor mental health day in the past month (OCHNA 2007).

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



Source: 2007 Medical Expenditure Survey

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

**Poor Mental Health Day: A day where a person's mental health prevents him or her from doing daily activities, such as self-care or work.**

**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.** [\(CDC\)](#)

**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.

An estimated 55.2% of OC children 2-11 and 75.1% of OC adolescents 12-17 ate less than 5 servings of fruits and vegetables daily. (CHIS 2007)

**Factors Contributing to Obesity**

There are numerous factors that can contribute to obesity, notably poor diet, physical inactivity, and even the walkability, safety, and the availability of recreational resources in a community.

**Nutritional Choices and Access**

Among adults 18+ in the Hoag Hospital service area, 43.6% (326,402) of adults reported that they did not eat five servings of fruits and vegetables in their daily diet.

**Table 6: Main Reasons Why Adults (18+) Did Not Include 5 Servings of Fruits/Vegetables in their Daily Diet: Hoag Service Area, OCHNA 2007\***

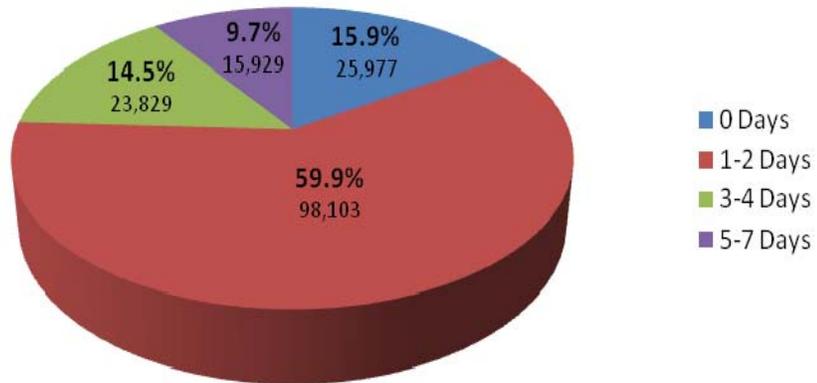
Reason	Percent	Population Estimate
Not in Habit, Not Used to It, or Don't Think About it	34.9%	113,850
Takes Too Much Time to Prepare and Cook	17.3%	56,310
Lack of Access or Availability	8.7%	28,291
Don't Like the Taste	6.7%	21,834
Don't Know What to Eat/ Not Sure What a Serving Is	6.1%	19,823
Too Expensive	5.0%	16,157

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. 5.0% did not include five servings of fruits/vegetables in their daily diet because it was too expensive to do so.

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

The chart below examines the number of times that children between 6 and 17 years from the Hoag Hospital service area ate fast-food, including school lunches, in the previous week as reported by parents/guardians; the examples provided were burgers, fries, tacos, burritos, and pizza. This OCHNA 2007 survey question included school lunches to address the fact that many schools offer fast food options to their students.

**Figure 5: Fast Food Consumption of Children (6-17): Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- According to the OCHNA 2007 survey, 24.2% of children between 6 to 17 years of age ate fast food at least 3 times in the previous week.

## 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 the following school districts located in the Hoag Hospital service area, using the California Department of Education [Dataquest](#) query system: Capistrano Unified, Fountain Valley Unified, Garden Grove Unified, Huntington Beach Elementary, Huntington Beach Union High, Irvine Unified, Laguna Beach Unified, Newport-Mesa Unified, Ocean View of Huntington Beach, Saddleback Unified, Santa Ana Unified, and Westminster Unified School Districts.

- In the 2008-09 school year, **35.4%** (7,178 students) of 5th graders, **44.2%** (9,579 students) of 7th graders, and **48.4%** (10,630 students) of 9th graders met all of the six fitness standards.
- In the 2007-08 school year, **33.1%** (7,122 students) of 5th graders, **45.0%** (9,795 students) of 7th graders, and **45.7%** (10,046 students) of 9th graders met all of the six fitness standards.
- In the 2000-01 school year, **26.1%** (5,797 students) of 5th graders, **34.4%** (6,808 students) of 7th graders, and **32.6%** (5,130 students) of 9th graders met all of the six fitness standards.

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 Hoag Hospital service area, **58.7%** (51,531) of children ages 0-5 played outside for 0 to 2 hours, and **40.8%** (35,827) played outside for 3 to 6 hours (OCHNA 2007).

## Body Image and Perceived Weight

Parents in the Hoag Hospital 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. **80.7%** (211,834) of parents/guardians said their child was about the right weight, and **11.9%** (31,326) 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, **77.7%** (16,820) of them were accurate in their assessment, with children having BMI falling in the overweight or at risk of overweight categories.
- The parents/guardians who believed that their child was about the right weight, **33.2%** (47,321) were inaccurate in their assessment, having children who were in fact determined to be underweight, overweight, or at risk of overweight. **9.9%** of children were determined to be underweight, **11.5%** were at risk of overweight, and **11.7%** were overweight.

Adults also were not completely accurate when asked to evaluate their own weight status. Based on the OCHNA 2007 survey, **35.5%** (487,212) of adults in the Hoag Hospital service area described themselves as being about the right weight. Of the adults who perceived themselves to be a healthy weight, **27.4%** (115,567) of adults were in fact determined to be overweight or obese.

**Countywide  
Achievement of all  
6 Fitness  
Standards, 2008-09:**  
([California Department of Education](#))

**5th Graders 34.5%**  
**7th Graders 43.7%**  
**9th Graders 45.0%**

**OC Parent  
Assessment of  
Child's (2-17)  
Weight:** ([OCHNA 2007](#))

**6.3%**  
**Underweight**

**35.1% of those  
parental  
assessments were  
accurate.**

**84.6%**  
**About the Right  
Weight**

**65.2% of those  
assessments were  
accurate.**

**10.1%**  
**Overweight**

**75.4% of those  
assessments were  
accurate (children  
were at risk for  
overweight or  
overweight).**

**Orange County  
Crude Birth Rate  
per 1,000 Total  
Population:** [\(CDPH\)](#)

**15.6  
(45,492 Births)  
2001**

**15.1  
(45,366 Births)  
2003**

**14.4  
(45,065 Births)  
2005**

**14.1  
(44,026 Births)  
2007**

**12.6  
(40,431 Births)  
2009**

**Number of Live  
Births in Hoag  
Memorial Hospital  
Presbyterian:** [\(OSPHD\)](#)

**5,436  
2008**

**5,377  
2007**

**5,084  
2006**

**4,622  
2005**

**4,670  
2004**

**4,784  
2003**

**4,605  
2002**

**4,895  
2001**

# Maternal and Infant Health

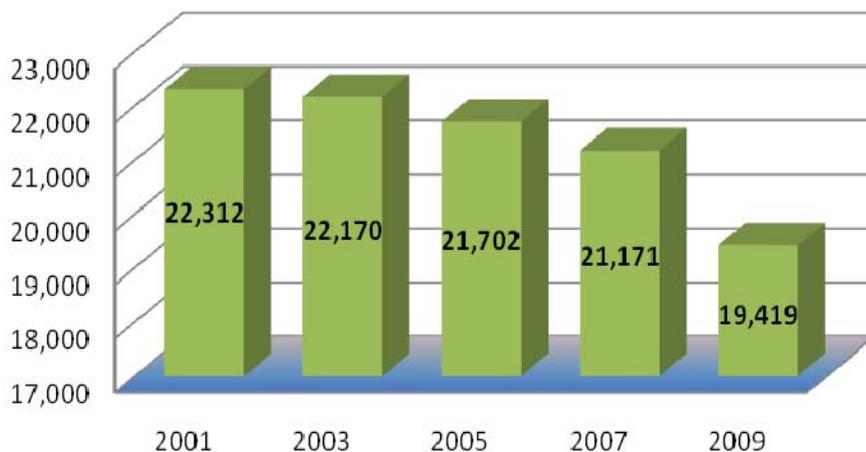
An overriding priority of health services is to ensure healthy, risk-free births. A mother-to-be can also take measures to reduce risk factors and help ensure the health of her baby, including adequate prenatal care and good nutrition. After a child is born, breastfeeding can provide several health benefits, including helping to protect an infant from a variety of illnesses, bacteria, and infections. The [California Department of Public Health](#) lists the number of births in 2009 by ZIP code, including PO Boxes, however only the ZIP codes with 5 or more births were listed.

- The CDPH listed a total of **19,419** live births for ZIP codes in the Hoag Hospital service area for 2008.
- There were a total of **40,431** live births in all of Orange County in 2008.

## Hoag Hospital: Newport Beach Service Area Births

The figure below presents the number of births since 2001 in the service area. There were **19,419** live births listed for the service area in 2009.

**Figure 1: Number of Live Births:  
Hoag Service Area, 2001-2009**



Source: State of California, Department of Public Health, Birth Profiles by ZIP Code, 2001-2009

- There was a population growth of **8.0%** since the 2000 US Census; however, there has been a steady decline of the number of live births in the Hoag service area from 2001 to 2009. The percent decrease in the number of births from 2001 to 2009 was **13.0%**.
- In 2009, **50.0%** (9,691) of live births in the Hoag service area were Hispanic, **27.0%** (5,236) of live births were white, and **19.5%** (3,791) were Asian or Pacific Islander. This distribution is similar to countywide proportions: **50.3%** (20,323) of live births in Orange County were Hispanic/Latino, **29.9%** (12,107) were white, and **17.2%** (6,951) were Asian or Pacific Islander.
- Using population estimates from the [California Department of Finance](#) for cities in the Hoag Hospital service area, the crude birth rate in 2001 was **18.6** per 1,000 total population service area. The crude birth rate dropped to **14.7** per 1,000 total population for 2009.

The table below presents the Hoag Hospital service area ZIP codes with the highest number of live births in 2009, as reported by the [CDPH](#), with their corresponding cities.

Table 1: ZIP Codes with the Highest Number of Live Births: Hoag Service Area, 2009			
ZIP	Number of Live Births	ZIP	Number of Live Births
92704 Santa Ana	1,673	92627 Costa Mesa	970
92703 Santa Ana	1,497	92840 Garden Grove	806
92707 Santa Ana	1,272	92656 Garden Grove	795
92683 Westminster	1,131	92843 Santa Ana	732
92701 Santa Ana	1,093	92647 Huntington Beach	731
<b>Total Listed Live Births</b>		19,419	

Source: State of California, Department of Public Health, Birth Profiles by ZIP Code, 2009

- There were **6,794** births in Santa Ana, **2,454** births in Garden Grove, **2,388** births in Irvine, **1,964** births in Huntington Beach, and **1,614** births in Costa Mesa in 2009.

## Prenatal Care Behaviors

### Prenatal Care and Folic Acid

OCHNA previously collected data on prenatal care in the OCHNA 2004 survey.

- In the Hoag Hospital service area, almost all mothers, **99.3%** (79,805), of children between 0 to 5 years received regular prenatal care during their pregnancy.

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 Hoag Hospital service area, **72.8%** (61,060) of mothers with children between the ages of 0 to 5 took folic acid supplements during their pregnancy according to the OCHNA 2004 survey.

**48.0% of 2009 OC live births occurred in the Hoag service area.**

**2009 Births by City:**  
[\(CDPH\)](#)

**1,381**  
**Laguna Beach**

**1,131**  
**Westminster**

**538**  
**Newport Beach**

**531**  
**Fountain Valley**

**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**

**51.7% of OC moms at/below 100% FPL compared to 90.1% of OC moms at/above 401% FPL had a medical home just before pregnancy.**

**53.5% of OC moms 15-19 years compared to 79.4% of OC moms 35+ years had a medical home just before pregnancy.**

88.2% of OC live births in 2009 received early prenatal care. (CDPH)

**Healthy People 2020 Objective:**

Increase to 77.6% the proportion of pregnant women who receive early and adequate prenatal care by 2020.

Early Prenatal Care In 2009, both Orange County and the Hoag service area met the HP 2020 Objective.

Adequate Prenatal Care Between 2004 to 2006, both Orange County and the Hoag service area met the HP 2020 Objective.

**Late or No Prenatal Care**

Timely prenatal care provides an opportunity to detect and treat maternal and fetal medical problems early, as well as to offer counseling on a healthy lifestyle and habits, contributing to a positive birth outcome. 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 presents the ZIP codes, and the corresponding cities, in the service area with the highest percent of late or no prenatal care live births.

- For the ZIP codes in the Hoag Hospital service areas in 2009, 11.0% (2,145) of live births had late or no prenatal care; 89.0% of live births had early prenatal care.

Table 2: ZIP Codes with the Highest Percent of Live Births with Late or No Prenatal Care*: Hoag Service Area, 2009			
ZIP	Percent	ZIP	Percent
92702 Santa Ana	23.1%	92843 Garden Grove	13.7%
92841 Garden Grove	16.0%	92707 Santa Ana	13.6%
92840 Garden Grove	15.8%	92844 Garden Grove	12.9%
92703 Santa Ana	15.4%	92844 Garden Grove	12.9%
92704 Santa Ana	13.9%	92647 Huntington Beach	12.7%
<b>Percent of Live Births</b>		<b>11.0%</b>	

\*The CDPH reported 91 live births in the service area with unknown prenatal care status. Source: State of California, Department of Public Health, Birth Profiles by ZIP Code, 2001-2009

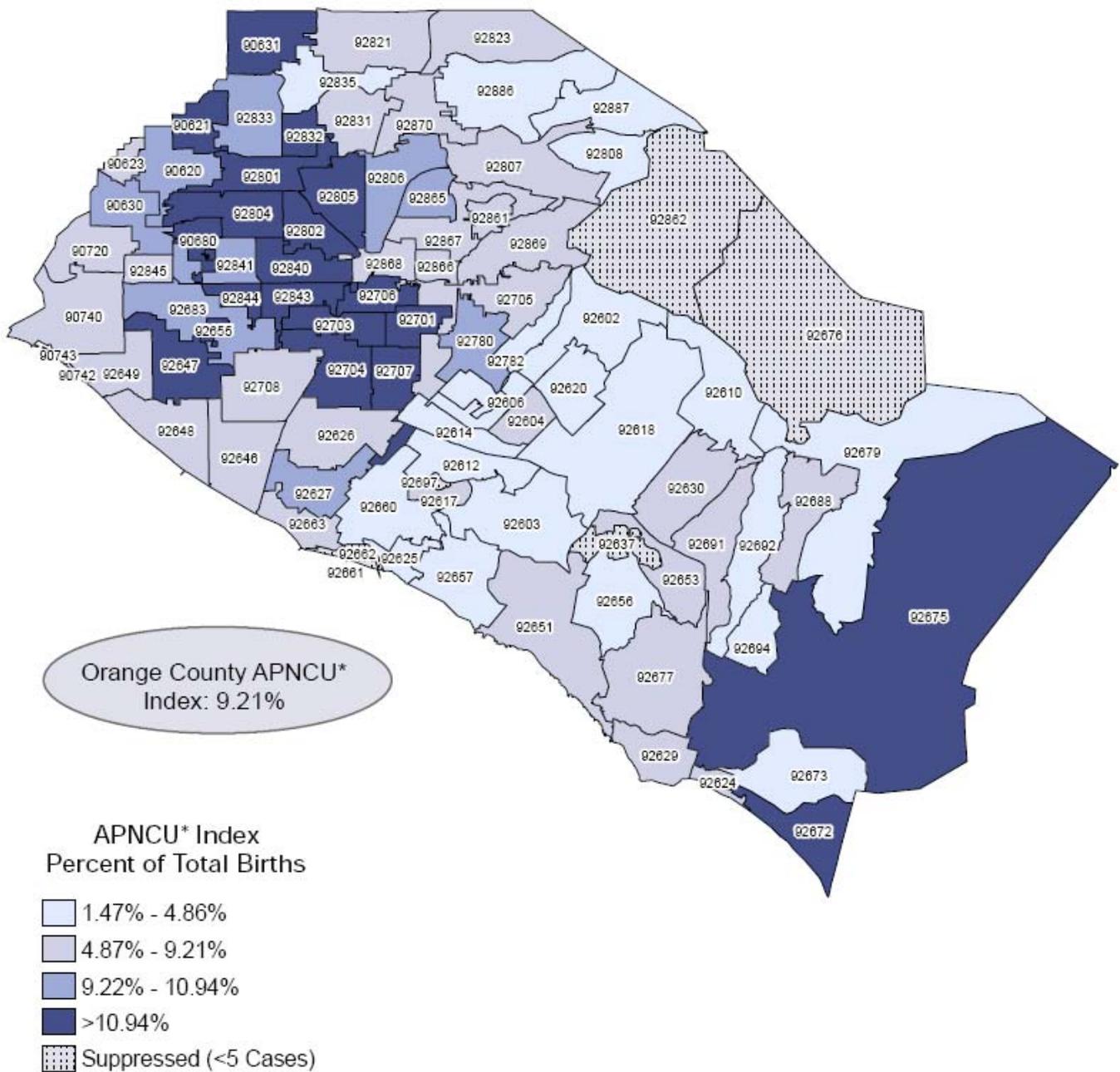
**Inadequate Prenatal Care**

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 2008 [Orange County Health Indicators Report](#) reported the inadequate scores for live births between 2004 and 2006 by ZIP code of residence.

- There were 9.3% of live births in the Hoag service area with mothers who received inadequate prenatal care (5,887 out of 63,526 live births) between 2004 and 2006.
- In Orange County, there were 9.2% of live births with mothers who received inadequate prenatal care (12,276 out of 133,275 live births) between 2004 and 2006.

# Orange County Births - APNCU Adequacy of Prenatal Care Utilization (Inadequacy) Percentage of Births by ZIP Code of Residence (2004-2006)



\*Adequacy of Prenatal Care Utilization (APNCU) Index is a composite indicator for inadequacy of prenatal care. Based on 3-year total births, this map does not display <1.0% (20/12,276) of cases with an unknown or P.O. Box ZIP Code.

Data Source: 2004-2006 Orange County Master Birth File

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 OC moms at/below 100% FPL compared to 92.2% of OC moms at/above 401% FPL ever breastfed their baby.

86.3% of OC moms 15-19 years compared to 92.7% of OC moms 35+ years ever breastfed their baby.

83.4% of OC 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

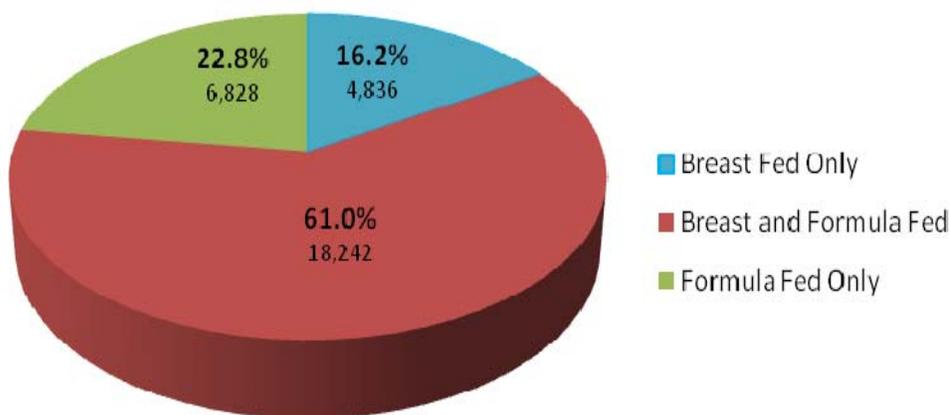
Many leading health organizations, including the [American Academy of Pediatrics](#) and the [American Public Health Association](#) recommend that infants are breastfed for at least 12 months, with exclusive breastfeeding for the first 6 months. Breast milk contains the right balance of protein, sugar, 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 Hoag Hospital service area, only **16.2%** (4,836) of mothers with children between 0 and 2 years exclusively breastfed their baby according to the OCHNA 2007 survey.

Figure 2: Feeding Practices for Child 0-2 Years: Hoag Service Area, OCHNA 2007\*



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- In the service area, **59.1%** (12,237) of children received breast milk for at least 6 months. **40.9%** (8,463) received breast milk for less than 6 months.

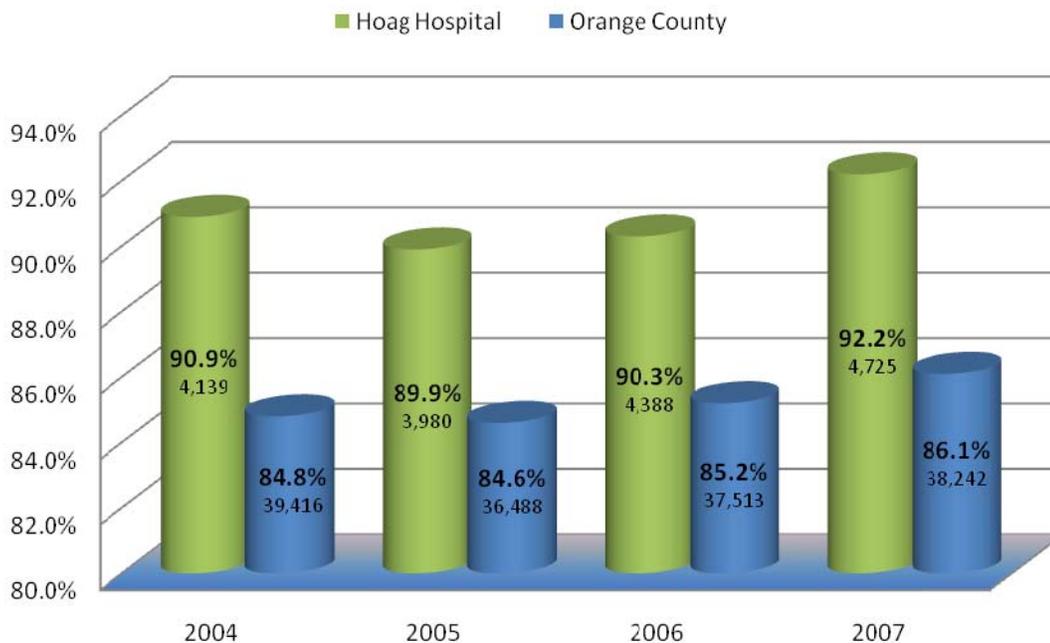
## In-Hospital Breastfeeding

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

- In 2008, there were **3,792** births at Hoag Memorial Hospital Presbyterian; **94.2%** (3,572) of mothers initiated *any breastfeeding* (a combination of breastfeeding and formula) , and **54.6%** (2,070) of mothers initiated *exclusive breastfeeding*.
- In 2008, there were **38,444** births in Orange County hospitals; **84.8%** (32,604) of mothers initiated *any breastfeeding*, and **38.9%** (14,955) of mothers initiated *exclusive breastfeeding*.

The figure below presents the proportion of new mothers who initiated *any breastfeeding* at Hoag Hospital as well as in all of Orange County from 2004 to 2007. 2008 data is not comparable due to revisions to the NBS data collection tool and changes in methodology.

**Figure 3: In-Hospital *Any Breastfeeding* Initiation Rates by Year: Hoag Hospital and Orange County, 2004-2007**



Source: State of California, Department of Public Health, In-Hospital Breastfeeding Initiation Data, 2004-2007

- Hoag Hospital has experienced an increase in the proportion of new mothers initiating *any breastfeeding* at the hospital from 2005 to 2007.
- In contrast, the countywide *any breastfeeding* rate has remained mostly constant over the past four years.



**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:**  
[\(CDPH\)](#)

**Hoag Hospital**

**36.0% 2004**

**42.6% 2005**

**40.3% 2006**

**43.1% 2007**

**54.6% 2008**

**Orange County**

**26.7% 2004**

**29.7% 2005**

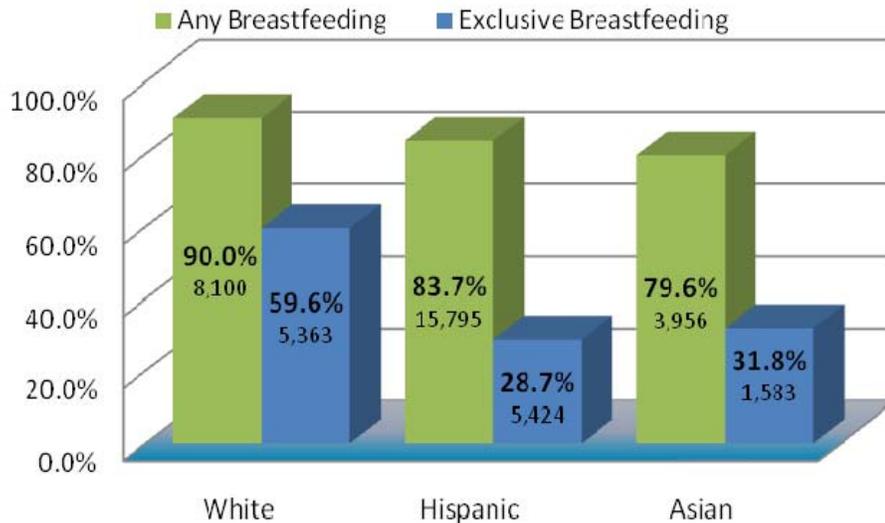
**31.2% 2006**

**30.2% 2007**

**38.9% 2008**

The figure below presents the proportion of *any* and *exclusive breastfeeding* within key race/ethnic groups for the entire county provided by the [CDPH](#). White mothers were the most likely to initiate *any* and *exclusive breastfeeding* at the hospital.

**Figure 4: In-Hospital Breastfeeding Initiation by Race/Ethnicity: Orange County, CDPH 2008**



Source: State of California, Department of Public Health, In-Hospital Breastfeeding Initiation Data, 2008

CDPH also provides the proportion of *any* and *exclusive breastfeeding* initiation within race/ethnicity for births at Hoag Memorial Hospital Presbyterian in 2008.

- **White Mothers:** 94.3% (1,941) initiated *any breastfeeding* and 59.3% (1,221) initiated *exclusive breastfeeding*.
- **Hispanic/Latino Mothers:** 92.5% (755) initiated *any breastfeeding* and 47.9% (391) initiated *exclusive breastfeeding*.
- **Asian Mothers:** 97.6% (456) initiated *any breastfeeding* and 46.7% (218) initiated *exclusive breastfeeding*.

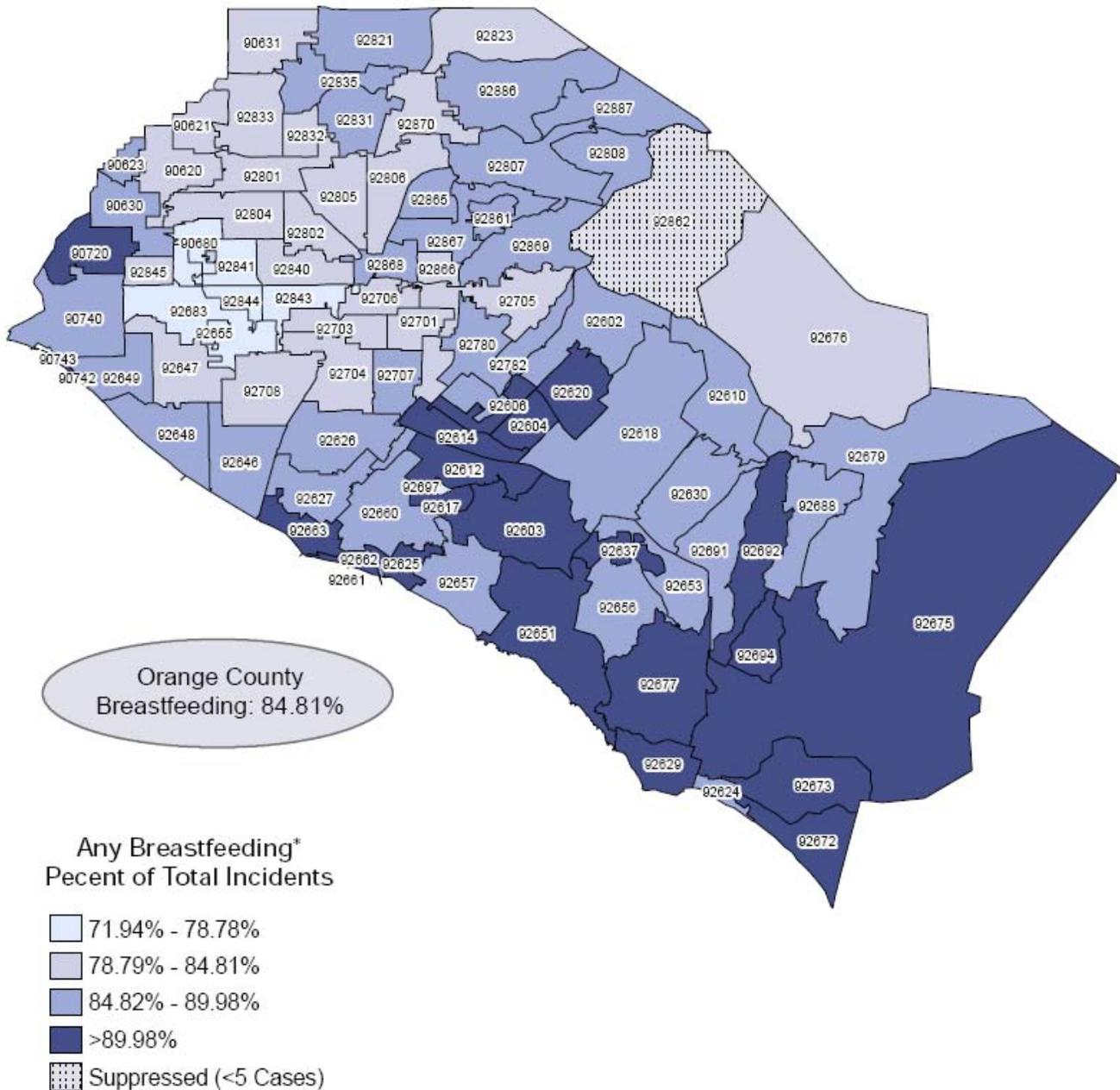
The 2008 [Orange County Health Indicators Report](#) reported any and exclusive breastfeeding rates of birth mothers between 2004 and 2006 by ZIP code of residence.

- In the Hoag Hospital service area, 84.4% of new mothers indicated they would initiate *any breastfeeding*, and 25.5% of new mothers indicated they would initiate *exclusive breastfeeding*.
- In Orange County, 84.8% of new mothers indicated they would initiate *any breastfeeding*, and 28.6% of new mothers indicated they would initiate *exclusive breastfeeding*.

The following pages presents the *any* and *exclusive breastfeeding* rates by ZIP codes between 2004 and 2006.

Health Care Agency data was captured for 95% of birthing mothers over the 2004 to 2006 period, or 126,780 out of 133,303 mothers.

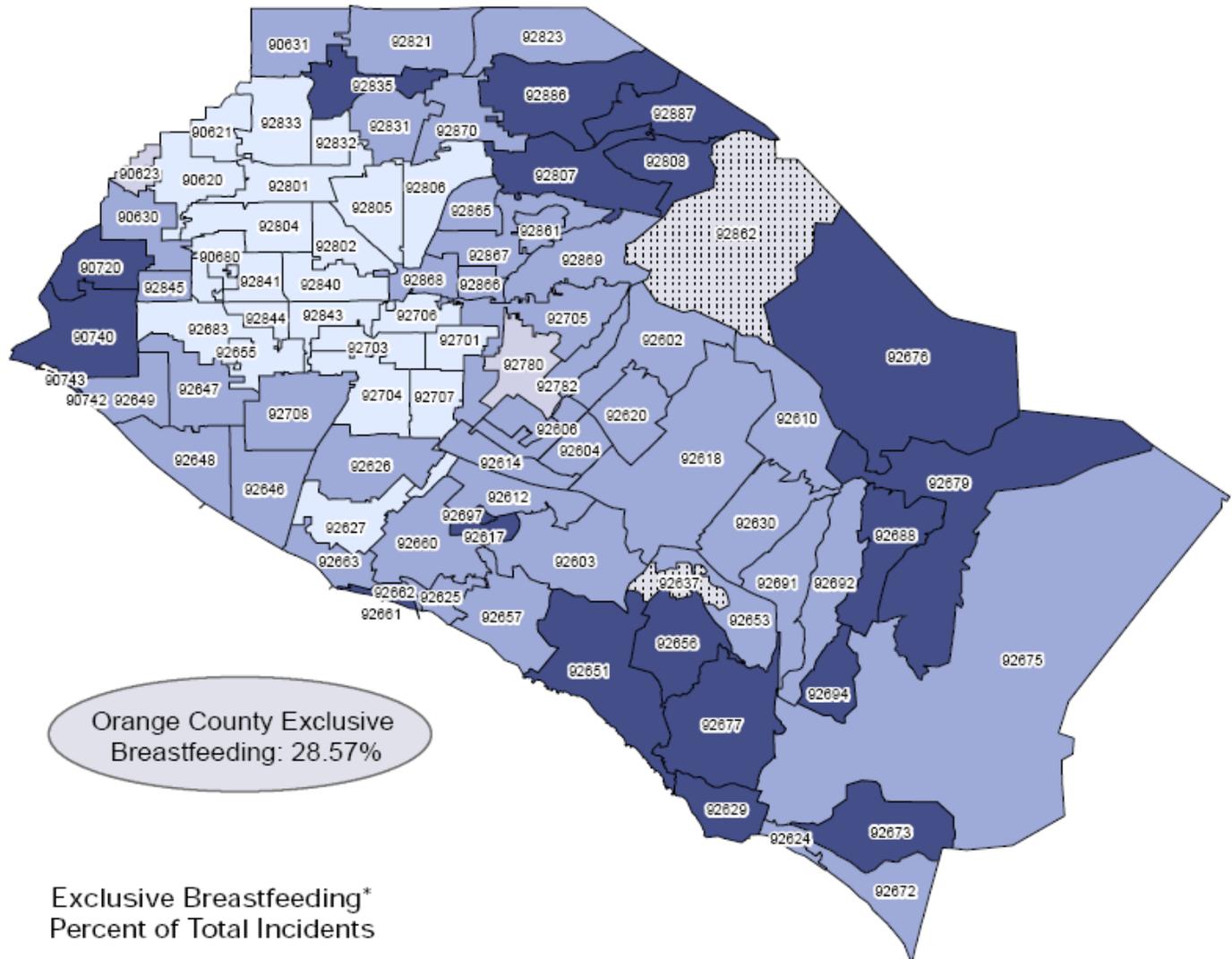
# Orange County Births - "Any" Breastfeeding Percentage of Incidents by ZIP Code of Residence (2004-2006)



\* "Any Breastfeeding" includes those mothers who plan to feed their infant either 'Breast Only' or 'Breast and Formula'. Based on 3-year total births, this map does not display <1.0% (610/126,780) of cases with an unknown or P.O. Box ZIP Code.

Data Source: 2004-2006 Epidemiology Assessment and Program Development  
Maternal, Child and Adolescent Health Program/Center for Family Health  
California Department of Public Health

# Orange County Births - "Exclusive" Breastfeeding Percentage of Births by ZIP Code of Residence (2004-2006)



\* "Exclusive Breastfeeding" includes those mothers planning to only breastfeed their infant for the first 6 months. Based on 3-year total births, this map does not display <1.0% (229/126,780) of cases with an unknown or P.O. Box ZIP Code.

Data Source: 2004-2006 Data Source: 2004-2006 Epidemiology Assessment and Program Development Maternal, Child and Adolescent Health Program/Center for Family Health California Department of Public Health

# Child Health and Welfare

## Immunizations

Young children are immunized against many harmful diseases, including whooping cough, diphtheria, measles and polio. Vaccinations have been highly effective in preventing, and even eradicating, once widespread diseases that permanently impaired or even killed children in the past. It is vitally important that a child receives all recommended vaccinations before entering school to prevent the spread of diseases.

## Experiences with Immunization Services (Children 0-5 Years)

In the OCHNA 2007 survey, parents/guardians of children between 0 and 5 years were asked a string of questions regarding their experiences with immunization services and materials as well as their personal beliefs on immunizations. Additional demographic analysis was not possible due to the small number of respondents representing the following categories.

### Immunization Reminders

**19.0%** (16,636) of parents/guardians in the Hoag service area stated they *did not* receive immunization reminders for their child.

### Immunization Schedules

Parents/guardians were asked if they found immunization schedules easy to understand; **9.7%** (8,510) responded they *did not* find schedules easy to understand.

### Utilizing Immunization Services

Parents/guardians were asked if they needed assistance utilizing immunization services in the community; **16.6%** (14,271) stated they *did* require assistance.

### Beliefs that Immunizations Cause Harm

Parents/guardians were asked if they believed immunizations to be harmful to a child's health; **24.6%** (19,707) believed that immunizations can be harmful.



## Child Immunization Schedule: [\(CDC\)](#)

### Up-to-Date at 2nd Birthday

- 3 Doses of Polio
- 4 Doses of Diphtheria, Tetanus and Pertussis (DTaP)
- 1 Dose of Measles, Mumps and Rubella (MMR)

### Up-to-Date at Kindergarten (proof required for entry)

- 4 doses of Polio
- 4 doses of DTaP
- 3 doses of Hepatitis B
- 2 doses of MMR
- 1 dose of Varicella

**Healthy People 2020 Objective:**

**Achieve & maintain vaccination coverage levels for young children (19-35 months) by 2020:**

**Hepatitis A & B: 85%**

**Rotavirus: 80%**

**Other universally recommended vaccines: 90%**

**89.6% or 36,862 of OC kindergarten entrants had all of their required immunizations in Fall 2009; 10.4% or 4,287 did not.\***

**91.1% of kindergarten entrants statewide had all of their required immunizations in Fall 2009.\***

**OC Kindergartener Immunization Coverage Rate by Vaccine, Fall2009:\***

**91.8% 4+ DTP**

**92.1% 3+ Polio**

**92.0% 2+ MMR**

**95.5% 3+ Hep. B**

**96.6% Var 1+**

**Immunization Rates for Kindergarteners by District**

Each year, California schools with kindergartens provide immunization coverage data to the California Department of Public Health. In order to enter kindergarten, a child must receive vaccinations for polio, diphtheria, tetanus, whooping cough, measles, mumps, rubella, hepatitis B and chicken pox (or have had chicken pox). However, children may be exempted from the immunization requirement if they have previously had one or more of the diseases and have authorization from their physicians, or if their parents/guardians have signed a personal belief exemption. Children with these exemptions are advised to be excluded from school if there is a disease outbreak.

The table below provides information on schools with 10 or more kindergarteners in the Hoag Hospital service area from the [California Department of Public Health](#) for fall 2009.

Table 1: Average Up-to-Date Immunization Coverage Rates for Kindergarten Children by District: Hoag Service Area, 2009	
School District	Average Percent
Fountain Valley Unified	94.8%
Garden Grove Unified	95.6%
Huntington Beach City	86.4%
Irvine Unified	87.8%
Laguna Beach Unified*	81.5%
Newport-Mesa Unified	90.1%
Ocean View	92.3%
Saddleback Unified	84.4%
Santa Ana Unified	91.6%
Westminster Unified	91.9%

\*There were only 2 elementary schools at Laguna Beach Unified with rates of 76% and 87%.

Source: State of California, Department of Public Health, Immunization Branch, School Immunization Rates in California, 2009

- Saddleback Unified had one of lowest average up-to-date immunization coverage rate among kindergarteners of **84.4%**; some elementary schools had up-to-date immunization rates as low as **50%** and as high as **98%**, with 24 elementary schools reporting data.
- Garden Grove Unified School District had the highest average up-to-date immunization coverage rate among kindergarteners of **95.6%**; the coverage rates in individual elementary schools ranged from **82%** to **100%** (46 elementary schools reported).

**Vision Exams**

Since vision problems can begin at an early age, it is very important that children receive proper eye care. Untreated problems can worsen and lead to permanent vision loss and delayed development.

- 54.6%** (140,903) of children between the ages of three and five in the Hoag service *had not* had a vision exam. There were no significant differences in race/ethnicity or income of these children. The remainder (**45.4%** or 117,209) did have a vision exam.

**Hearing Exams**

The [Centers for Disease Control and Prevention](#) recommends screening all newborns with hearing tests. Children entering kindergarten should also be given hearing tests.

- One in five (20.9%** or 17,581) children in the Hoag service area had not had a hearing exam. There were no significant differences in race/ethnicity or income of these children. The remainder (**79.1%** or 66,672) did have a hearing exam.

## Child Safety (0-5)

### Car Safety Seats

According to the [National Highway Traffic Safety Administration](#), motor vehicle crashes are a leading cause of death among children ages 2 to 14, partly due to the non-use or improper use of child safety seats or restraints. To make sure a child is properly secured and safe for every car trip, the [American Academy of Pediatrics Car Seat Guide](#) states that infants should always ride rear-facing in a safety seat until they are 1 year old and weigh at least 20 pounds. After passing the 1 year, 20 pound mark, children can ride face-forward in their safety seat. Once they have outgrown their car safety seat, children should stay in a booster seat until adult belts fit correctly, which is usually between 8 to 12 years of age. According to the [National Highway Traffic Safety Administration](#), child safety seats have reduced fatal injury in infants by **71%** and in toddlers by **54%**.

### Proximity to Firearms

The best way to ensure gun safety in the home is to not have guns present at all. However, if firearms are in the home, parents or guardians must take crucial steps to lessen the dangers, which are: to store all firearms unloaded and un-cocked in a securely locked container out of reach for children, to store guns and ammunition in separate locked locations, to place a padlock around the weapon or to use a trigger lock, or to never leave a gun unattended when it is being handled or cleaned.

- **11.5%** (29,412) of households with children in the Hoag service area contain a firearm. Of these, **65.3%** (18,700) are handguns, pistols, or revolvers.

### Pool Safety

According to the [US Consumer Product Safety Commission](#), nationally, there have been 350 child drowning or non-fatal injuries since Memorial Day 2010. Child drowning is the number one fatality of children under five in California. There have been 27 fatalities and 15 non-fatal injuries in California since Memorial Day.

It is highly recommended that all households with a pool completely fence in the pool on all sides. Gates should be self-closing, self-latching, and out of reach of small children.



- According to the 2004 OCHNA survey, **35.1%** (29,425) of households with children between 0 to 5 years of age in the Hoag service area had a pool.
- Of the **35.1%**, **89.6%** (26,366) of the pools did have fencing. Fencing should separate the house or apartment from the pool, so that a person would have to pass through a gate or door to access the pool.

**Only 86.7% of OC teens (12-17 years) reported that they always wore seatbelts.** ([CHIS 2003](#))

**8.4% or 21,484 of parents/guardians of OC children 0-5 years had a firearm kept in or around the home.** ([OCHNA 2007](#))

**There were 6 deaths of OC youth under 15 years from accidental submersion in 2008; all 6 were between 1-4 years.** ([CDPH](#))

More children 0-5 years in the Hoag service area were cared for at home by a parent compared to children 0-5 years countywide: [\(OCHNA 2007\)](#)

**60.8%**  
OC 0-5 Year Olds

**70.9%**  
Hoag Service Area 0-5 Year Olds.

**73.1%** of OC parents/guardians of children 0-5 read to their children daily. [\(OCHNA 2007\)](#)

**37.7%** of OC children 4-5 years attended 10 hours or more of Head Start, preschool, or nursery school. [\(CHIS 2007\)](#)

## Child Care, School Readiness, and Social Health (0-5) Child Care

The first few years of a child’s life are crucial to overall development, which is why it is important for working parents and guardians to find quality child care that is safe and nurturing and that provides them with the reassurance to remain in the workforce. Child care can be provided by a parent, child care homes and centers, baby-sitters, and even relatives. The following table lists how children were cared for in the Hoag service area.

Type of Childcare	Percent	Population Estimate
Cared for in the Child’s Home by a Parent	70.9%	63,215
Cared for Outside Child’s Home (Day Care, Preschool)	17.0%	15,147
Cared for in the Child’s Home by a Relative	5.2%	4,667

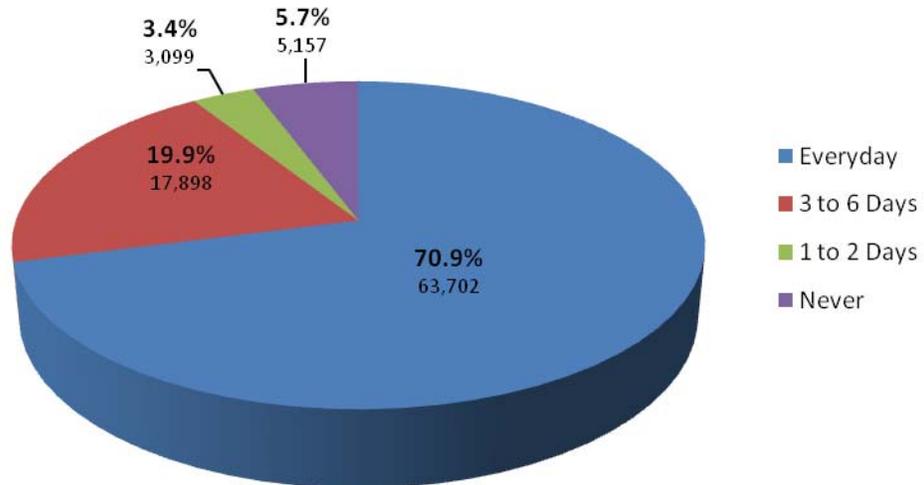
- **70.9%** (63,215) of parents in the service area cared for their own child, over 10% more than Orange County.

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

## Shared Reading Time

Shared reading time builds and strengthens a child’s literacy skills and presents families with a prime bonding opportunity. The [National Children’s Reading Foundation](#) recommends parents to begin reading to their child at birth for 20 minutes each day. The figure below displays the frequency that parents in the Hoag Hospital service area read to their child.

Figure 1: Frequency that Parent/Guardian Reads to Child 0 to 5 Years: Hoag Service Area, OCHNA 2007\*



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- The majority of parents (**70.9%**) in the service area read to their child every day.
- *Within race/ethnicity*, **52.6%** (3,379) of Vietnamese parents read to their child every day, compared to **71.7%** (31,557) of white parents.

## School Readiness (3-5 Years)

### Preschool and Head Start

Head Start is a family-oriented, no-cost early education and child care program that serves children aged 3 to 5 years of age. Early Head Start is for low-income infants, toddlers and pregnant mothers. Specifically, the programs are for families who have incomes at or below the poverty line or who are eligible for public assistance. The goals of the Head Start/Early Head Start programs are to be comprehensive and community-based, to address developmental goals for children, and to support parents in their work and child-rearing roles. The programs also seek to link children with other service delivery systems. The comprehensive Head Start/Early Head Start includes education/special education as well as health, nutrition, social and parent involvement services to enrolled children and families.

### Physical Conditions and Head Start Enrollment (3-5 Years)

In the 2007 OCHNA survey parents/guardians in the Hoag Hospital service area were asked if their child aged 3 to 5 years has a physical condition that limits enrollment in preschool or Head Start. Only **4.4%** (2,606) of parents/guardians reported their child *did* have a physical condition limiting enrollment.

### Special Education (3 to 5 Years)

Provided to children with learning difficulties, mental conditions, and other disabilities, special education is designed to address the unique educational and developmental needs of disabled children.

#### Enrollment

In the 2007 survey, parents/guardians were asked if their child aged 3 to 5 years was currently enrolled in special education. An estimated **6.6%** (3,879) of children 3 to 5 years old, residing in the Hoag Hospital service area, were currently enrolled in special education.

## School and After School Activities (6-17)

### School Achievement / Discipline

- **73.8%** (124,148) of parents in the service area reported their child was performing at a *very good* or *excellent* level; only **3.0%** (5,086) felt their child was doing *poorly*.
- *Within race/ethnicity* **95.3%** of Other Asian or Pacific Islander parents in the service area felt their child was doing *very good* or *excellent* compared to **60.8%** of Hispanic /Latino parents.
- **10.5%** (17,511) of parents in the service area reported their child had been disciplined by the school during the 2007 school year.
  - Of the **10.5%**, **15.4%** (10,002) of Hispanic/Latino children were reported to have been disciplined by the school compared to only **3.7%** (535) of Other Asian or Pacific Islander children.

**2.5% or 4,223 of OC children 3 to 5 years reportedly had a physical condition limiting enrollment in Head Start.** [\(OCHNA 2007\)](#)

**5.0% or 8,483 of OC children 3-5 years were currently enrolled in special education.** [\(OCHNA 2007\)](#)

**Top 5 Greatest Concerns for OC Child 6-17 Years:**  
(OCHNA 2004)

- 30.7% None**
- 21.7% Quality of Education**
- 21.5% Emotional Well-Being**
- 5.1% Physical Safety**
- 4.6% Child's Weight and/or Fitness Level**

**44.1% of OC teens (12-17 years) did volunteering/ community service in the previous year.** (CHIS 2003)

**20.4% of OC parents knew a little or knew nothing about their teen's (12-17) free-time activity.** (CHIS 2005)

### Parental Concerns

The table below presents the top 5 responses parents gave regarding their greatest concern for their child.

Table 4: Top 5 Greatest Concerns for Child: Hoag Service Area, OCHNA 2004*		
Concern	Percent	Population Estimate
None	29.5%	85,205
Quality of Education	24.9%	71,267
Emotional Well-Being	21.7%	61,928
Physical Safety	4.4%	12,638
Child's Weight and/or Fitness Level	4.2%	12,173

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Close to **one in three (29.5%** or 85,205) parents did not have any concerns regarding their child.

### After School Activities

After school activities may be sponsored by the school or may be at an outside organization, such as the YMCA or Boys and Girls Club. There are a variety of activities available for children to participate in. After school activities consist of sports, band, cheerleading, theatre, clubs and organizations, etc.

- **73.8%** (124,148) of children in the Hoag service area participated in after school activities.
- Of the **26.2%** (44,063) who did not participate in after school activities, **16.7 %** (6,960) of parents reported there were no after school activities available.
- *Within* race/ethnicity, **39.0%** (1,246) of Vietnamese parents reported there were no after school activities available for their child, compared to **15.8%** (1,865) of white parents.

### Walking Safety

There are many factors that can make children more vulnerable to pedestrian injuries and deaths, such as their size, which could make them difficult for drivers to see, their inability to judge distances and speeds, and their unfamiliarity with traffic rules. According to the [National Highway Traffic Safety Administration](#) (NHTSA), **7.2%** (316) of pedestrians who were killed and **21.7%** (24,000) of pedestrians who were injured in traffic crashes in 2008 were under 16 years of age.

- According to the [CDPH Vital Statistics Query System](#), **3** Orange County pedestrians who were below 15 years of age were fatally injured by a motor vehicle in 2006. There were also 3 deaths in 2008.
- According to the [California Injury Data System](#), **77** Orange County pedestrians who were below 16 years of age were non-fatally injured by a motor vehicle in 2006.

## Online Predators and Safety

The [Youth Internet Safety Survey](#) was a national telephone survey conducted in 2001 and 2005 which interviewed youth between 10 and 17 years who used the Internet at least once a month in the previous 6 months. The two surveys measured an increase of youths having access to the Internet, from **74%** in 2001 to **90%** in 2005. With more young people using the Internet, there have been rising fears about children and youth falling prey to online predators or harassment. Conducted by the Children Research Center at the University of New Hampshire and funded by a federal grant, the surveys addressed issues of sexual solicitations, exposure to unwanted sexual material, and harassment experienced by youth while they were online.

- In the 2001 YISS, **40%** of youth used the internet to chat, E-mail, or exchange instant messages with people they did not know in person. In 2005, there was a decrease in this percent to **34%**.
- According to the 2005 YISS, **13%** of internet-using youth encountered sexual solicitations, a decrease from the 2001 YISS (**19%**). Of the **13%**:
  - **70%** were girls and **30%** were boys.
  - **81%** of these youth were ages 14 or older.
  - **61%** of these youth reported that their solicitors were below 18 years and **39%** reported that their solicitors were 18 years or older.
- Of the **13%** of solicitations in 2005, **31%** of these youth stated that they encountered aggressive solicitations, with solicitors making, or trying to make, offline contact with youth (includes face-to-face, telephone, or mail contact).
- The 2005 YISS determined that **34%** of youth Internet users saw sexual material online they did not want to see in the last year; this increased from **24%** in the 2001 YISS. This increased, even though more parents reported having filtering, blocking, and monitoring software on their computers (from **33%** to **55%**).
- The 2005 YISS also determined that more youth experienced online harassment, from **6%** in 2001 to **9%** in 2005. Further, the proportion of youth who reported that they had “made rude or nasty comments to someone on the Internet” increased from **14%** in 2001 to **28%** in 2005.

## Child Abductions

Child abductions are frightening to parents and the larger community. The [Amber Alert Program](#) is a partnership between law-enforcement agencies, broadcasters, transportation agencies, and wireless services to issue community-wide bulletins for the most serious child-abduction cases. An Amber Alert is activated when an abducted child is under the age of 17 years and is at risk of serious injury or death, and there is enough descriptive information of the child, captor, or the captor’s vehicle. In 2009, there were **207** total Amber Alerts issued nationwide, with **18** in California.

### Nationwide Youth Internet User Characteristics: [\(YISS 2005\)](#)

#### Age

**36%**  
**10-13 Years**

**65%**  
**14-17 Years**

#### Hours Spent Online on a Typical Day

**45%**  
**1 Hour or Less**

**31%**  
**More than 1 to 2 Hours**

**23%**  
**2 Hours or More**

#### Number of Days Youth Went Online in Typical Week:

**8%**  
**One Day or Less**

**42%**  
**2-4 Days**

**49%**  
**5-7 Days**

11.4% or 44,025 of OC adults 65+ years reported having at least **some difficulty** with their daily care activities. (OCHNA 2007)

52.3% of OC older adults 65+ years reported being disabled due to a physical, mental, or emotional condition. (CHIS 2007)

### Healthy People 2020 Objective:

Reduce to 25.5% the proportion of older adults who have moderate to severe functional limitations.

In 2007, the Hoag service area **met** the HP 2020 objective.

### Healthy People 2020 Objective:

Reduce to 4,711.6 emergency department visits per 100,000 due to falls among older adults by 2020.

## Older Adults: Physical and Social Health

Older adults (65+) as a group are becoming increasingly important in public health. People are living longer, and more baby boomers are entering into their retirement years. The Baby Boom Generation includes those born between 1946 and 1964; as of 2010, they will be between the ages of 46 to 64, in the pre-retirement age group, and entering into retirement. As the senior population increases in size, there will be a greater need for care-giving services, health services, and social support, as well as increased need for public funding for health related services. It will also be increasingly important to have readily available and current information on how this population is doing in regards to health issues.

### Health Status and Care

#### Activities of Daily Living (ADL)

The [U.S. Department of Health and Human Services](#) uses the term *activities of daily living* to refer to a set of everyday tasks, the performance of which is required for personal self-care and independent living. There are several scales that measure ADL, such as the Katz Activities of Daily Living Scale, which measure an individual's ability to complete basic tasks associated with eating, bathing, dressing, toileting, and transferring (i.e., getting in and out of a bed or chair).

The table below displays the level of difficulty adults 65+ in the Hoag service area have in carrying out activities of daily living.

Table 1: Adults 65+ Level of Difficulty in Activities of Daily Living: Hoag Service Area, OCHNA 2007*		
Level of Difficulty	Percent	Population Estimate
None	84.4%	115,729
Some	13.4%	18,316
A Lot	2.1%	2,901
Unable to Care For Self	0.1%**	144

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Not statistically reliable due to too few respondents in the category.

- **15.6%** (21,361) of adults in the Hoag service area had at least some difficulty performing their daily activities, such as, eating, bathing, or dressing.

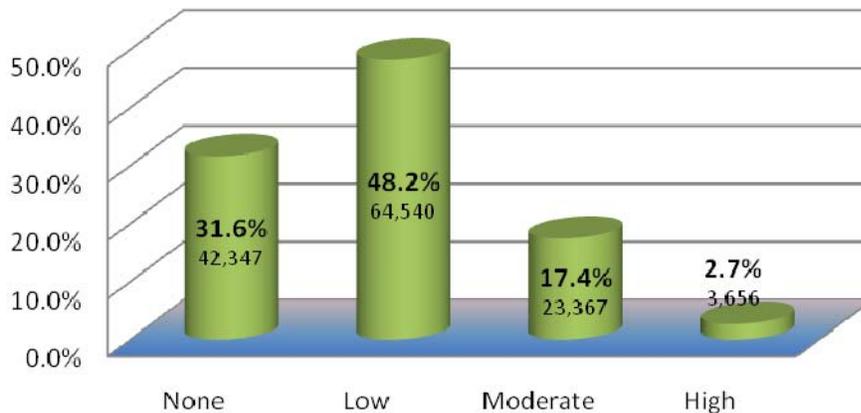
The use of special equipment or aids and help from others are the most common methods adults utilize when experiencing difficulty with activities of daily living; however, many adults do not have anyone available to help them with these activities.

### Falls and Injuries

According to the [State of California, Department of Health Services](#) (CDHS), from 1991 (first recording) through 2007, unintentional falls by older adults in Orange County have been the number one cause for non-fatal injury hospitalization. Unintentional falls become more frequent for the oldest of older adults. In 2006, there were **1,009** hospitalized injuries related to falls by older adults ages 65 to 74; **2,234** by those adults ages 75 to 84; and **2,203** by those adults ages 85 or older. In the Hoag service area, **15.2%** (20,998) of older adults experienced a fall in 2007.

The figure below presents the likelihood older adults (65+) felt they had of experiencing a fall.

**Figure 1: Likelihood of Falling, Adults (65+):  
Hoag Service Area, OCHNA 2007\***



\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- **One in five (20.1% or 27,023)** older adults felt they had at least a moderate chance of experiencing a fall.

## Care of Impaired Seniors Caregiver Activities

The majority (**56.0%**) of a caregiver's time is spent helping their recipient with at least one Activity of Daily Living (ADL), such as dressing, bathing, eating, toileting, and transferring (i.e., getting in and out of a bed or chair). Caregivers also perform, on average, **4.4** out of 7 Instrumental Activities of Daily Living (IADL); these activities go beyond the personal care activities of ADL and include activities such as transportation, housework, and meal preparation.

### Top Main Reasons for Needed Care

The [National Alliance for Caregivers](#) (NAC) survey revealed the top main reasons for the needed care of caregiving recipients: old age (**12.0%**), Alzheimer's or dementia (**10.0%**), mental/emotional illness (**7.0%**), cancer (**7.0%**), heart disease (**5.0%**), and stroke (**5.0%**). In addition, the survey found that in **69.0%** of the cases, the recipient had long-term physical conditions, and **35.0%** had short-term physical conditions.

- In the Hoag service area, **25.9%** (36,156) of older adult households had at least one member who was limited in their activities due to a major impairment or health problem.

## Seniors as Caregivers

According to the NAC, the majority of caregivers are female (**66.0%**) and on average, they are 48 years old. As the Baby Boom Generation ages, it is suspected that the age of caregivers will increase as well. Currently, seniors (65+) comprise **13.0%** of the total of all caregivers. Of the caregivers that care for children 0-17, seniors make up **6.0%** of the population; they represent **12.0%** of those who care for younger adults 18 to 49; and **14.0%** of those that care for adults 50+.

- In the Hoag service area, **26.3%** (36,423) of older adults are themselves caring for another senior member in their household.

**15.9% or 61,046** of OC adults 65+ experienced a fall.

**Over half of older adults who fell (53.6% or 32,651) were injured in a fall.** ([OCHNA 2007](#))

**21.6% or 80,814** of OC adults 65+ felt they had a moderate to high risk of falling. ([OCHNA 2007](#))

Hoag Hospital has transportation partnerships with senior community centers for program participants, including:

- Alzheimer’s Family Services Center
- Costa Mesa Senior Center
- Huntington Beach Council on Aging
- Irvine Adult Day Center
- Newport Beach’s Oasis Senior Center
- Age Well Senior Services

## Social Health and Well Being of Older Adults

### Access to Transportation

According to the [Centers for Disease Control and Prevention](#) (CDC), in 2007, there were **31 million** licensed older drivers, representing approximately **77.0%** of all adults ages 65 and older. While many older adults continue to drive, some find it necessary to limit or completely stop driving due to various physical or cognitive difficulties. Age-related problems include neck or back pain, dementia, and age-related changes in vision, such as changes in color perception, loss of side vision, impaired low light and nighttime vision, inability to see close objects, and difficulty adapting to the glare from headlights.

### Driving Habits of Older Adults

The 2007 OCHNA survey estimated that **77.6%** (107,190) of older adults in the Hoag service area still drive every day or almost every day, while **9.5%** (13,058) seldom or never drive. The table below displays older adult driving habits by age group.

Table 2: Older Adults’ Driving Habits <i>Within</i> Age Group: Hoag Service Area, OCHNA 2007*				
Frequency of Driving	65-74	75-84	85+	Total
<b>Every Day or Almost Every Day</b>	86.6% 63,158	66.9% 36,565	70.9% 7,466	77.6% 107,189
<b>Occasionally</b>	6.0% 4,345	13.7% 7,505	1.1% 111	8.7% 11,961
<b>Seldom**</b>	0.2% 166	3.4% 1,848	0.0%	1.5% 2,014
<b>Never</b>	7.1% 5,209	8.7% 4,737	10.4% 1,098	8.0% 11,044
<b>No License**</b>	0.0%	0.3% 144	17.6% 1,848	1.4% 1,992
<b>No Access to a Vehicle</b>	0.1% 93	7.1% 3,878	0.0%	2.9% 3,971
<b>Total</b>	100% 72,971	100% 54,677	100% 10,523*	100% 138,171

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.  
 \*\*Not statistically reliable due to the small number of respondents in these categories.

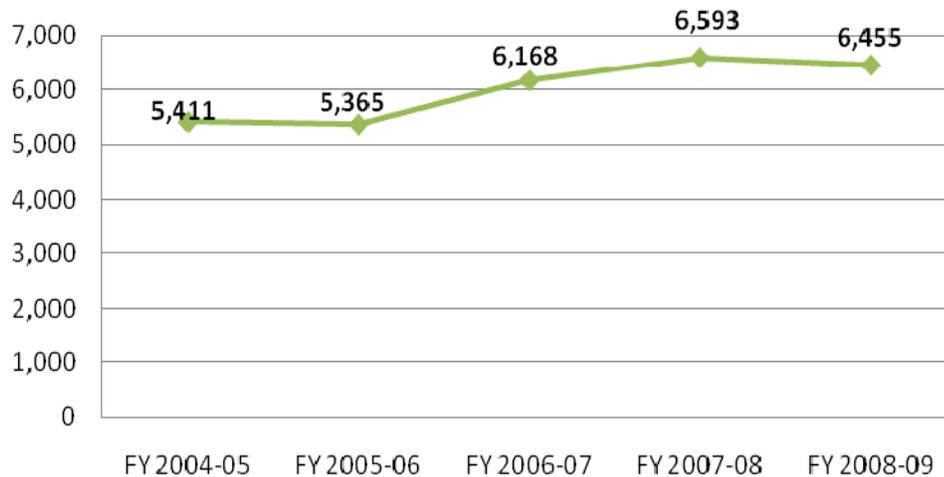
- The frequency of use of a motor vehicle was correlated with income; those within higher income levels had higher levels of use of a car or other motor vehicle. **38.6%** of those who made less than **\$25,000** a year drove every day or almost every day, whereas **87.3%** of those who made \$75,000 or more drove everyday or almost every day.
- Vietnamese older adults had the lowest levels of car use than any other racial/ethnic group. **34.9%** of Vietnamese older adults drove every day or almost every day, compared to **90.2%** of Hispanic/Latinos and **79.5%** of white older adults who drove every day. **49.0%** of Vietnamese older adults never drive-- a percentage much higher than whites (**4.7%**) or Hispanic/Latinos (**9.8%**).
- Of the **8.0%** who never drive, **75.3%** are female.

Individuals with higher levels of motor vehicle use are more likely to visit a doctor for routine check-ups, which may have a positive impact on their health. The OCHNA 2007 survey revealed that **11.1%** of older adults in the Hoag service area found it difficult to find transportation when they needed it.

## Elder Abuse

[County of Orange, Adult Protective Services](#) investigates reports of abuse against older adults and dependent adults (disabled adults 18 to 64) in private homes, hotels, hospitals, and health clinics (when the abuser is not a staff member). The chart below presents the number of reports taken in of elder and dependent adult abuse by the Adult Protective Services Registry for each fiscal year (from July to June of the following year).

**Table 2: Reports Taken by O.C Adult Protective Services Registry, FY 2004-05 to 2008-09**



Source: Orange County Social Services Agency, Adult Protective Services

- The total number of reports taken by the Orange County Elder Abuse and Dependent Adult Abuse Registry from FY 2004-05 to FY 2008-09 increased by **19.3%**.
- In FY 2004-05, **68.0%** of the abuse reports to Adult Protective Services Registry concerned elder abuse. In FY 2008-09, **71.0%** of the abuse reports concerned elder abuse.

In the Hoag service area, older adults were asked if anyone had mistreated or neglected them physically or mentally in the past 12 months and if anyone (merchant, neighbor, family member or caregiver) had taken advantage of them financially.

- **3.2%** (4,360) of older adults in the Hoag service area reported they *had* been mistreated or neglected, although the data is not statistically reliable due to too few respondents in this category.
- **6.0%** (8,347) of older adults in the Hoag service area reported they *had* been taken advantage of financially.

### Alleged Older Adult and Dependent Adult Abusers for FY 2008-09:

**63%**  
Family Members

**27%**  
Other

**9%**  
Care Custodian

**1%**  
Health Practitioner

### Types of Abuse Reported in FY 2008-09:

**1,456 Reports**  
Self-Neglect

**920 Reports**  
Financial Abuse

**750 Reports**  
Neglect by Others

**636 Reports**  
Psychological Abuse

**360 Reports**  
Physical Abuse

Preparedness of OC Households to Handle Large-Scale Disaster/Emergency for at least 3 Days: (OCHNA 2007)

26.6% Well Prepared

52.0% Somewhat Prepared

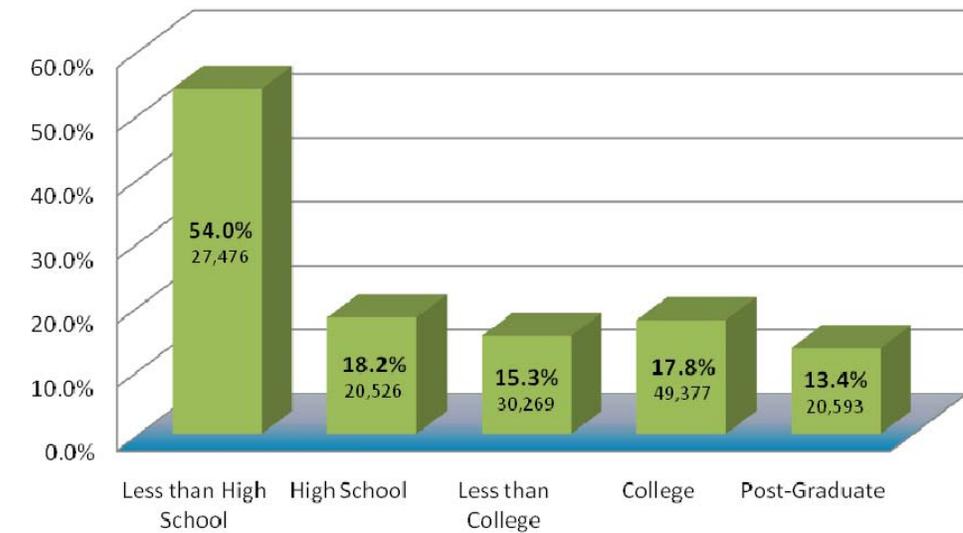
19.2% Not Prepared at All

# Disaster Preparedness

## Ability of Households to Handle Disasters

In response to how prepared they felt their household was to handle a large-scale disaster or emergency for *at least three days*, only **28.5%** (225,909) of adults in the Hoag service area felt well prepared for such an event.

**Figure 1: Adults (18+) Whose Households are Unprepared to Handle Disaster/Emergency for 3 Days *Within* Education Level: Hoag Service Area, OCHNA 2007\***



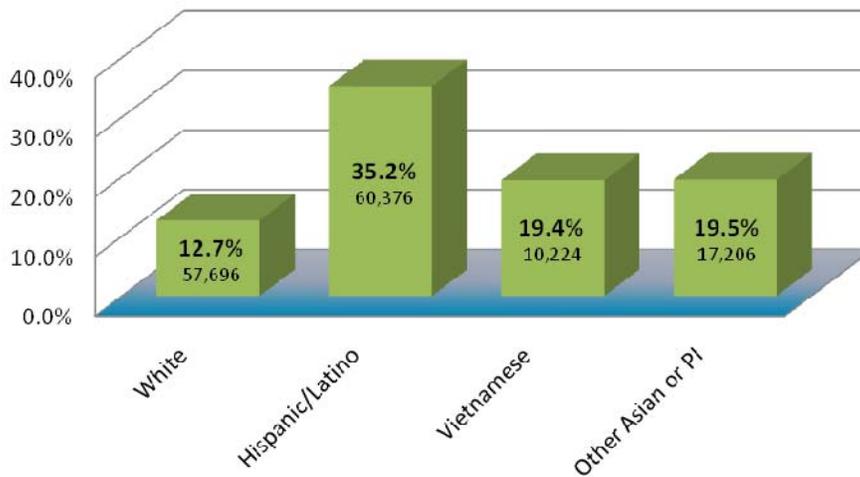
Chi-square = 22.286, p < .01

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Over half (**54.0%**) of adults in the Hoag service area with an educational level of less than high school reported that their households were not prepared for a disaster.
- Close to **4 in 10** adults with an annual household income of less than \$25,000 said their households were not at all prepared for a disaster.
- Compared to other age groups, those in the age range of 25 to 34 years said their households were the least prepared for a disaster (**12.1%** or 14,893); by contrast, those in the age range of 55 to 64 years were the most prepared (**42.3%** or 40,060) [Chi-square = 37.360, p<.001].

The figure below presents the percent of adults whose household are unprepared for a large scale disaster or emergency for at least three days *within* race/ethnicity.

**Figure 2: Adults (18+) Whose Households are Unprepared for a Disaster/Emergency lasting at least 3 Days *Within* Race/Ethnicity: Hoag Service Area, OCHNA 2007\***



Chi-square = 47.329, p < .001

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

- Hispanic/Latino adults were the most likely to report that their households were unprepared for a large scale disaster or emergency.
- Only **7.3%** (12,601) of Hispanic/Latino adults said their households were well prepared for a disaster. In contrast, **44.0%** (23,168) of Vietnamese adults stated their households were well prepared for a disaster.

A series of survey questions asked adults (18+) whether their households were prepared with emergency supplies in case of a large-scale disaster or emergency.

- Less than half of adults in the Hoag service area had a working battery operated radio and working batteries in 2007 in case of an emergency situation.

Table 1: Percent of Adults with 3-Days Worth of Supplies for Entire Household in Case of Disaster: Hoag Service Area, OCHNA 2007*		
Supply	Percent	Population Estimate
3 Day Supply of Water	70.6%	543,164
3 Day Supply of Nonperishable Foods	68.5%	527,033
Working Flashlight and Working Batteries	67.5%	519,672
First Aid Kit	62.5%	480,846
3 Day Supply of Prescription Medication for Each Prescription	58.3%	448,623
Working Battery Operated Radio and Working Batteries	48.5%	372,809

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

**OC Households with 3-Day Supplies of Following: (OCHNA 2007)**

**68.8% Water**

**68.7% Working Flashlight and Batteries**

**66.8% Non-Perishable Foods**

**62.6% First Aid Kit**

**57.1% Prescription Medication**

**48.7% Working Radio and Batteries**

**Place of Evacuation for OC Adults:**  
[\(OCHNA 2007\)](#)

- 52.9%**  
Local Family or Friend's House
- 13.4%**  
Local Shelters
- 11.7%**  
Stay in Motel/Hotel
- 9.6%**  
Move Out of State
- 1.7%**  
Refuse to Evacuate
- 10.8%**  
Other

In addition to the supplies addressed in the survey question, the [US Department of Homeland Security](#) recommends other items to be part of the basic emergency supplies kit: a whistle; dust masks; plastic sheeting and duct tape to shelter in place; moist towelettes, garbage bags and plastic ties for personal sanitation; wrenches or pliers to turn off utilities; can openers for food; local maps; and cell phones and cell phone chargers.

**Shelter for Evacuations**

The table below displays the places that adults in the Hoag service area would evacuate to during times of disasters or emergencies.

Table 2: Place Where Adult Would Evacuate During Mandatory Evacuation from Community: Hoag Service Area, OCHNA 2007*		
Evacuation Place	Percent	Population Estimate
Local Family and/or Friend's House	53.2%	354,741
Stay in a Hotel/Motel	15.3%	101,736
Move Out of State	12.2%	81,634
Local Shelters	7.9%	52,479
Refuse to Evacuate**	1.2%	9,546
Other	10.0%	66,517

\*OCHNA population estimates are based on State of California, Department of Finance population estimates.

\*\*Category is statistically unstable due to the small number of respondents.

- In the event of a disaster, more than half (**53.2%** or 354,741) of adults in the Hoag Hospital service area would seek evacuate to a local family and/or a friend's house.

**Method of Information during Disasters**

**44.2%** (348,680) of adults in the Hoag service area would rely on the radio for news and instructions during a large scale disaster or emergency; television was a close second at **39.5%** (311,393) of adults. **7.6%** (61,234) of adults replied that they would rely mostly on the internet during a large-scale disaster or emergency.

- More Vietnamese adults (**48.4%** or 27,133) chose to receive information regarding a disaster from the television, whereas more white adults (**50.1%** or 224,430) preferred to get information from the radio in a large scale disaster or emergency.
- Adults in the age category of 25 to 24 years were more than three times as likely to get information from the internet than those in the age category of 65 and older (**17.8% vs. 5.3%**).

**Main Method of Information during Disasters for OC Adults**  
[\(OCHNA 2007\)](#)

- 46.2%**  
Radio
- 37.2%**  
Television
- 7.5%**  
Internet
- 2.4%**  
Print Media (e.g. Newspaper)
- 1.4%**  
Neighbors
- 0.7%**  
Employer

# 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) 547 3631  
staff@ochna.org