UCI Health

2019
Community Health Needs Assessment

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Introduction

Background and Purpose

UCI Health comprises the clinical, medical education and research enterprises of the University of California, Irvine. An integral component of UCI Health, UCI Medical Center is a 417-bed acute care hospital providing tertiary and quaternary care, ambulatory and specialty medical clinics, behavioral health and rehabilitation. It is the primary teaching location for UCI School of Medicine. UCI Medical Center has been rated among the nation's best hospitals by *U.S. News & World Report* for 18 consecutive years. It is home to the county's only adult Level I and pediatric Level II trauma center. Our Chao Family Comprehensive Cancer Center is designated for excellence by the National Cancer Institute, the only center with such designation in Orange County and one of only 49 in the nation. Our Comprehensive Stroke & Cerebrovascular Center is the first in Orange County to be certified as a Comprehensive Stroke Center by the nation's preeminent healthcare standard-setting organization. Providing the communities in Orange County and the surrounding region with the highest quality healthcare possible is an important part of our mission and one of UCI Health's highest priorities.

The passage of the Patient Protection and Affordable Care Act requires tax-exempt hospitals, including government hospital organizations, to conduct Community Health Needs Assessments (CHNA) every three years and adopt Implementation strategies to meet the priority health needs identified through the assessment. A CHNA identifies unmet health needs in the service area, provides information to select priorities for action and target geographical areas, and serves as the basis for community benefit programs. This assessment incorporates components of primary data collection and secondary data analysis that focus on the health and social needs of the service area.

Service Area

UCI Medical Center is located at 101 The City Drive South, Orange, Calif., 92868. As a regional healthcare provider, the community benefit service area comprises all of Orange County, the sixth most populous county in the nation. Orange County cities include: Aliso Viejo, Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Dana Point, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Habra, La Palma, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Los Alamitos, Mission Viejo, Newport Beach, Orange, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster and Yorba Linda. Additionally, there are a number of unincorporated areas in the county.

Map of Orange County

Project Oversight

The Community Health Needs Assessment process was overseen by:
Christopher M. Leo, Esq.
Executive Director of Government Affairs
UCI Health

Consultant

Biel Consulting Inc. conducted the CHNA. Biel Consulting is an independent consulting firm that works with hospitals and community-based nonprofit organizations. Dr. Melissa Biel has more than 25 years of experience conducting hospital community health needs assessments and is a specialist in the field of community benefit for nonprofit hospitals. She was assisted by Sevanne Sarkis, JD, MHA, MEd and Trixie Hidalgo, MPH.
www.bielconsulting.org

Report Adoption, Availability and Comments

This CHNA report was adopted by the UCI Health Board of Directors in 2019.

This report is widely available to the public on the UCI Health website at www.ucihealth.org/community-health. Written comments on this report may be submitted to Christopher Leo, UCI Health executive director of Government Affairs, at cmleo@uci.edu.

Data Collection Methodology

Secondary Data Collection

Secondary data were collected from a variety of county and state sources to present community demographics, social determinants of health, health access, maternal and infant health, leading causes of death, disability and disease, health behaviors, mental health, substance use and misuse, and preventive practices. When available, data sets are presented in the context of Orange County and California to help frame the scope of an issue as it relates to the broader community.

Sources of data include: the U.S. Census American Community Survey, California Department of Public Health, California Health Interview Survey, Orange County's Healthier Together, County Health Rankings, California Department of Education, California Office of Statewide Health Planning and Development and California Department of Justice, among others.

Secondary data for the service area were collected and documented in data tables with narrative explanation. The tables present the data indicator, the geographic area represented, the data measurement (e.g. rate, number, or percent), county and state comparisons (when available), the data source, data year and an electronic link to the data source. Analysis of secondary data includes an examination and reporting of health disparities for some health indicators. The report includes benchmark comparison data that measures the data findings as compared to Healthy People 2020 objectives where appropriate. Healthy People 2020 objectives are a national initiative to improve the public's health by providing measurable objectives and goals that are applicable at national, state, and local levels. Attachment 1 compares Healthy People 2020 objectives with service area data.

Primary Data Collection

UCI Medical Center conducted targeted interviews to gather information and opinions from persons who represent the broad interests of the community served by the medical center. Eighteen (18) interviews were completed in September and October, 2018. Community stakeholders identified by UCI Health were contacted and asked to participate in the needs assessment. Interviewees included individuals who are leaders and/or representatives of medically underserved, low-income and minority populations, local health or other departments or agencies with current data or other information relevant to the health needs of the community. Input also was obtained from the Orange County Health Care Agency.

The identified stakeholders were invited by email to participate in a phone interview.

Appointments for the interviews were made on dates and times convenient to the stakeholders. At the beginning of each interview, the purpose of the interview in the context of the needs assessment was explained, the stakeholders were assured their responses would remain confidential and consent to proceed was given.

Interview questions focused on the following topics:

- Health issues in the community.
- Challenges and barriers people face in addressing these issues.
- Socioeconomic, behavioral, or environmental factors contributing to poor health in the community.
- Potential resources to address the identified health needs, such as services, programs and/or community efforts.
- Additional comments and concerns.

A list of the stakeholder interview respondents, their titles and organizations can be found in Attachment 2.

Public Comment

In compliance with IRS regulations 501(r) for charitable hospitals, a hospital Community Health Needs Assessment (CHNA) and Implementation Strategy are to be made widely available to the public and public comment is to be solicited. The previous Community Health Needs Assessment and Implementation Strategy were made widely available to the public on the website www.ucihealth.org/community-health. Public comment was solicited on the reports; however, to date no comments have been received.

Identification and Prioritization of Significant Health Needs

Significant health needs were identified from secondary data using the size of the problem (relative portion of population afflicted by the problem) and the seriousness of the problem (impact at individual, family, and community levels). To determine size or seriousness of the problem, the health need indicators identified in the secondary data were measured against benchmark data; specifically state rates and/or Healthy People 2020 objectives. Indicators related to the health needs that performed poorly against one or more of these benchmarks met this criterion to be considered a health need.

The analysis of secondary data yielded a preliminary list of health needs. The initial list included:

- Access to healthcare
- Alzheimer's disease
- Cancer
- Housing and homelessness
- Mental health
- Overweight and obesity
- Preventive practices
- Senior health
- Stroke
- Substance use and misuse

Priority Health Needs

The list of significant health needs informed primary data collection. The primary data collection process was designed to validate secondary data findings, identify additional community issues, solicit information on disparities among subpopulations, ascertain community assets to address needs and discover gaps in resources. Community stakeholder interviews were used to gather input and prioritize the significant health needs. The following criteria were used to prioritize the health needs:

- The perceived severity of a health issue or health factor/driver as it affects the health and lives of those in the community;
- The level of importance the hospital should place on addressing the issue.

The stakeholders were asked to rank each identified health need. The percentage of responses were presented for those needs with severe or significant impact on the community, had worsened over time, and had a shortage or absence of resources available in the community.

Not all respondents answered every question; therefore, the response percentages were calculated based on respondents only and not on the entire sample. Among the interviewees, access to healthcare, substance use and misuse, and housing and homelessness had the highest scores for severe and significant impact on the community. Substance use and misuse, and housing and homelessness had the highest rankings that worsened over time. Interviewees identified that there were insufficient resources available for housing and homelessness, substance use and misuse, mental health and Alzheimer's disease.

Significant Health Needs	Severe and Significant Impact on the Community	Worsened Over Time	Insufficient or Absent Resources
Access to healthcare	100%	16.7%	69.2%
Alzheimer's disease	70%	50%	90%
Cancer	90%	30%	50%
Housing and homelessness	92.3%	90.9%	100%
Mental health	84.6%	66.7%	92.3%
Overweight and obesity	83.3%	58.3%	75%
Preventive practices	72.7%	27.3%	81.8%
Senior health	70%	50%	63.6%
Stroke	12.5%	0%	12.5%
Substance use and misuse	100%	100%	100%

The stakeholders were also asked to rank in order (possible score of 4) the health needs according to highest level of importance in the community. The total score for each significant health need was divided by the total number of responses for which data were provided, resulting in an overall average for each health need. Among the interviewees, substance use and misuse, mental health, housing and homelessness were ranked as the top three priority needs in the service area. Calculations from community stakeholders resulted in the following prioritization of the significant health needs.

Significant Health Needs Ranked by Importance Score

Significant Health Needs	Priority Ranking (Total Possible Score of 4)
Substance use and misuse	3.83
Mental health	3.77
Housing and homelessness	3.69
Access to healthcare	3.62
Overweight and obesity	3.62
Preventive practices	3.62
Senior health	3.23
Cancer	3.00

Significant Health Needs	Priority Ranking (Total Possible Score of 4)
Alzheimer's disease	3.00
Stroke	2.27

Community input on these health needs is detailed throughout the CHNA report.

Resources to Address Significant Health Needs

Through the interview process, stakeholders identified community resources potentially available to address the significant health needs. The identified community resources are presented in Attachment 3.

Review of Progress

In 2016, UCI Medical Center conducted the previous Community Health Needs Assessment. Significant health needs were identified from issues supported by primary and secondary data sources gathered for the CHNA. The medical center's Implementation Strategy associated with the 2016 CHNA addressed access to healthcare and preventive healthcare, cancer, chronic diseases, including overweight and obesity, and mental health through a commitment of community benefit programs and resources. The impact of the actions that UCI Medical Center used to address these significant health needs can be found in Attachment 4.

Demographics

Population

Orange County, California, is the sixth largest county in the United States, with a population of 3,205,771. The county's population density, estimated at 3,606.0 persons per square mile, is greater than the state average population density of 252.0 persons per square mile.

Population Density

	Total Land Area (Square Miles)	Population Density (Per Square Mile)
Orange County	948.0	3,606.0
California	163,696.0	252.0

Source: U.S. Census Bureau, American Community Survey, 2016-2017. http://factfinder.census.gov

Orange County has experienced a 6.5% growth in population from 2010 to 2018.

Population Growth, 2010-2018

	Current Population Estimate	Percent Population Change (2010-2018)
Orange County	3,205,771	6.5%
California	39,695,753	6.5%

Source: Orange County's Healthier Together, Claritas, 2018. www.ochealthiertogether.org

In Orange County, 18.1% of the population are children, ages 0-14, 13.4% are 15-24 years old, 27.3% of the population are ages 25-44; 26.8% are 45-64, and 14.4% of the population are seniors, age 65 and older. The county's age distribution is similar to California, but it has a slightly older population, with a median age of 38.3 compared to 37.0 for California.

Population by Age

	Orange County		California	
	Number	Percent	Number	Percent
Age 0-4	189,814	5.9%	2,510,642	6.3%
Age 5-14	393,532	12.2%	5,070,382	12.8%
Age 15-24	427,876	13.4%	5,410,634	13.6%
Age 25-44	874,523	27.3%	11,101,459	27.9%
Age 45-64	857,886	26.8%	10,003,365	25.2%
Age 65+	462,140	14.4%	5,599,271	14.2%
Total	3,205,771	100.0%	39,695,753	100.0%

Source: Orange County's Healthier Together, Claritas, 2018. www.ochealthiertogether.org

Gender

Of the county population, 49.4% are male and 50.6% are female.

Population by Gender

	Orange County	California
Male	49.4%	49.6%
Female	50.6%	50.4%

Source: Claritas, 2018. www.ochealthiertogether.org

Race/Ethnicity

In Orange County, 42.3% of the population is white and 25.8% is Hispanic or Latino. Asians are the third largest race or ethnic group (15.2%) in Orange County. The remaining 16.5% of the population is distributed across other or multiple races, black or African Americans, American Indians/Alaskan Natives and Native Hawaiians/Pacific Islanders. The county has a higher percentage of whites and Asians and a lower percentage of Latinos and blacks than the state.

Race/Ethnicity

	Orange County		California	
	Number	Percent	Number	Percent
White	1,829,511	42.4%	21,823,906	39.4%
Hispanic or Latino	1,114,153	25.8%	15,646,440	28.3%
Asian	657,571	15.2%	5,815,524	10.5%
Other or Multiple	628,299	14.5%	9,156,572	16.5%
Black or African American	60,679	1.4%	2,351,101	4.3%
American Indian/Alaska Native	19,510	0.5%	387,502	0.7%
Native Hawaiian/Pacific Islander	10,201	0.2%	161,148	0.3%

Source: Claritas, 2018. www.ochealthiertogether.org

Citizenship

In Orange County, 32.1% of the population are foreign born and 15.4% of the foreign-born population are not citizens.

Foreign Born Residents and Citizenship

	Orange County	California
Foreign born	32.1%	28.7%
Of foreign born, not a U.S. citizen	15.4%	14.5%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S1603. http://factfinder.census.gov

Language

In Orange County, 54.4% of residents speak English only. Spanish is spoken in more than one-quarter of homes (26.2%). Nearly 14% of the population speaks an Asian or Pacific Island language, higher than the state rate (9.8%). Other Indo-European languages are spoken in 4.1% of households.

Language Spoken at Home, Population 5 Years and Older

	Orange County	California
Speaks only English	54.4%	56.0%
Speaks Spanish	26.2%	28.8%
Speaks Asian/Pacific Islander language	14.3%	9.8%
Speaks other Indo-European language	4.1%	4.4%
Speaks other language	1.0%	1.0%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S1601. http://factfinder.census.gov

Among students enrolled in county school districts, 23.5% are English Learners (EL), higher than the state average (20.4%).

English Learners

	Percent
Orange County	23.5%
California	20.4%

Source: California Department of Education DataQuest, 2017-2018 Language Group Data. http://dq.cde.ca.gov/dataquest/

Veterans

In Orange County, 5% of the population, 18 years and older, are veterans, compared to 5.9% in the state.

Veterans

	Percent
Orange County	5.0%
California	5.9%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S2101. http://factfinder.census.gov

Social Determinants of Health

Social and Economic Factors Ranking

The County Health Rankings rank counties according to health factors data. Social and economic indicators are examined as a contributor to the health of a county's residents. California's 57 evaluated counties (Alpine excluded) are ranked according to social and economic factors with 1 being the county with the best factors to 57 for that county with the poorest factors. This ranking examines: unemployment, high school graduation rates, children in poverty, income inequality, social support and others. In 2018, Orange County ranked sixth, putting the county in the top 10% of all California counties for social and economic factors.

Social and Economic Factors Ranking

	County Ranking (out of 57)
Orange County	6

Source: County Health Rankings, 2018. www.countyhealthrankings.org

Poverty

Poverty thresholds are used for calculating all official poverty population statistics. They are updated each year by the Census Bureau. From 2012-2016, the federal poverty threshold for one person ranged from $11,170 to $11,880; and for a family of four, from $23,050 in 2012 to $24,300 in 2016. Among Orange County residents, 12.5% are at or below 100% of the federal poverty level (FPL) and 29.0% are at 200% of FPL or below (low-income). These poverty levels are below state averages.

Ratio of Income to Poverty Level

	Below 100% Poverty	Below 200% Poverty
Orange County	12.5%	29.0%
California	15.8%	35.2%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S1703. http://factfinder.census.gov

Orange County children experienced poverty rates of 22.9%. Families with female head of household had an average poverty rate of 14.4%. For seniors, the Orange County poverty rate was 13.1%. The rate of poverty for Orange County seniors (13.1%) is higher than among California seniors (12.8%).

Poverty Levels of Children, Seniors, and Female Head of Household with Children

	Children Under 18 Years Old	Seniors	Female Head of Household with Children
Orange County	22.9%	13.1%	14.4%
California	23.7%	12.8%	17.0%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S1703. http://factfinder.census.gov

Families in Poverty

In Orange County, 8.7% of families live in poverty, compared to 11.8% of California families living in poverty. When examined by race/ethnicity, families of other races (19.7%) and Hispanic or Latino families (16.6%) have the highest rates of poverty. White families (4.1%) have the lowest levels of poverty.

Families Living in Poverty by Race/Ethnicity

	Percent
Other races	19.7%
Hispanic or Latino	16.6%
American Indian/Alaska Native	11.8%
Native Hawaiian/Pacific Islander	11.3%
Two or more races	9.9%
Black or African American	9.4%
Asian	8.7%
White	4.1%

Source: U.S. Census Bureau, American Community Survey, 2012-2016; Conduent Healthy Communities www.ochealthiertogether.org.

Unemployment

Orange County's unemployment rate averaged 2.6% as of April 2018.

Unemployment Rate, 2018 Average

	Unemployment Rate
Orange County	2.6%
California	3.8%

Source: California Employment Development Department, Labor Market Information, 2018. Not seasonally adjusted.

Households

The median household income for Orange County is $78,145. This is higher than the California median household income of $63,783.

Median Household Income

	Median Household Income
Orange County	$78,145
California	$63,783

Source: U.S. Census Bureau, American Community Survey, 2012-2016, DP03. http://factfinder.census.gov

There are 1,017,012 occupied housing units in Orange County. The percentage of one-person households is 21.0%, with 31.3% four-plus person households.

Household Size

	Orange County	California
1 person households	21.0%	24.4%
2 person households	30.6%	30.1%
3 person households	17.1%	16.6%
4+ person households	31.3%	29.3%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S2501. http://factfinder.census.gov

Over half of Orange County renters (55.2%) spend 30% or more of their household income on rent.

Renters Who Spend 30% or More of their Income on Housing

	Percent
Orange County	55.2%
California	56.5%

Source: U.S. Census Bureau, American Community Survey, 2012-2016; Conduent Healthy Communities www.ochealthiertogether.org.

In Orange County, residents receive lower rates of supportive benefits than elsewhere in the state: 4.3% of county households receive SSI (Supplemental Security Income) benefits; 2.2% receive cash public assistance income, and 6.4% of residents receive food-stamp benefits.

Household Supportive Benefits

	Orange County	California
Households	1,017,012	12,807,387
Supplemental Security Income (SSI)	4.3%	6.2%
Public Assistance	2.2%	3.8%
Food stamps/SNAP	6.4%	9.4%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, DP03. http://factfinder.census.gov

Food insecurity is the lack of access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. Among adults with an income less than 200% FPL, 45.6% reported food insecurity, which is higher than the state rate of 44.4%. Among Orange County children under 18 years of age, 16.3% live in households experiencing food insecurity.

Food Insecurity

	Orange County	California
Low-income (<200 FPL) adult with food insecurity	45.6%	44.4%
Children (<18 years) living in households that experience food insecurity*	16.3%	19.0%

Source: California Health Interview Survey, 2016. http://askchis.ucla.edu

**Feeding America, 2016, www.ochealthiertogether.org*

Free and Reduced Price Meals

The number of students eligible for the free and reduced-price lunch program is one indicator of the socioeconomic status within a region. The county rate of eligibility was 49.2% in the 2017-2018 school year compared to 60.1% statewide.

Eligibility for Free and Reduced Price Meals (FRPM) Program

	Eligible Students
Orange County	49.2%
California	60.1%

Source: California Department of Education DataQuest, 2017-2018. http://dq.cde.ca.gov/dataquest/

Educational Attainment

In Orange County, 15.5% of adults have not achieved high school graduation. This is less than in the state (17.9%). Among county adults, 46.3% are college graduates. The level of college degree attainment in the state is 39.8%.

Educational Attainment of Adults, 25 Years and Older

	Orange County	California
Population 25 years and older	2,100,472	25,554,412
Less than 9th grade	8.7%	9.9%
Some high school, no diploma	6.8%	8.0%
High school graduate	17.4%	20.6%
Some college, no degree	20.9%	21.7%
Associate degree	7.8%	7.8%
Bachelor degree	24.8%	20.1%
Graduate or professional degree	13.7%	11.9%

Source: U.S. Census Bureau, American Community Survey, 2012-2016, S1501. http://factfinder.census.gov

High school graduation rates are the number of high school graduates who graduated four years after starting ninth grade. In Orange County, the high school graduation rate is 88.8%, which is higher than the state average (82.7%). The county rate exceeds the Healthy People 2020 objective for high school graduation of 87%.

High School Graduation Rates, 2016-2017

	Percent
Orange County	88.8%
California	82.7%

Source: California Department of Education DataQuest, Cohort Outcome Data for Class of 2016-2017. http://dq.cde.ca.gov/dataquest/

Homelessness

The U.S. Department of Housing and Urban Development (HUD) conducts a yearly 'point-in-time' count (PIT) of homeless, with data reported by Continuums of Care

(CoC). The total number of people experiencing homelessness during PIT counts collected in Orange County during 2017 was 4,792. Recent trends show that rates of homelessness are increasing in Orange County, along with the percentage of homeless who are unsheltered (5% increase).

Homeless Annual Count, Santa Ana/Anaheim/Orange County CoC

Year of Count	Total Homeless	Sheltered	Unsheltered
2015	4,452	51%	49%
2017	4,792	46%	54%

Source: Orange County CoC Homeless Count & Survey Report/2-1-1 Orange County by Focus Strategies, July 2017
https://www.211oc.org/images/PIT-Final-Report-2017-072417.pdf

Among public school children, 5.8% are homeless, which is higher than the state rate of 4.4% homeless public school children.

Homeless Public School Students

	Percent
Orange County	5.8%
California	4.4%

Source: Kids Data, 2016. https://www.kidsdata.org/region/365/orange-county/summary#37/family-economics

Community Input – Housing and Homelessness

Stakeholder interviews identified the following issues, challenges and barriers related to housing and homelessness. Following are their comments, quotes and opinions edited for clarity:

- There is a lack of affordable housing. Housing isn't being built; what exists costs too much. Another factor leading to homelessness is the local economy, which has a lot of low-paying jobs.
- There is a lack of permanent low-income housing. We have some transitional housing and some emergency housing. We need a system that works in terms of coordination. When we find homeless people, there should be a coordinated system for quick assessment and placement. The county is a mess with all sorts of bottlenecks right now. There is a system but delays in placing people are too long.
- The homeless have economic or human capital disabilities. Their education levels are lower than the county average. They also suffer from social capital deficit. A smaller percentage are married, have children, may be separated from families, have families that can't accommodate them, do not see their family on a regular basis and most of their friends are other homeless people. They don't have the resource base to draw on when confronted with one crisis after another. Compared to the rest of the population, they are far more debilitated in terms of their health.
- Homelessness and housing insecurity go hand-in-hand with mental health challenges. Coordination with mental health, housing and county providers is needed.

- Certain cities are more willing to participate to address homelessness. The housing situation and support for the homeless, particularly the chronically homeless, really depends on the city. Certain cities have more homeless because they have more resources.
- Homeless populations, no matter their demographic, have limited access and desire to seek out care. Care needs to be accessible to them where they are.
- There is a lack of permanent supportive housing for chronically homeless who are experiencing severe physical and mental disability. We still have a fragmented system of care that prevents people from getting housed. We have a shortage of apartment owners and rentals for persons with vouchers. It is hard to get landlords to accept Section 8 vouchers.
- It's very expensive to live in Orange County and many people have minimum-wage jobs. People are stuffed into housing. They rent one or two rooms and six to eight people live in a two-bedroom apartment. This is considered homelessness.
- There are a lot of housing organizations but there is no housing targeting Vietnamese or other Asian homeless. More focus is needed for those populations.
- We moved people away from the river basin because we're worried about flooding but had no place for them to go. The city of Irvine wants to reject even temporary homeless shelters; we need a countywide solution. The reason Santa Ana voted against shelters was because people said they were finding needles downtown, but Santa Ana also rejected a needle-exchange program. We have resources to solve it. Many organizations are working hard but we need the support of county government to solve the issue. We can't send everyone to Laguna or Santa Ana.
- Housing is healthcare. Recuperative care provides access to healthcare. Once the homeless get housed, we think that is the answer. And it is the answer, but we also need supports put in place. We need to bring care to them with mobile vans, but that is not always easy. The homeless population is different than other Medi-Cal patients who do have a home. We see the patients who come to us who may have a doctor assigned to them but they don't see the doctor or get screened. There needs to be a special individualized system of care for the homeless population.
- There is an increasing population of older homeless people who need more services in terms of physical mobility. It's hard to find available beds for these seniors, especially those who are actively struggling with mental health and substance abuse.
- Homelessness has been inaccurately and inappropriately linked with a criminal population and/or with a severely mentally ill population, and it has become a political issue of "not in my backyard." People in Orange County know there is a problem and they want it fixed, but they want it fixed in someone else's area.

- These issues are particularly heightened in Orange County, where we have such a high cost of living. The median monthly rent for a one-bedroom apartment is $1,800. That puts housing out of reach for close to 60% of people in the county. There is an increasing gap between the cost of housing and resources to access housing. When that gap grows, homelessness increases.

Transportation

Orange County workers spend, on average, 27.2 minutes a day commuting to work. Of those, 78.5% drive alone to work and 39.7% of solo drivers have a long commute. Few workers commute by public transportation (2.4%) or walk to work (1.9%).

Transportation/Commute to Work

	Orange County	California
Mean travel time to work (in minutes)	27.2	28.4
Solo drivers with a long commute	39.7%	39.3%
Workers commuting by public transportation	2.4%	5.2%
Workers who drive alone	78.5%	73.5%
Workers who walk to work	1.9%	2.7%

Source: U.S. Census Bureau, American Community Survey, 2012-2016. Conduent Healthy Communities, www.ochealthiertogether.org

Crime and Violence

Violent crimes include homicide, rape, robbery and assault. Crime statistics indicate that Orange County has lower rates (237.9 per 100,000 persons) of violent crime than the state (450.7 per 100,000 persons).

Violent Crimes, per 100,000 Persons

	Number	Rate
Orange County	7,627	237.9
California	178,553	450.7

Source: California Department of Justice, Office of the Attorney General, 2017. http://oag.ca.gov/crime/cjsc/stats/crimes-clearance https://openjustice.doj.ca.gov/resources/publications

Calls for domestic violence are categorized as with or without a weapon. The majority of domestic violence calls in Orange County did not involve a weapon (70.5%).

Domestic Violence Calls

	Total	Without Weapon	With Weapon
Orange County	8,452	70.5%	29.4%
California	169,362	55.6%	44.3%

Source: California Department of Justice, Office of the Attorney General, 2017. http://oag.ca.gov/crime/cjsc/stats/domestic-violence

Community Input – Social Determinants of Health

Stakeholder interviews identified the following issues, challenges and barriers related to social determinants of health. Their comments, quotes and opinions are edited for clarity:

- Low-income communities of color and immigrant populations experience higher disparities and gaps in services.
- Vulnerable elderly populations are immigrants who are low-income and those with low English literacy. Isolation is a significant problem.
- There are a lot of undocumented Asian and Vietnamese people in Orange County. Many came as tourists or on student visas and they overstayed. A huge number of these people are considered undocumented. We need better services if we want to target Cambodians and Chinese because current services are not tailored to these populations.
- We have divisions by socioeconomic status according to cities and immigration issues that could make populations more vulnerable. Even though we are supposed to be an affluent county, we have a large number of elderly who do not have food and shelter security. There are a lot of problems with homelessness for an affluent county as well. Those are the most vulnerable populations.
- The Korean, Iranian, Arabic and Chinese populations are sizable, and they are emerging populations for which there needs to be some countywide conversations to create and sustain services.
- Even among legal immigrants there is so much fear about changing rules on public charge. When monolingual communities are looking for specialty care it can be hard to find cultural and language competency.
- When we do reach out to underrepresented communities, the messages must be tailor-made for each community. Simply translating information from English to other languages doesn't work. We have to make sure we are giving the same message, not just a literal translation. Also, we need to build trust in those communities. The disenfranchised feel or perceive that they are stigmatized or looked down upon.
- There are cultural differences and socioeconomic differences that play into equity in educating communities of immigrants and lower socioeconomic status when it comes to the value of healthy eating and healthy lifestyles.
- Senior populations are more isolated and do not have access to transportation.
- Social isolation and poverty, hunger and stable housing are issues for seniors.
- Women live longer. They may have a smaller nest egg, smaller social security payments and may not have a 401K or employer-based health coverage, leaving them struggling more to meet their needs, which impacts their health.
- Poverty, housing costs and systemic inequities that are not being addressed could be related to race, ethnicity and immigration status.

- Low-income seniors often live alone and are on fixed incomes. Financial insecurity affects them daily and has an effect on their priorities, including food and medications. Often medications take a backseat because they cannot afford the medications needed to maintain their health.
- Many poor residents don't have housing and food. We have a number of Vietnamese who are homeless in the community. We find that transportation and childcare are also issues, but that housing is number one, with people who are crowded 8-10 people in one small apartment.
- Environmentally, we still enjoy clean air but there are indications the gains we made in cleaning the air from smog have plateaued and may be reversing. The L.A. basin last month just experienced one of the worst episodes of smog we've had in 20 years and that impacts Orange County. Air quality and respiratory issues are a challenge. We still have problems with lead and paint in Santa Ana buildings. We also have lead contaminated soils in our poorer communities.
- In terms of social determinants, a new study of Anaheim, Santa Ana and Garden Grove shows that there aren't enough parks and places for physical activity.
- We need commitment from funders, systems of care, hospitals and the county; they need to come together with community-based leaders and address these barriers. This usually means having a seat at the planning table, an ability to be part of decision-making process, funding the decision-making process, etc. Very little exists for ethnic communities that aren't sizable. For communities other than Spanish- or Vietnamese-speaking in Orange County, access to decision-making is disjointed. Part of the planning process is listening to those who know communities best.
- There are inequities associated with economics and access to the social determinants of health that have an impact on long-term health quality. Most people have access to the healthcare experience with Medicaid expansion. The biggest disparities are quality, preventive care, education, early interventions and access to low-cost, healthy food options, all of which play a big role in long-term health and the prevention of chronic conditions.
- Poverty is a proxy for everything. Lack of income is going to be the most impactful determinant of health.
- In Orange County, immigrant status has become a significant issue.
- Public safety concerns affect behaviors, exercise and access to affordable healthy foods. It is a serious challenge in high-density parts of the south county.

Health Access

Health Insurance

Health insurance coverage is considered a key component to accessing healthcare. In Orange County, 87.7% of the total civilian non-institutionalized population is insured, similar to the state rate of 87.4%. Among children, 95% of children have insurance coverage. More than three-quarters of non-senior adults are insured (82.8%). And 98% of seniors are insured.

Insurance Coverage

	Total Population	Children, 0-17	Adults, 18-64	Seniors, 65+
Orange County	87.7%	95.0%	82.8%	98.4%
California	87.4%	94.6%	82.4%	98.6%

Source: U.S. Census Bureau, American Community Survey, 2016, S2701. http://factfinder.census.gov

In Orange County, 49.1% of the population has employment-based health insurance. 24.9% are covered by Medi-Cal and 9.1% of the population has coverage that includes Medicare. Orange County has higher rates of employment-based and private purchase insurance than found elsewhere in the state.

Insurance Coverage by Type of Coverage

	Orange County	California
Total Insured	87.7%	87.4%
Employment-based	49.1%	45.5%
Medi-Cal	24.9%	31.0%
Medicare and others	9.1%	9.2%
Private purchase	7.6%	6.4%
Medicare and Medi-Cal	3.4%	4.6%
Other public	1.9%	1.7%
Medicare Only	1.5%	1.5%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Sources of Care

Residents with a medical home and access to a primary care provider have improved continuity of care and decreased unnecessary emergency room (ER) visits. In Orange County, 82.9% of the population reported a regular source for medical care. The source of care for 64.6% of residents is a doctor's office, HMO or Kaiser. Clinics and community hospitals are the source of care for 15.9% in the county, while 17.1% of county residents have no regular source of care.

Sources of Care

	Orange County	California
Have usual place to go when sick or need health advice	82.9%	85.4%
Doctors office/HMO/Kaiser Permanente	64.6%	58.7%
Community clinic/government clinic/community hospital	15.9%	23.7%
ER/Urgent Care	0.8%	1.8%
Other	1.6%	1.2%
No source of care	17.1%	14.6%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Accessing healthcare can be affected by the number of providers in a community. According to the 2018 County Health Rankings, Orange County ranks 21 out of 58 California counties for clinical care, which includes health insurance coverage, ratios of population-to-care providers and preventive screening practices, among others. The ratio of county population to healthcare providers indicates there are more primary care physicians and dentists, but fewer mental health providers for Orange County residents when compared to California as a whole.

Ratio of Population to Health Care Providers

	Orange County	California
Primary care physicians	1,050:1	1,280:1
Dentists	920:1	1,210:1
Mental health providers	440:1	320:1

Source: County Health Rankings, 2018.
http://www.countyhealthrankings.org/app/california/2017/rankings/orange/county/outcomes/overall/snapshot

Delayed care may also indicate reduced access to care; 10.7% of county residents reported delaying or not seeking medical care and 8.0% reported delaying or not getting their prescription medication in the last 12 months.

Delay of Care

	Orange County	California
Delayed or didn't get medical care in last 12 months	10.7%	9.8%
Delayed or didn't get prescription medicine in last 12 months	8.0%	9.0%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Use of the Emergency Room

An examination of ER use can lead to improvements in providing community-based prevention and primary care; 19.5% of residents in Orange County visited an ER over the period of a year. Adults, ages 18-64, visited the emergency room at higher rates (21.2%) than other age groups.

Use of Emergency Room

	Orange County	California
Visited ER in last 12 months	19.5%	21.4%
0-17 years old	12.2%	19.7%
18-64 years old	21.2%	21.9%
65 and older	20.9%	22.0%
<100% of poverty level	21.9%	26.3%
<200% of poverty level	16.1%	21.7%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Dental Care

In Orange County, 77.1% of adults saw a dentist within the past year compared to 83% of all state adults.

Time since Last Dental Visit, Adult

	Orange County	California
6 months ago or less	69.0%	73.5%
More than 6 months up to 1 year ago	8.1%	9.5%
More than 1 year up to 2 years ago	1.4%	3.0%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Among children in Orange County, 87.5% of children saw a dentist within the past year compared to 90.2% statewide.

Time since Last Dental Visit, Children, Ages 2-11

	Orange County	California
6 months ago or less	77.5%	79.5%
More than 6 months up to 1 year ago	10.0%	10.7%
More than 1 year up to 2 years ago	1.7%	3.4%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Community Input – Access to Care

Stakeholder interviews identified the following issues, challenges and barriers related to access to care. Following are their comments, quotes and opinions edited for clarity:

- A lack of health insurance is still a major factor contributing to health disparities. People can't get access to basic primary and preventive services. Our county is unique in that we lack safety-net providers.
- We have many uninsured. Because of the Affordable Care Act, everyone should have insurance. But the undocumented are afraid to sign up, afraid of being reported to ICE and getting deported.
- Dental care is a concern, particularly for seniors. Most Medicare plans don't cover it.
- CalOptima and Medi-Cal are restrictive for more complicated care. People admitted through emergency departments (ED) cannot have their care continued in an

outpatient setting. The idea is not to use the ED, but our inability to continue to see these patients in outpatient setting restricts continuity of care.

- The cost of care, even with insurance copays, is very high, especially for cancer patients.
- We see high rates of pregnant women who do not get prenatal care.
- One issue is that the healthcare system is extremely complex to navigate. For seniors, that complexity may result in them falling through the cracks. There is a lack of geriatric-trained providers in county. The senior population is going to grow and we don't have good community-based systems to help them age in place.
- There are not enough primary care doctors. Another issue with access to care is that the standard hours of operation don't match with people's needs. Many people don't have sick time or PTO time; they have to go to work because they have to put food on the table. We need extended-access hours.
- Transportation, lack of office access during non-work hours and language are barriers. Those institutional barriers can be intimidating for low-income populations.
- We don't have a robust transportation system that allows for easy access to health providers in a reasonable time period.
- There is a shortage of ethnic providers. For Cambodians, there are no doctors to be found. There are so many people and so many needs, but only limited clinics and resources to help people. Many people have to wait a long time for an available appointment. Overall, demand is higher than supply.
- With low-income ethnic populations, accessing primary healthcare is not at the top of their list. Even if they have insurance, Latinos, Vietnamese, Koreans and recent refugees are not seeking access to care.
- The vision of every county citizen having a medical home was articulated five years ago and we are nowhere close to getting it done.
- A population that is often missed is the young transitional adult youth and middle schoolers. Even though they have health insurance, their isn't a system in place for care that is accessible.
- Across the board, the lower a person's income level, the harder it is to facilitate utilization of healthcare. We've seen an increase in coverage rates, but it's not translating to care utilization. Provider shortages continue to result in longer wait times. To bring the previously uninsured and health illiterate people into the system takes time.
- Seniors may take 10 to 21 medications. Many medications come with a share of cost. That share of cost may not be available to them so they select medications they can afford, and that are covered through their Medicare-Medicaid plans. And they often have to wait for approvals.

- From a clinical standpoint, there is an expectation that you can see a senior patient in the same amount of time as a relatively healthy 25-30 year old. But this is not feasible. Senior care is more complicated.
- Providing education on how to best manage benefits is essential, and in a person's own language. A translator may be able to do basic translation, but not at the level that someone may understand how to ask questions. It's a health literacy issue. Due to respect and dignity, many seniors don't want to ask follow-up questions and may not understand fully what is being said.
- Access to care for seniors is quite challenging. Given the cost of transportation and food, it's really about what they can afford, what is accessible to them. They may not know how to find information and what to do with it. There is so much information available that it becomes overwhelming. Some may not have access to technology or know how to use it to its fullest extent, or they are using obsolete information.
- Seniors are the fastest growing demographic in our county and there is a lack of robust community-based care. We need senior centers and community assisted living, community-based programs and services that keep seniors in the community, as well as support for caregivers and families in terms of quality of life.
- Our senior population has huge transportation issues, so providers have to do the best they can when these patients are onsite to get everything done. This is contradictory to our payment model in which providers only get paid for one encounter per day. With seniors, we want them to see their primary care practitioner and other practitioners, to ensure we can cover those things. But the services are not covered unless these patients make separate trips. Given their transportation access issues, that is not feasible for this population.
- One of the biggest barriers has been changes to CalOptima. The changes have been tremendous in the last four years. It is dizzying and is hard for professionals to take in. It's even harder for community members to understand. There are not enough access points.
- Coverage and access are two separate things. We've seen improved coverage for a big chunk of the population. But there continue to be challenges to finding providers who accept Medi-Cal, specialists for frail children and geriatric specialists.
- We don't have a system in place to meet the needs of the severely mentally ill and chronically persistent mentally ill. Our system expects that population to adapt to what already exists.
- Getting to and from clinics is an issue for the homeless and the poor in the county.
- At UCI Medical Center there needs to be better payor rates with CalOptima. Our costs are higher because we are a tertiary and quaternary care center. CalOptima wants to send people to the cheapest locations. UCI Medical Center is often the best place to be cared for but it is not the least expensive. We need to solve contracting issues and be able to see more patients.

Maternal and Infant Health

Births

On average, there were 38,117 births from 2014-2016 in Orange County. The birth rate in Orange County was 11.9 per 1,000 persons and the state birth rate was 13.0 per 1,000 persons in 2015 *(Source: California Department of Public Health, 2015. www.ochealthiertogether.org).*

Health Status

In Orange County, 93.3% of women were in good to excellent health before pregnancy. Among pregnant women in Orange County, 20.3% had inadequate weight gain while 35.3% had excessive weight gain during pregnancy. And 11.7% of Orange County women experienced food insecurity during pregnancy.

Health Status Before and During Pregnancy

	Orange County	California
Good to excellent health before pregnancy	93.3%	92.0%
Inadequate weight gain during pregnancy	20.3%	18.2%
Excessive weight gain during pregnancy	35.5%	41.2%
Food insecurity during pregnancy	11.7%	15.6%

Source: California Department of Public Health, Maternal Infant Health Assessment, 2013-2015.
https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/Pages/Data-and-Reports.aspx?Name=SnapshotBy

Prenatal Care

In Orange County, 87% of pregnant women entered prenatal care within the first trimester. This rate translates to 13% of women entering prenatal care late or not at all, which is lower than the state rate of 16.7%. Orange County exceeded the Healthy People 2020 objective of 77.9% of women entering prenatal care in the first trimester.

Early Entry into Prenatal Care (In First Trimester)

	Live Births	Percent
Orange County	32,490	87.0%
California	486,846	83.3%

Source: California Department of Public Health, 2014-2016, Vital Statistics Query System, County Health Status Profiles 2018.
https://www.cdph.ca.gov/Pages/CDPHHome.aspx

Teen Birth Rate

Births to teens in Orange County occurred at a rate of 12.2 per 1,000 females, ages 15-19. This rate is lower than the teen pregnancy rate found in the state (17.6 per 1,000 females).

Births to Teenage Mothers (Ages 15 - 19)

	Live Births	Rate per 1,000 Females
Orange County	1,376	12.2
California	24,209	17.6

Source: California Department of Public Health, 2014-2016, Vital Statistics Query System, County Health Status Profiles 2018. https://www.cdph.ca.gov/Pages/CDPHHome.aspx

Low Birth Weight

Low birth weight is a negative birth indicator because babies born at low birth weights are at higher risk for disease, disability and possibly death. Orange County has a lower percentage of babies born at low birth weight (6.3%) compared to the state (6.8%). The rate of incidence of low birth weight births (6.3%) is lower than the Healthy People 2020 objective of 7.8%.

Low Birth Weight (Under 2,500 g)

	Low Birth Weight	Percent of Live Births
Orange County	2,397	6.3%
California	33,655	6.8%

Source: California Department of Public Health, 2014-2016, Vital Statistics Query System, County Health Status Profiles 2018. https://www.cdph.ca.gov/Pages/CDPHHome.aspx

Infant Mortality

Infant mortality reflects deaths of children under one year of age. The infant death rate in the county is 2.9 deaths per 1,000 live births. This rate is lower than the California rate of 4.5 deaths per 1,000 live births. Orange County fares better than the Healthy People 2020 objective of 6.0 deaths per 1,000 live births.

Infant Mortality Rate

	Rate
Orange County	2.9
California	4.5

Source: California Department of Public Health, 2015 https://letsgethealthy.ca.gov/goals/healthy-beginnings/reducing-infant-mortality/

Breastfeeding

Data on breastfeeding are collected by hospitals on the Newborn Screening Test Form. Breastfeeding rates at UCI Medical Center indicate 93.1% of new mothers breastfeed and 73.2% breastfeed exclusively. The rates of exclusive breastfeeding exceed the average rates among hospitals in the county and state. However, the rate of any breastfeeding is lower than county and state rates.

In-Hospital Breastfeeding, 2017

	Any Breastfeeding		Exclusive Breastfeeding	
	Number	Percent	Number	Percent
UCI Medical Center	1,276	93.1%	1,004	73.2%
Orange County	34,573	94.8%	24,111	66.1%
California	384,637	93.9%	285,146	69.6%

Source: California Department of Public Health, Breastfeeding Hospital of Occurrence, 2017
https://www.cdph.ca.gov/Programs/CFH/DMCAH/Breastfeeding/Pages/In-Hospital-Breastfeeding-Initiation-Data.aspx

Mortality/Leading Causes of Death

Mortality Rates

The five leading causes of death in Orange County are 1.) cancer; 2.) heart disease; 3.) Alzheimer's disease; 4.) stroke, and 5.) lung cancer/chronic lower respiratory disease. Age-adjusted death rates eliminate the bias of age in the makeup of the populations being compared. When comparing across geographic areas, age-adjusting is typically used to control for the influence that different population age distributions might have on health event rates.

The cancer death rate is 131.0 per 100,000 persons, lower than the state rate and the Healthy People 2020 objective of 161.4 per 100,000 persons. The heart disease mortality rate in the county is 80.4 per 100,000 persons, lower than the state rate and the Healthy People 2020 objective of 103.4 per 100,000 persons. The death rate due to Alzheimer's disease (37.5 per 100,000 persons) was higher than the state rate (34.2 per 100,000 persons). The death rate in Orange County due to stroke was 34.9 per 100,000 persons, which was higher than the Healthy People 2020 objective of 34.8 per 100,000 persons.

The rate of deaths due to drug use in Orange County (11.9 per 100,000 persons) exceeded the Healthy People 2020 objective (11.3 per 100,000 persons). Also, the liver disease death rate in Orange County (11.4 per 100,000 persons) exceeded the Healthy People 2020 objective for liver deaths (8.2 per 100,000 persons).

Mortality Rates, Age Adjusted, per 100,000 Persons, 2014-2016

	Orange County	California	Healthy People 2020
All cancers	131.0	140.2	161.4
Coronary heart disease	80.4	89.1	103.4
Alzheimer's disease	37.5	34.2	No Objective
Cerebrovascular disease (stroke)	34.9	35.3	34.8
Chronic lower respiratory disease	26.5	32.1	No Objective
Lung cancer	26.4	28.9	45.5
Unintentional injuries	24.5	30.3	36.4
Breast cancer (female)	18.7	19.1	20.7
Prostate cancer	17.6	19.6	21.8
Influenza/pneumonia	14.9	14.3	No Objective
Diabetes	13.5	20.7	No Objective
Drug-induced deaths	11.9	12.2	11.3
Colorectal cancers	11.1	12.8	14.5
Chronic liver disease and cirrhosis	10.4	12.2	8.2
Suicide	9.6	10.4	10.2
Motor vehicle traffic crashes	6.2	8.8	12.4

	Orange County	California	Healthy People 2020
Firearm-related deaths	4.5	7.6	9.3
Homicide	2.0	5.0	5.5

Source: California Department of Public Health, Vital Statistics Query System, County Health Status Profiles 2018.
https://www.cdph.ca.gov/Pages/CDPHHome.aspx

Cancer Deaths

The five-year average cancer mortality age-adjusted rate for all cancer sites in Orange County was 137.8 per 100,000 persons, age-adjusted, which is lower than the California age-adjusted cancer death rate of 146.6 per 100,000 persons. The highest rates of cancers occurred with lung and bronchus, breast, prostate, colon and rectum. Orange County has higher death rates than the state from cancer of the pancreas, ovarian cancer, brain cancer, leukemia and melanoma of the skin.

Cancer Mortality Rates, Age-Adjusted, per 100,000 Persons, 2011-2015

	Orange County	California
All sites	137.8	146.6
Lung and bronchus	29.6	31.9
Breast (females)	18.7	20.1
Prostate (males)	18.2	19.6
Colon and rectum	11.6	13.2
Pancreas	10.7	10.3
Ovary (females)	7.4	7.1
Liver and intrahepatic bile duct	6.9	7.6
Non-Hodgkin lymphoma	4.7	5.4
Brain	4.5	4.3
Urinary bladder	3.9	3.9
Stomach	3.7	4.0
Myeloid and monocytic leukemia	3.5	3.3
Kidney and renal pelvis	3.1	3.5
Melanoma of the skin	2.8	2.4
Oral Cavity and Pharynx	2.2	2.4
Lymphocytic leukemia	1.9	1.9
Cervix uteri (females)	1.6	2.2
Thyroid	0.5	0.6
Testis (males)	0.3	0.3

Source: California Cancer Registry, Cancer Surveillance Section, California Department of Public Health, 2011-2015.
http://www.cancer-rates.info/ca/

When examined by race/ethnicity, blacks have the highest rate of cancer mortality (157.8 per 100,000 persons), followed by whites (148.9), Hispanics have a lower rate (122.9), and Asians/Pacific Islanders have the lowest rate of cancer mortality (106.0 per

100,000 persons). Exceptions are Asians, who have high rates of mortality from cancers of the stomach and liver and bile duct.

Cancer Mortality Rates, Age-Adjusted, per 100,000 Persons, by Race for Orange County

	Hispanic	White	Asian/PI	Black	Orange County
Cancer all sites	122.9	148.9	106.0	157.8	137.8
Lung and Bronchus	15.4	34.5	24.5	32.3	29.7
Breast (female)	17.0	20.9	11.5	30.8	18.7
Prostate (males)	20.0	20.3	7.1	49.4	18.2
Colon and Rectum	11.9	11.8	10.3	12.0	11.6
Pancreas	11.0	11.1	8.9	11.1	10.7
Ovary (female)	6.2	8.5	4.5	0.00	7.4
Liver and Bile Duct	9.3	4.8	11.5	7.2	6.9
Miscellaneous	7.5	9.1	5.4	0.00	6.2
Leukemia*	5.2	6.6	4.1	7.5	6.2
Non-Hodgkin Lymphoma	5.6	5.3	4.0	0.0	5.1
Urinary Bladder	2.1	4.7	2.0	0.0	3.9
Stomach	6.1	2.1	6.3	0.0	3.7
Uterine** (female)	3.4	3.2	0.0	0.0	3.1
Kidney & Renal Pelvis	3.5	3.3	1.9	0.0	3.1
Esophagus	1.8	3.9	1.5	0.0	3.1
Myeloma	3.4	3.1	1.8	9.4	3.0
Oral Cavity and Pharynx	1.7	2.4	1.6	0.0	2.4
Skin Melanoma	0.7	4.3	0.0	0.0	2.4
Cervical (female)	2.4	1.4	0.0	0.0	1.6

*Source: California Cancer Registry, California Department of Public Health, 2008-2012; Age-adjusted to 2000 U.S. Standard. http://www.cancer-rates.info/ca/ *Myeloid & Monocytic + Lymphocytic + "Other" Leukemias **Uterus, NOS + Corpus Uteri*

Disability and Disease

Health Status

Among the Orange County population, 15.7% reported being in fair or poor health. This is a lower percentage than the state (17.3%).

Health Status, Fair or Poor Health

	Orange County	California
Persons with fair or poor health	15.7%	17.3%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Disability

Among adults in Orange County, 24.0% are identified as having a physical, mental or emotional disability, lower than the state disability rate (29.7%). In Orange County, 6% of adults could not work for at least a year due to physical or mental impairment.

Population with a Disability

	Orange County	California
Adults with a disability	24.0%	29.7%
Couldn't work due to impairment	6.0%	7.0%

Source: California Health Interview Survey, 2016. *http://ask.chis.ucla.edu*

In Orange County, 4.5% of the population has an ambulatory difficulty that limits physical activity. Hearing difficulty affects 2.5% of the population with 2.1% of Orange County residents having a self-care difficulty and 1.7% having a vision difficulty.

Health Status Disabilities

	Orange County	California
Persons with ambulatory difficulty	4.5%	5.9%
Persons with hearing difficulty	2.5%	2.9%
Persons with self-care difficulty	2.1%	2.6%
Persons with vision difficulty	1.7%	2.0%

Source: Orange County's Healthier Together, US Census Bureau American Community Survey, 2012-2016.
www.ochealthiertogether.org

Diabetes

Among adults in Orange County, 11.3% have been diagnosed with diabetes compared to the state (13.4%) and 9.2% of adults have been diagnosed as pre-diabetic lower than the state (10.5%). Among adults with diabetes, 53.3% are very confident they can control their diabetes; 6.6% of adults in Orange County are not confident that they can control/manage their diabetes.

Adult Diabetes

	Orange County	California
Diagnosed pre/borderline diabetic	9.2%	10.5%
Diagnosed with diabetes	11.3%	13.4%
Very confident to control diabetes	53.3%	58.5%
Somewhat confident	40.1%	33.8%
Not confident	6.6%	7.7%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

The U.S. Agency for Healthcare Research and Quality (AHRQ) developed Prevention Quality Indicators (PQIs), which identify hospital admissions that may be avoided through access to high-quality outpatient care. Four PQIs are related to diabetes: long-term complications (renal, ophthalmic or neurological manifestations, and peripheral circulatory disorders); short-term complications (ketoacidosis, hyperosmolarity and coma); amputation, and uncontrolled diabetes. For all diabetes indicators, hospitalization rates were lower in Orange County than in California.

Diabetes Hospitalization Rates* for Prevention Quality Indicators

	Orange County	California
Diabetes long-term complications	69.2	79.8
Diabetes short-term complications	42.0	54.4
Lower extremity amputation among patients with diabetes	15.8	23.6
Uncontrolled diabetes	28.4	33.9

Source: California Office of Statewide Health Planning & Development, 2016.
http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pqi_overview.html
**Risk-adjusted (age-sex) annual rates per 100,000 persons.*

Heart Disease

In Orange County, 4.6% of adults have been diagnosed with heart disease. Among these adults, 70.1% are very confident they can manage their condition; however, 7.5% were not confident they could control their heart disease. And 70.5% have a disease management care plan developed by a healthcare professional.

Adult Heart Disease

	Orange County	California
Diagnosed with heart disease	4.6%	6.2%
Very confident to control condition	70.1%	57.4%
Somewhat confident to control condition	22.4%	36.8%
Not confident to control condition	7.5%	5.8%
Has a disease management care plan	70.5%	70.2%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

As noted, Prevention Quality Indicators (PQIs) identify hospital admissions that may be avoided through access to high-quality outpatient care. The PQIs related to heart

disease are congestive heart failure and hypertension. The rates of hypertension and congestive heart failure were lower in the county than in the state.

Hospitalization Rates* for Prevention Quality Indicators – Heart Disease

	Orange County	California
Congestive heart failure	241.5	317.7
Hypertension	18.7	25.0

Source: California Office of Statewide Health Planning & Development, 2016.
http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pqi_overview.html
**Risk-adjusted (age-sex) annual rates per 100,000 persons.*

High Blood Pressure

A co-morbidity factor for diabetes and heart disease is hypertension (high blood pressure). In Orange County, 22.4% of adults have been diagnosed with high blood pressure. Of those adults, 60.6% take medication to control their hypertension. The Healthy People 2020 objective is to reduce the proportion of adults with high blood pressure to 26.9%. Orange County complies with this objective.

High Blood Pressure

	Orange County	California
Ever diagnosed with hypertension	22.4%	28.4%
Takes medicine for hypertension	60.6%	65.1%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Community Input – Stroke

Stakeholder interviews identified the following issues, challenges and barriers related to stroke. Their comments, quotes and opinions were edited for clarity:

- Hypertension and tobacco are the biggest causes of stroke. To alleviate these, we must focus on primary care prevention.
- Training people to know the signs of stroke is extremely beneficial.
- When people exercise and follow-up with early detection of potential symptoms, outcomes are better. We need to invest more in prevention and wellness.
- Resources available to English-speaking patients are 100 times greater than for those who are non-English speaking. There is not a single health education wellness class conducted in Korean.
- An additional burden with stroke is recovery. Among physical therapists, social workers and health professionals, our ratio of providers to community members are lower in certain communities, so I'm concerned about rehabilitative support to keep stroke survivors in communities and functioning and maintaining a high quality of life.
- We need to improve our system for management of stroke when it occurs to improve the likelihood of success if someone experiences a stroke. But at that point, it's almost too late.

- Issues that make a difference, such as obesity and diabetes, are the same things that impact risk factors that increase the risk of stroke. If we can get people to adopt more healthy behaviors, then we can improve health issues across the spectrum.

Cancer

In Orange County, the five-year, age-adjusted cancer incidence rate is 401 per 100,000 persons. The rate of cancer among children, below 20 years old, is 19.3 per 100,000 persons, which is higher than the rate of cancer in children in the state (17.9 per 100,000 persons). Rates of female breast cancer and melanoma are higher in Orange County than the state.

Cancer Incidence, per 100,000 Persons, Age Adjusted, 2011-2015

	Orange County	California
All sites	401.0	404.0
Breast (female)	123.9	121.5
Prostate	99.3	101.2
Lung and bronchus	37.5	39.0
Colon and rectum	34.2	36.2
Melanoma of the skin	27.4	22.1
Children (<20 years) all sites	19.3	17.9
Leukemia	9.2	9.6
Cervix	6.2	7.2

Source: National Institutes of Health, State Cancer Profiles, 2011-2015. https://statecancerprofiles.cancer.gov

Cancer with higher incidence rates in the county than the state are in situ breast, non-Hodgkin lymphoma, thyroid, ovary, pancreas, testis, oral cavity and pharynx cancer.

Cancer Incidence Rate, Age-Adjusted, per 100,000 Persons, 2011-2015

	Orange County	California
In situ Breast (female)	28.3	28.2
Uterine** (females)	23.0	24.9
Non-Hodgkin lymphoma	19.0	18.2
Urinary Bladder	15.7	16.8
Thyroid	14.6	12.8
Kidney and Renal Pelvis	12.4	13.9
Ovary (females)	12.4	11.6
Pancreas	11.6	11.4
Oral Cavity and Pharynx	10.1	9.9
Liver and Bile Duct	8.6	9.5
Stomach	7.3	7.4
Miscellaneous	6.8	8.0

	Orange County	California
Testis (males)	6.1	5.7
Myeloma	5.6	5.8

Source: The Centers for Disease Control and Prevention, National Cancer Institute, State Cancer Profiles, 2011-2015
*http://www.cancer-rates.info/ca/ *Myeloid & Monocytic + Lymphocytic + "Other" Leukemias **Uterus, NOS*
All rates are per 100,000. Rates are age-adjusted to the 2000 U.S. Standard Million Population.

When examined by race, blacks and whites have the highest incidence rates of cancer in Orange County, while Asians have the lowest rates of cancer. There are exceptions: Hispanic women show the highest incidence of cervical cancer. Asians have the highest incidence of liver, bile duct and stomach cancers, while whites show the lowest rates of those three types of cancer. Blacks show the lowest rates of thyroid and testicular cancers.

Cancer Incidence Rate, Age-Adjusted, per 100,000 Persons, by Race for Orange County

	Hispanic	White	Asian/PI	Black	Orange County
Cancer all sites	310.8	449.9	277.2	376.8	404.0
Breast (female)	91.1	147.1	85.7	119.1	121.5
Prostate (males)	83.7	105.8	44.1	145.5	101.2
Lung and bronchus	21.5	45.2	34.2	43.1	39.0
Colon and rectum	28.5	34.8	32.7	35.2	36.2
In situ breast (female)	22.2	31.5	24.9	28.5	28.2
Uterine** (females)	18.1	26.2	15.9	17.9	24.0
Melanoma of skin	5.3	41.6	1.1	0.0	22.1
Myeloma	6.6	6.0	3.3	12.1	22.1
Non-Hodgkin lymphoma	17.8	20.9	13.0	17.4	18.2
Urinary bladder	8.8	19.5	8.0	13.7	16.8
Kidney and renal pelvis	14.8	13.3	7.3	12.7	13.9
Thyroid	13.0	15.7	14.3	6.5	12.8
Ovary (females)	10.1	13.5	10.9	0.0	11.6
Pancreas	11.1	12.1	10.2	10.3	11.4
Oral Cavity and Pharynx	5.6	12.7	6.7	9.0	10.1
Leukemia*	9.4	13.6	7.3	11.8	9.8
Liver and bile duct	11.7	5.4	15.7	8.6	9.5
Miscellaneous	7.0	7.4	4.6	0.0	8.0
Stomach	9.4	5.1	11.4	7.2	7.4
Cervix uteri (females)	8.9	5.7	5.1	0.0	7.2
Testis (males)	5.6	8.1	1.9	0.0	5.7

Source: The Centers for Disease Control and Prevention, National Cancer Institute, State Cancer Profiles, 2011-2015
*http://www.cancer-rates.info/ca/ *Myeloid & Monocytic + Lymphocytic + "Other" Leukemias **Uterus, NOS + Corpus Uteri*
All rates are per 100,000 persons. Rates are age-adjusted to the 2000 U.S. Standard Million Population.

The mortality to incidence ratio (MIR) examines the percentage of persons who die from their diagnosed cancer. Examining mortality versus incidence by race shows variations. In general, one would expect to see the highest incidence rates paired with the highest mortality rates; however, several variations are noted. For example, breast cancer incidence (diagnosis) is highest among white women, while the mortality rate from breast cancer is highest among black women. Whites have the highest incidence rate for leukemia, yet blacks have higher mortality rates for leukemia. Whites have high incidence rates of non-Hodgkin lymphoma and uterine cancer, yet Hispanics have higher mortality rates for these types of cancer.

Cancer Mortality and Incidence Rates, Age-Adjusted, per 100,000 Persons, by Race for Orange County

	Hispanic		White		Asian/Pacific Islander		Black		All	
	Mort.	Incid.	Mort.	Incid.	Mort.	Incid.	Mort.	Incid.	Mort.	Incid.
Cancer all sites	122.9	310.8	148.9	449.9	106.0	277.2	157.8	376.8	137.8	404.0
Lung and bronchus	15.4	21.5	34.5	45.2	24.5	34.2	32.3	43.1	29.7	39.0
Breast (female)	17.0	91.1	20.9	147.1	11.5	85.7	30.8	119.1	18.7	121.5
Prostate (males)	20.0	83.7	20.3	105.8	7.1	44.1	49.4	145.5	18.2	101.2
Colon and rectum	11.9	28.5	11.8	34.8	10.3	32.7	12.0	35.2	11.6	36.2
Pancreas	11.0	11.1	11.1	12.1	8.9	10.2	11.1	10.3	10.7	11.4
Liver and bile duct	9.3	11.7	4.8	5.4	11.5	15.7	7.2	8.6	6.9	9.5
Ovary (female)	6.2	10.1	8.5	13.5	4.5	10.9	0.0	0.0	7.4	11.6
Leukemia*	5.2	9.4	6.6	13.6	4.1	7.3	7.5	11.8	6.2	9.8
Non-Hodgkin lymphoma	5.6	17.8	5.3	20.9	4.0	13.0	0.0	17.4	5.1	18.2
Stomach	6.1	9.4	2.1	5.1	6.3	11.4	0.0	7.2	3.7	7.4
Uterine** (female)	3.4	18.1	3.2	26.2	0.0	15.9	0.0	17.9	3.1	24.0
Urinary bladder	2.1	8.8	4.7	19.5	2.0	8.0	0.0	13.7	3.9	16.8
Kidney and renal pelvis	3.5	14.8	3.3	13.3	1.9	7.3	0.0	12.7	3.1	13.9
Myeloma	3.4	6.6	3.1	6.0	1.8	3.3	9.4	12.1	3.0	22.1
Cervical (female)	2.4	8.9	1.4	5.7	0.0	5.1	0.0	0.0	2.4	7.2
Oral Cavity and Pharynx	1.7	5.6	2.4	12.7	1.6	6.7	0.0	9.0	2.4	10.1
Skin melanoma	0.7	5.3	4.3	41.6	0.0	1.1	0.0	0.0	2.4	22.1

*Source: California Cancer Registry, California Department of Public Health, 2011-2015; Age-adjusted to 2000 U.S. Standard. http://www.cancer-rates.info/ca/ *Myeloid & Monocytic + Lymphocytic + "Other" Leukemias **Uterus, NOS + Corpus Uteri*

According to the mortality to incidence ratio (MIR), higher percentages of the population in Orange County die from cancer of the lung and bronchus, pancreas, liver and bile duct. Hispanics have higher MIR for colon and rectum, non-Hodgkin lymphoma, uterine, skin melanoma, stomach, cervical, oral cavity and pharynx cancers. Blacks have higher MIR for breast, prostate, pancreas, leukemia and myeloma. Whites have high a MIR for lung and bronchus, ovary, liver and bile duct cancers. Asians have a high MIR for urinary bladder, kidney and renal pelvis cancers.

Ratio of Cancer Mortality to Incidence Rates, Age-Adjusted, per 100,000 Persons, by Race for Orange County

	Hispanic	White	Asian/Pacific Islander	Black	All
Cancer all sites	39.5	33.0	38.2	41.9	34.1
Pancreas	99.1	91.7	87.3	107.8	93.9
Lung and bronchus	71.6	76.3	71.6	74.9	76.2
Liver and bile duct	79.5	88.9	73.2	83.7	72.6
Ovary (female)	61.4	63.0	41.3	0.0	63.8
Leukemia*	55.3	48.5	56.2	63.6	63.3
Stomach	64.9	41.2	55.3	0.0	50.0
Cervical (female)	27.0	24.6	0.0	0.0	33.3
Colon and rectum	41.8	33.9	31.5	34.1	32.0
Non-Hodgkin lymphoma	31.5	25.4	30.8	0.0	28.0
Oral Cavity and Pharynx	30.4	18.9	23.9	0.0	23.8
Urinary Bladder	23.9	24.1	25.0	0.0	23.2
Kidney and renal pelvis	23.6	24.8	26.0	0.0	22.3
Prostate (males)	23.9	19.2	16.1	34.0	18.0
Breast (female)	18.7	14.2	13.4	25.9	15.4
Myeloma	51.5	51.7	54.5	77.7	13.6
Uterine** (female)	18.8	12.2	0.0	0.0	12.9
Skin melanoma	13.2	10.3	0.0	0.0	10.9

*Source: California Cancer Registry, California Department of Public Health, 2011-2015; Age-adjusted to 2000 U.S. Standard. http://www.cancer-rates.info/ca/ *Myeloid & Monocytic + Lymphocytic + "Other" Leukemias **Uterus, NOS + Corpus Uteri*

For the impact of race and gender on cancer mortality rates, incidence and outcomes tend to be better among women. Black men have the highest MIR (poorest outcomes).

Cancer Mortality and Incidence Rates and Ratios, Age-Adjusted, per 100,000 Persons, by Race and Gender, for California

	Mortality	Incidence	Ratio of Mortality to Incidence
Asian women	95.37	296.46	32.2%
White women	137.21	427.09	32.1%
All women	**127.63**	**379.55**	**33.6%**
Hispanic women	109.90	308.84	35.6%
White men	184.63	465.69	39.6%
All men	**173.05**	**421.93**	**41.0%**
Hispanic men	148.14	340.26	43.5%
Asian men	132.54	294.79	45.0%
Black women	168.33	394.17	42.7%
Black men	229.70	459.09	50.0%

Source: California Cancer Registry, California Department of Public Health, 2011-2015; Age-adjusted to 2000 U.S. Standard. http://www.cancer-rates.info/ca/

Cancer Medicare Population

Medicare is the federal health insurance program for people age 65 years or older, people under age 65 years with certain disabilities, and people of any age with end-stage renal disease (ESRD). In Orange County, 9.2% of Medicare beneficiaries were treated for cancer.

Medicare Population Treated for Cancer

	Orange County	California
Medicare population treated for cancer	9.2%	7.5%

Source: Orange County's Healthier Together, 2015. www.ochealthiertogether.org

Community Input – Cancer

Stakeholder interviews identified the following issues, challenges and barriers related to cancer. Their comments, quotes and opinions were edited for clarity:

- There are barriers for people who don't have insurance to get preventive services; this is an access issue. There are cultural issues. Certain ethnic/racial groups are diagnosed later for certain cancers than other groups.
- We need to provide a welcoming environment, as well as education and support. Those in treatment may be overwhelmed and stressed by the information they've received. Often they do not know whom to contact or talk to and share their experiences. Some do not want to share and that isolation can become overwhelming. People need a place to go for support and easy access to a plan for home care.
- We have cancer patients that come to us from outside the county and travel significant distances. We need places for families to stay locally when they are in the outpatient setting, as well as access to providers when they go back home to develop care plans and care for patients.
- There is a lack of health insurance. Even when screenings are covered, people still struggle to understand what is needed because guidelines are always changing. The recommended age for colon testing dropped to age 45 from age 50. People don't know this and it's unclear if insurance is covering this.
- People don't want to be diagnosed with cancer, so they avoid the screening. Most cancers are 100% survivable if we get it early and the cost of care can be low.
- There is a stigma around cancer. Like mental health issues, people don't want to talk about cancer at all.
- Unique in our county are increasing rates of breast cancer. It has plateaued in many counties, but is increasing in Orange County. Even those who have the means are not coming in and getting tested. We need more messaging and partnering with community organizations to get the message out and find ways to compel them to come in and get screened.
- There is a particular cultural or social dogma about colonoscopies and other cancer

screenings and concerns about their invasiveness in certain communities. How do we educate these communities to improve the overall rate of screenings?

- Loss of life due to preventive cancers is a challenge we face every day. Education should not necessarily only fall onto the practitioner level. Cultural and peer-to-peer education is needed. Patients may not relate to a practitioner about screenings. We need to educate community members to help with this effort.
- We are a culture that is family oriented and we focus on others, not ourselves. For economic reasons, or because we are taking care of children, we don't do self-care at all. By the time we detect an issue, it's often too late. In our community, we try to do early detection, but many people take an "I have what I have" fatalistic approach, and don't want to find out what they have. The idea is if I don't do the test, I don't know what I have.
- Screening is the best opportunity for reducing morbidity, but people who do not have health insurance are not getting screened. We need to adopt a population health model in which prevention is central. We need public health campaigns about screenings. We tell people not to smoke but we have to push harder to tell people to get screened; it's the only way to bring the number down.
- We need mammograms that are community-based. I dream of a mammogram machine in a community health center setting with Asian providers and staff who can speak their patients' language.
- The Asian community has very high undocumented rates, so screening is much more difficult. Not as many specialty care resources are available. Care is very disjointed for the undocumented and uninsured, and that disproportionately affects immigrants. We have lots of resources out there. But getting people connected to resources and medical services is the issue.
- A lot of work needs to be done with providers and healthcare systems to get people routinely checked and screened according to current national guidelines. For those populations that do not have health coverage, it is difficult for them to get preventive services. They tend to seek help only when there is an urgent need.
- We are stuck in cycle in which providers do outreach, education and screenings. But where do patients go for their next stage of care? Work is being done to raise awareness that screenings are covered as preventive health with no cost to patient. But if there is no place to send patients for the next level of care, then treatment is an issue.

Asthma

In Orange County, 15.2% of the population has been diagnosed with asthma and 89% has had symptoms in the past year, with 41.3% taking daily medication to control their asthma. Among county youth, 22.0% have been diagnosed with asthma, and 8.5% have visited an emergency department because of their asthma.

Asthma

	Orange County	California
Diagnosed with asthma, total population	15.2%	14.8%
Diagnosed with asthma, 0-17 years old	22.0%	16.7%
ER visit in past year due to asthma, total population	12.6%	13.1%
ER visit in past year due to asthma, 0-17 years old	8.5%	10.5%
Takes daily medication to control asthma, total population	41.3%	45.1%
Takes daily medication to control asthma, 0-17 years old	15.0%	30.7%
Had asthma symptoms in the past 12 months	89.0%	90.3%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Prevention Quality Indicators (PQIs) for asthma include chronic obstructive pulmonary disease (COPD) and asthma in younger adults. Hospitalization rates for COPD were lower in the county (184.7) than the state (265.6). Hospitalization rates for asthma in younger adults were lower in the county (13.2) than the state (22.6).

Asthma Hospitalization Rates* for Prevention Quality Indicators (PQI)

	Orange County	California
COPD or asthma in older adults	184.7	265.6
Asthma in younger adults	13.2	22.6

Source: California Office of Statewide Health Planning & Development, 2016.
http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pqi_overview.html
**Risk-adjusted (age-sex) annual rates per 100,000 persons.*

Chronic Diseases among Seniors

Among Medicare beneficiaries (adults 65 and older) in Orange County, 31.4% have been treated for arthritis; 19.4% of seniors have been treated for chronic kidney disease; 10.9% have been treated for Alzheimer's disease or dementia, and 9.1% have been treated for osteoporosis. These rates of chronic disease among Orange County seniors are higher than found among seniors elsewhere in the state.

Chronic Diseases among Medicare Beneficiaries

	Orange County	California
Rheumatoid arthritis or osteoarthritis	31.4%	27.6%
Chronic kidney disease	19.4%	17.9%
Alzheimer's disease or dementia	10.9%	9.3%
Osteoporosis	9.1%	6.7%

Source: Centers for Medicare and Medicaid Services, 2015. www.ochealthiertogether.org

Community Input – Alzheimer's Disease

Stakeholder interviews identified the following issues, challenges and barriers related to Alzheimer's disease. Their comments, quotes and opinions have been edited for clarity:

- People don't understand their illness and how to manage it. Often the patient is dependent on a caregiver or family member who is working or their full-time caregiver doesn't get a break during the day to figure out how to better manage the patient. Caregivers need the ability to step out of the equation and give themselves a break and also to receive education so they can understand the progression of the patient's condition.
- Diseases such as Alzheimer's, Parkinson's and dementia are very expensive to care for and we don't have enough facilities to support the population suffering from these diseases. We can only expect the number of these patients to grow. We need to do more to anticipate the need and to create a model to accommodate that need.
- Women are more likely to die from Alzheimer's disease than men. Women self-report greater needs and access services more than men. But less than 65% are able to access needed mental health services.
- There are a lot of barriers around caregiver support and good daycare support. There is a lack of information, transportation and social support for caregivers who are caring for person in the early to mid-stages of Alzheimer's disease.
- UC Irvine is known as a center for extensive Alzheimer's disease testing. But it's hard to get patients there because little work has been done on community outreach, education and initial screenings.
- By the time someone is diagnosed with Alzheimer's disease, the family has suffered tremendously and caregiver support and education is needed. In the future, we will have many of limited English-speaking families facing Alzheimer's' disease and it is up to us to start addressing these issues.
- As the population ages, we will see increased challenges with dementia and Alzheimer's disease. Resources will have to increase dramatically.
- There is a need for a better system to identify persons with Alzheimer's disease/dementia and get them into the system for care. But we don't have effective therapies for prevention or for those who are at a higher risk for Alzheimer's disease. We lack effective treatments.

HIV/AIDS

In Orange County the rate of persons living with HIV/AIDS infection was 273.1 per 100,000 persons, which is lower than the state rate of 391.7 per 100,000 persons.

HIV/AIDS, 2013-2015

	Orange County	California
HIV/AIDS infection ages 13 years and older	273.1	391.7

Source: California Department of Public Health, County Health Status Profiles 2018 Report http://www.cdph.ca.gov/data/statistics/

Sexually Transmitted Infections

The rate of chlamydia in Orange County is 353.6 per 100,000 persons. The rate of

gonorrhea in Orange County males (219.5 per 100,000 persons) is higher than in females (114.2 per 100,000 persons). Rates of syphilis are also higher among men (15.5 per 100,000 persons) than women (0.9 per 100,000 persons).The county rates of chlamydia, gonorrhea and syphilis are lower than state rates.

Sexually Transmitted Infections, 2014-2016

	Orange County	California
Chlamydia	353.6	480.3
Gonorrhea (females)	114.2	218.0
Gonorrhea (males)	219.5	372.6
Syphilis (females)	0.9*	2.6
Syphilis (males)	15.5	22.5

Source: California Department of Public Health, County Health Status Profiles 2018 Report http://www.cdph.ca.gov/data/statistics/
**Data unreliable based on fewer than 20 data elements.*

Health Behaviors

Health Behaviors Ranking

County Health Rankings examine healthy behaviors and ranks counties according to health behavior data. California's 57 evaluated counties (Alpine excluded) are ranked from 1 (healthiest) to 57 (least healthy) based on a number of indicators that include: adult smoking, obesity, physical inactivity, excessive drinking, sexually transmitted infections and others. A ranking of 4 places Orange County in the top of California counties for health behaviors. This ranking has been stable for the last three years.

Health Behaviors Ranking

	County Ranking (out of 57)
Orange County	4

Source: County Health Rankings, 2018. www.countyhealthrankings.org

Overweight and Obesity

In Orange County, 33.3% of the adult population reported being overweight. The county adult rate of overweight is less the state rate of 34.8%, and 17.7% of teens are overweight compared to 18.1% of state teens.

Overweight

	Orange County	California
Adult (ages 20+ years)	33.3%	34.8%
Teen (ages 12-17 years)	17.7%	18.1%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

In Orange County, 23.3% of adults and 28.3% of teens are obese. The Healthy People 2020 objectives for obesity are 30.5% of adults, ages 20 and over, and 16.1% of teens. The rate of obese teens exceeds the state rate (22.6%) and the Healthy People 2020 objective.

Obese

	Orange County	California
Adult (ages 20+ years)	23.3%	27.9%
Teen (ages 12-17 years)	28.3%	22.6%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

When adult obesity levels are tracked over time, the county experienced an increase in obesity from 2012 to 2016.

Adult Obesity, 2005-2013

	2012	2013	2014	2015	2016
Orange County	21.1%	20.8%	18.2%	23.5%	23.3%
California	24.2%	24.7%	27.0%	27.9%	27.9%

Source: California Health Interview Survey, 2012, 2013, 2014, 2015, 2016. http://ask.chis.ucla.edu

Adult overweight and obesity by race and ethnicity indicate high rates among African Americans (83.3%) and whites (61.2%), compared with state averages. Asians in Orange County have the lowest rate of overweight and obesity (38.1%).

Adult Overweight and Obesity by Race/Ethnicity

	Orange County	California
African American	83.3%	71.7%
White	61.2%	58.1%
Latino	60.2%	73.9%
Asian	38.1%	43.6%
Total adult population	56.6%	62.7%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Community Input – Overweight and Obesity

Stakeholder interviews identified the following issues, challenges and barriers related to overweight and obesity. Following are their comments, quotes and opinions edited for clarity:

- Obesity is one of the most significant issues for the overall health of our population. We have a cultural set of norms around nutrition that encourage overeating and unhealthy eating, such as eating increased amounts of high fat foods and significantly larger quantities than the average person needs.
- The environment in Orange County doesn't support a healthy lifestyle. We don't have a lot of walkable communities. There is a lack of perceived safety and parents don't want kids to go outside and play and get physical activity. We give vehicles priority over people in terms of getting around. We have created a perfect environment for obesity and that is what we got.
- Obesity is prevalent at all levels of society. Obese kids do not get that way without their parents' help.
- We know that the lion's share of morbidity and mortality rates are tied to key behaviors, such as a lack of physical activity, unhealthy diets, eating too few fruits and vegetables, and tobacco use, which is still a leading cause of death nationally. If you live in an area without bike lanes, the area is not safe or doesn't have parks, it is harder to be physically active. It is also more difficult if there aren't stores with fresh fruits and vegetables, making it harder to choose healthy foods.
- If we ate one piece of fruit and a vegetable a day and also cut lard from our diets, we will succeed. We must work within a culture and its food and not say that it is bad.

- There is not enough space for physical activity or a means to obtain a healthy diet. There are lots of fast-food outlets and people who rely on sugar-sweetened drinks as their primary beverage.
- A cultural shift is needed so that families have access to fruits and vegetables. There are fast-food restaurants on every corner but limited parks and recreational activities. Some clinics are converting their second-floor spaces to safe areas for their patients to exercise or dance to address these barriers to exercise.
- In our county, we have a higher rate of childhood obesity in certain pockets than we should and food deserts in many areas. There may be no grocery store with accessible fruits and vegetables, but plenty of corner liquor stores. Often the most affordable food is McDonald's.
- Vietnamese people walked and biked a lot back home, but here there is little opportunity for exercise and people have poor nutrition and eat too many sweets.
- The root causes are not having access to good food, no places to exercise, or not having enough time because people are working multiple jobs and cannot participate in recreational activities. Let's make it easy to walk versus drive, and have bike paths that are safe so kids can develop habits for exercising.
- For the homeless, it is difficult to maintain a healthy diet, which is not much different than other low-income populations. There is a lack of access to fresh foods and vegetables.

The physical fitness test (PFT) for students in California schools is the FitnessGram®. One of the components of the PFT is measurement of body composition (measured by skinfold measurement, BMI or bioelectric impedance). Children who do not meet the "Healthy Fitness Zone" criteria for body composition are categorized as needing improvement or at high risk (overweight/obese). In Orange County, 17.8% of 5th grade students tested as needing improvement (overweight) or at high risk (obese) for body composition, slightly lower than the California rate of 19.1%. Among 9th graders, the county rate was 15.9%, also below the state average (17.8%).

5th and 9th Graders, Body Composition, Needs Improvement and High Risk

	Fifth Grade	Ninth Grade
Orange County	17.8%	15.9%
California	19.1%	17.8%

Source: California Department of Education, Fitnessgram Physical Fitness Testing Results, 2016-2017.
http://data1.cde.ca.gov/dataquest/

Fast Food

In Orange County, 29.7% of children and 29.1% of adults consumed fast food three to four times a week. This rate of fast food consumption was higher than the state rate.

Fast Food Consumption

	Orange County	California
Children who were reported to eat fast food 3-4 times a week	29.7%	25.5%
Adults who reported eating fast food 3-4 times a week	29.1%	25.4%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Soda Consumption

In Orange County, 16.0% of children consumed at least two to three sodas a week compared to the state (17.4%). Among county adults, 7.3% drank at least seven or more sodas weekly; 58.3% of adults drank no soda in a week.

Soda or Sweetened Drink Consumption

	Orange County	California
Children reported to drink at least 2 sodas or more a week	16.0%	17.4%
Adults who reported drinking at least 7 or more sodas a weekly	7.3.%	10.4%
Adults who reported drinking no soda a week	58.3%	59.6%

Source: California Health Interview Survey, 2016 http://ask.chis.ucla.edu

Fresh Fruits and Vegetables

In Orange County 79.3% of children consumed two or more servings of fruit in a day, while 50.4% of adults reported finding affordable fresh fruits and vegetables in their neighborhood and 73.8% reported that fresh fruits and vegetables were always accessible in their neighborhood.

Access to and Consumption of Fresh Fruits and Vegetables

	Orange County	California
Children who reported eating 2 or more servings of fruit in the previous day	79.3%	70.4%%
Adults who reported finding fresh fruits and vegetables in the neighborhood affordable	50.4%	49.0%
Adults who reported fresh fruits and vegetables were always accessible in the neighborhood.	73.8%	73.5%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Physical Activity

For school-aged children in Orange County, 33.1% engaged in physical activity for two or more days for at least one hour in the week, and 93.1% of children visited a park, playground or open space in the last month.

Physical Activity, Children and Teens, 2016

	Orange County	California
2 or more days physically active at least one hour (past week)	33.1%	22.4%
Visited a park, playground or open space in the last month	93.1%	87.9%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Among adults in Orange County, 36.8% regularly walked for transportation, fun and exercise. This is lower than the state rate (39.5%).

Physical Activity Adults

	Orange County	California
Adults who regularly walked for transportation, fun, and exercise	36.8%	39.5%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

One of the components of the physical fitness test (PFT) for students in schools is measurement of aerobic capacity through run and walk tests. Students in 5th, 7th and 9th grade who meet the aerobic capacity standards are categorized as being in the Healthy Fitness Zone. In Orange County, 68.3% of 5th graders, 74% of 7th graders and 70.6% of 9th graders achieved the Healthy Fitness Zone. Youth in Orange County exceed state rates for aerobic capacity

5th, 7th and 9th Grade Students, Aerobic Capacity, Healthy Fitness Zone

	Fifth Grade	Seventh Grade	Ninth Grade
Orange County	68.3%	74.0%	70.6%
California	62.0%	64.6%	61.9%

Source: California Department of Education, Fitnessgram Physical Fitness Testing Results, 2016-2017.
http://data1.cde.ca.gov/dataquest/

Mental Health

Mental Health

In Orange County, 6.5% of adults experienced serious psychological distress in the past year and 15.6% needed help for an emotional-mental health or alcohol/drug related issue. Only 15% of adults saw a healthcare provider for emotional, mental health, alcohol or drug issues. Among adults who sought or needed treatment, 72.8% received help. The Healthy People 2020 objective is for 72.3% of adults with a mental disorder to receive treatment (27.7% who do not receive treatment). In Orange County, 12.9% of adults took prescription medicine for emotional/mental health issues in the past year.

Mental Health Indicators, Adults

	Orange County	California
Adults who likely had serious psychological distress during past year	6.5%	8.0%
Adults who needed help for emotional-mental and/or alcohol-drug issues in past year	15.6%	16.4%
Adults who saw a health care provider for emotional/mental health and/or alcohol-drug issues in past year	15.0%	13.4%
Adults who sought/needed help and did receive treatment	72.8%*	61.6%
Adults who sought/needed help but did not receive treatment	27.2%*	38.4%
Adults who took prescription medicine for emotional/mental health issue in past year	12.9%	11.1%

*Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu. *Statistically unstable.*

In Orange County, 6.3% of teens experienced serious psychological distress during the past year, and 8.9% of teens received counseling.

Mental Health Indicators, Teens

	Orange County	California
Teens who likely has had serious psychological distress during the past year	6.3%	7.9%
Teens who received psychological/emotional counseling in past year	8.9%	10.1%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

In Orange County, 12.7% of adults had seriously considered suicide. This is higher than the state (9.3%).

Thought about Committing Suicide

	Orange County	California
Adults who ever seriously thought about committing suicide	12.7%	9.3%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

The average annual age-adjusted emergency-room visit rate for adults with mental health issues was 67.6 per 10,000 persons and for children, under 18 years of age, it

was 28.5 per 10,000 persons. ER rates for adults for intentional self-injury were 16.6 per 10,000 persons and 46.3 per 10,000 persons for adolescents (ages 12-17). . These ER rates were lower than elsewhere in the state.

Mental Health ER Rate, per 10,000 Persons, Age-Adjusted, 2013-2015

	Orange County	California
Adult mental health concern	67.6	93.4
Adult suicide and intentional self-injury	16.6	21.7
Pediatric (under 18 years) mental health concern	28.5	30.4
Adolescent (ages 12-17) suicide and intentional self-injury	46.3	46.3

Source: California Office of Statewide Health Planning and Development, 2013-2015. www.ochealthiertogether.org

Community Input – Mental Health

Stakeholder interviews identified the following issues, challenges and barriers related to mental health. Their comments, quotes and opinions were edited for clarity:

- Mental health care is often carved out from physical health so there is a lack of coordination between physical and mental health. We do not have a strong continuum of mental health services.
- For our aging population, there are often cultural biases that regard mental health as a stigma. They get to a point where problems are escalating and reach a critical moment, when intervention is needed at a higher level of care.
- We have opportunities to recognize the unique ways mental health and substance abuse unfold in the senior population and do a better job of targeting education and engagement to that population. With dementia, people are often screened and start treatment, but there is also an underlying depression that, if known or treated, would impact treatment options.
- There is an increasing amount of mental un-health. There are either more people talking about it or more people are experiencing symptoms. Once people talk about mental health problems and get screened, getting them into care can take months. Even if they have insurance, insurance only pays for four visits a year. Currently, there is only one hospital in the county with inpatient maternal care and that is St. Joseph Hospital.
- Mental health is a progressive disease. For maternal depression, the general public does not talk about it because moms are supposed to be thrilled and happy and in love with their babies. If we have a mom who is mentally unhealthy when she is pregnant, the baby will be impacted and that increases the chances of the infant having issues.
- Not nearly enough is being done for early intervention. There is a huge stigma around this. The biggest travesty has been that we have millions of dollars to do this and we haven't been able to give out the funds. Some organizations already deliver mental health care in less expensive, community relevant and acceptable ways. But I

don’t see community-based prevention being prioritized in Orange County.

- Psychiatrists need to be more available. Unfortunately, that specialty has so much control on how they provide access to care. Most people are limited in their ability to see them, they are a cash-based business and they force patients to seek out payments. Even if the patient has insurance, the patient has to go to their insurance and deal with it directly. And the cost is exorbitantly high.
- Homeless people with insurance are assigned to certain clinics. Because the homeless are transient, it makes it difficult to get them into care or we don’t get paid because of auto assignment. We need to work with health plans to provide better access.
- Asians may believe mental illness is connected to karma. And people will say, I have a cold, I have a fever. But that is not really it and they are attributing acceptable health issues to being mentally swamped.
- There are a limited number of psychiatrists and very few who are Vietnamese. In our community, the mental health field is not that well respected. But Vietnamese-speaking psychiatrists are needed.
- We need to train people who are experts in mental health issues. We’ve had a few cases where police did not know how to deal with mental health patients and it resulted in shootings. We need to de-escalate conflict opportunities.
- There are a lot of services available in the county but the catch is that you have to be in an active crisis to access those services the same day. If someone is ready and they want to detox, we can’t get them in that day. Those types of programs don’t exist for our patients; they only exist for some private patients. The county system manages people with severe mental illness. People are not going to go to an appointment that is months away in the future.
- We need to do a better job of integrating mental health education and early intervention into our school systems. Schools are not equipped to deal with this even though they are on the front lines. The problem is not that we do not have good programs; it’s that there is no trusted system of care that helps a person get connected and then helps them through the system.
- Mental health among the homeless, is it a cause or an effect? It isn’t one or the other. There is no question mental illness can be a factor in leading to homeless. But normally when determining what factors lead someone to homelessness, it’s usually a number of interacting conditions.
- There is a lack of inpatient facilities for mental health, as well as problems with insurance and the availability of medications and specialists. Depression is widespread, under-diagnosed and under-treated.
- There is a lack of psychiatric providers. Domestic violence survivors often experience co-occurring mental health and substance abuse issues.

Substance Use and Misuse

Cigarette Smoking

In Orange County, 10.9% of adults smoke cigarettes, lower than the state rate of 11.7% and the Healthy People 2020 objective of 12%.

Cigarette Smoking, Adults

	Orange County	California
Current smoker	10.9%	11.7%
Former smoker	22.4%	21.7%
Never smoked	66.6%	66.6%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Teens in Orange County are more likely to have smoked with an electronic vaporizer than a cigarette. Among 11th graders in Orange County, 11% had smoked a cigarette and 31% had used an e-cigarette (vaping).

Smoking, Teens

	7th Graders	9th Graders	11th Graders
Ever smoked a whole cigarette	1%	7%	11%
Ever used an e-cigarette or vaping method	7%	21%	31%

Source: California Healthy Kids Survey, 2015-2017. www.ochealthiertogether.org

In Orange County, 5.7% of women who became pregnant smoked in advance of their pregnancy and 1.8% smoked after their babies were born in the postpartum period.

Smoking Before and After Pregnancy

	Orange County	California
Any smoking, 3 months before pregnancy	5.7%	10.8%
Any smoking, postpartum	1.8%	5.4%

Source: California Department of Public Health, Maternal Infant Health Assessment, 2013-2015.
https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/Pages/Data-and-Reports.aspx?Name=SnapshotBy

Alcohol and Drug Use

Binge drinking is defined as consuming a certain amount of alcohol within a set period of time. For males, this is five or more drinks per occasion and for females, it is four or more drinks per occasion. In Orange County, 35.5% of adults had engaged in binge drinking in the past year.

Alcohol Consumption Binge Drinking, Adult

	Orange County	California
Reported binge drinking in the past year	35.5%	34.7%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

In Orange County, 14.5% of women who became pregnant engaged in binge drinking in advance of their pregnancy, and 7.3% drank alcohol in the third trimester of their pregnancy.

Alcohol Use Before and After Pregnancy

	Orange County	California
Any binge drinking, 3 months before pregnancy	14.5%	15.1%
Any alcohol use, 3rd trimester	7.3%	7.3%

Source: California Department of Public Health, Maternal Infant Health Assessment, 2013-2015.
https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/Pages/Data-and-Reports.aspx?Name=SnapshotBy

Among Orange County teens, 6.2% had reported having an alcoholic drink and 2.6% had engaged in binge drinking in the past month.

Alcohol Consumption and Binge Drinking, Teens

	Orange County	California
Ever had an alcoholic drink	6.2%	22.5%
Reported binge drinking in the past month*	2.6%	3.1%

Source: California Health Interview Survey, 2015 and 2016. http://ask.chis.ucla.edu*

In Orange County, 7.5% of teens tried marijuana, cocaine, glue sniffing or other drugs. And 3.8% had used marijuana in the past year. These rates of reported drug use are less than state rates of teen drug use.

Illicit Drug Use, Teens

	Orange County	California
Ever tried marijuana, cocaine, sniffing glue, other drugs	7.5%	12.4%
Marijuana use in the past year	3.8%	8.6%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

For teens in Orange County who used drugs, they most frequently had

tried marijuana (26%) and taken prescription pills (15%).

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	7th Graders	9th Graders	11th Graders
Marijuana	3%	13%	26%
Prescription pills	Not asked	11%	15%
Inhalants	3%	5%	5%
Cocaine	Not asked	2%	3%
Ecstasy, LSD, other psychedelics	Not asked	2%	5%

Source: California Healthy Kids Survey, 2015-2017. www.ochealthiertogether.org

Community Input – Substance Use and Misuse

Stakeholder interviews identified the following issues, challenges and barriers related to substance use and misuse. Their comments, quotes and opinions were edited

for clarity:

- In Orange County, there are not many substance abuse services for those with Medicaid. Even with insurance, it is very difficult to navigate the system.
- We criminalize substance abuse in this county. We should be promoting education and prevention. Opioids and prescriptions, tobacco and illegal drugs are all easy to get here. There is emphasis on treatment and services but not enough focus on prevention.
- If we can keep youth from starting to smoke until the age of 18, they very likely will never start. Increasing access and resources to cessation services to those who have already started smoking reduces the lifetime risk of having engaged in those behaviors. We can see significant health improvements very quickly if we can get people to stop smoking.
- The leading substance-abuse program in schools is still DARE. We must be able to do better than that with evidence-based practices.
- It is easy to get cheap drugs or misues prescription drugs. There is also a lack of coordination among prescribers to ensure that the prescriptions match the clinical need and that patients are educated about alternatives.
- We need to have a better way to screen and link people at the point of service. At the time when you get the patient to say “yes, I want help,” you need to be able to provide services immediately because they may not want help tomorrow or the next day. We can screen all day long but if we get a positive screen, it can be counterproductive if we have nowhere to send them.
- The problem in Orange County is with opioid addition. We need to educate kids and younger populations on the serious implications of trying drugs, something beyond the “just-say-no” campaign.
- We have one crisis stabilization unit in county, but we should have three for a county this size. People do not know what to do other than to call 911.
- There is no funding for substance abuse treatment in the Vietnamese community. In our community, we engage in binge-drinking and social drinking, which is very popular and considered normal among Vietnamese and Koreans.
- Korean and Vietnamese populations have a high prevalence of tobacco use. Drugs and gambling and drinking are all related and prevalent.
- Substance abuse and alcohol use is common in the affluent areas of the county, where people who can afford drugs and alcohol go from recreational use to addiction. It can take a very short period of time. People may take drugs because there is nothing better to do or they feel stressed and need an outlet.
- We have a heavy burden of substance abuse in our population. The challenge is we have no access to treatment and cannot get them into treatment when they are ready.
- We need a community-wide effort to better coordinate care so there is never a

wrong door for those who need help with substance abuse.

- Substance abuse is closely correlated with crime because it is criminalized. Dealing with probation and legal issues can become overwhelming for a person trying to get better.
- Let's look at root causes and focus on prevention efforts with youth and building resiliency so we don't use drugs/alcohol in the first place.
- A challenge in this area is how we now deal with a state that has legalized recreational use of marijuana. We do not have good surveillance in place to look at the impacts of recreational marijuana use.
- Addiction is a brain disease and we know the earlier you intervene, as with any chronic disease, the more successful you will be. Education and prevention does work and saves money, but as health systems, we do very little in those areas. The whole conversation around substance abuse disorders is focused on the severely addicted. We wait for the crisis then allow the crisis to be treated.
- Substance abuse is a problem among the homeless. Research finds alcohol and drug use increases the longer people are on the street.
- Fortunately, we've experienced a dramatic decrease in tobacco smoking, but vaping is starting to turn that around. Vaping leads to smoking. There are training and materials to get the message out, but we need to keep supporting it.
- With anti-smoking campaigns, the biggest challenge is how to reach youth that the tobacco industry is trying to snare into addiction. Grade school and high school kids are vaping. The marijuana laws that we just adopted are good, but we need a public health campaign so that young people understand the nature of using this substance and its link to tobacco and alcohol.

Preventive Practices

Immunization of Children

Most Orange County school districts have high rates of compliance with childhood immunizations upon entry into kindergarten, with the county rate (95.7%) higher than the state rate (95.1%). California law mandates that kindergarten students be up-to-date on vaccines that help prevent communicable childhood diseases, such as whooping cough, measles and polio. With the passage of SB 277 in 2015, the 2015-2016 school year was the final year that parents were able to opt out of the vaccine requirements for their children for religious or personal reasons

Required Immunizations for Kindergarten

	Immunization Rate
Orange County	95.7%
California	95.1%

Source: California Department of Health Immunization Branch, 2017. www.ochealthiertogether.org

Flu Vaccine

In Orange County, 40.9% of residents have received a flu shot, along with 37.0% of children ages 0-17 and 68.4% of seniors. The Healthy People 2020 objective is for 70% of the population to receive a flu shot.

Flu Vaccine in Past 12 months

	Orange County	California
Vaccinated for flu in past 12 months	40.9%	44.8%
Vaccinated for flu in past 12 months, 0-17	37.0%	49.6%
Vaccinated for flu in past 12 months, 18-64	36.5%	37.7%
Vaccinated for flu in past 12 months, 65+	68.4%	69.3%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Mammograms

A mammogram is an X-ray of the breast that can be used to detect changes in the breast. In Orange County, 63% of female Medicare enrollees, ages 67 to 69, have had a mammogram in the past two years.

Mammography Screening: Medicare Population

	Orange County	California
Women Medicare enrollees, ages 67-69, who reported having a mammogram in the past two years	63.0%	59.5%

Source: Orange County's Healthier Together, 2015. www.ochealthiertogether.org

In Orange County, 83.5% of women have obtained a mammogram in the past two years. This rate is higher than the Healthy People Objective of 81% of women ages 50

to 74 years to have a mammogram within the past two years.

Mammograms

	Orange County	California
Women, ages 50-74, who reported having a mammogram in the past 2 years	83.5%	83.2%

Source: California Health Interview Survey, 2016. http://ask.chis.ucla.edu

Colorectal Cancer Screening

According to the Centers for Disease Control and Prevention (CDC), colorectal cancer —cancer of the colon or rectum—is one of the most commonly diagnosed cancers in the United States, and is the second leading cancer killer. The CDC estimates that if adults age 50 or older had regular screening tests for colon cancer, as many as 60% of the deaths from colorectal cancer could be prevented. Recommended screening procedures include one of the following: Fecal occult blood tests (FOBT) annually, flexible sigmoidoscopy every 5 years; double-contrast barium enema every 5 years, or colonoscopy every 10 years. In Orange County, 73.6% of adults, ages 50 and over, were compliant with the recommended screening practices for colorectal cancer.

Colorectal Cancer Screening

	Orange County	California
Colorectal cancer screening, among adults, 50+	73.6%	68.1%

Source: Orange County's Healthier Together, 2015. www.ochealthiertogether.org

Community Input – Preventive Practices

Stakeholder interviews identified the following issues, challenges and barriers related to preventive practices. Their comments, quotes and opinions were edited for clarity:

- Those people most in need of prevention efforts are lower socioeconomic populations, especially underinsured and uninsured Hispanic and Asian groups.
- We need to push for more provider-initiated HPV vaccinations. But providers really don't know how to do it or don't have the systems in place to do that. Often, it just takes a nurse to say you are age 11, here are your vaccinations and proceed to give them. We should be vaccinating all young children.
- We are doing pretty well with smoking cessation among the older population. We will need to address teenage vaping and e-cigarettes because I don't think the message is getting communicated to teens and young adults that they are just as dangerous and unhealthy as cigarettes.
- Because of myths, many people don't want to get vaccinated. A lot of parents believe we give too many shots and that is why their children are autistic or are developmentally slow.

- A county barrier with HPV is that we are still a conservative county. I've never seen a campaign or poster encouraging young boys and men to get vaccinated. Focusing only on women is a public health mistake. We need to get males vaccinated. We had a measles outbreak here because of an anti-vaccination campaign. We have doctors who will say kids don't need to be vaccinated if parents don't want it.
- In Orange County, we have a strong contingent of anti-vaccination individuals and some providers who support that view. More education is needed at the provider level and among parents.
- Investment is needed in public health campaigns at colleges and community colleges and student health centers.
- A portion of young adults don't access services unless they need something even though they have access to preventive services.
- There is a lack of understanding about the importance of prevention and screenings. Routine screenings are better.

Attachment 1. Benchmark Comparisons

Where data were available, health and social indicators in Orange County were compared to the Healthy People 2020 objectives. The **bolded items** are indicators that did not meet established benchmarks; non-bolded items meet or exceed benchmarks.

Orange County Data	Healthy People 2020 Objectives
High school graduation rate 88.8%	High school graduation rate 87%
Child health insurance rate **95%**	Child health insurance rate 100%
Adult health insurance rate **82.8%**	Adult health insurance rate 100%
Persons unable to obtain medical care **10.7%**	Persons unable to obtain medical care 4.2%
Heart disease deaths 80.4 per 100,000	Heart disease deaths 103.4 per 100,000
Cancer deaths 131 per 100,000	Cancer deaths 161.4 per 100,000
Stroke deaths **34.9 per 100,000**	Stroke deaths 34.8 per 100,000
Unintentional injury deaths 24.5 per 100,000	Unintentional injury deaths 36.4 per 100,000
Liver disease deaths **10.4 per 100,000**	Liver disease deaths 8.2 per 100,000
Homicides 2.0 per 100,000	Homicides 5.5 per 100,000
Suicides 9.6 per 100,000	Suicides 10.2 per 100,000
Drug-induced deaths **11.9 per 100,000**	Drug-induced deaths 11.3 per 100,000
On-time (1st Trimester) prenatal care 87% of women	On-time (1st Trimester) prenatal care 78% of women
Low birth weight infants 6.3% of live births	Low birth weight infants 7.8% of live births
Infant death rate 2.9 per 1,000 live births	Infant death rate 6.0 per 1,000 live births
Adult obese 23.3%	Adult obese 30.5%
Teens obese **28.3%**	Teens obese 16.1%
High blood pressure 22.4%	High blood pressure 26.9%
Did receive needed mental health care 72.8%	Did receive needed mental health care 72.3%
Annual adult influenza vaccination **36.5%**	Annual adult influenza vaccination 70%
Cigarette smoking by adults 10.9%	Cigarette smoking by adults 12%
Mammograms 83.5%	Mammograms 81.1%, 50-74 years old, screened in the past two years

Attachment 2. Key Stakeholder Interview Respondents

	Name	Title	Organization
1	Ellen Ahn, MSW, JD	Executive Director	Korean Community Services
2	Pooja Bhalla, DNP, RN	Chief Operating Officer	Illumination Foundation
3	Gio Corzo	Vice President, Home Care and Services	SeniorServ
4	Ivan Coziahr	Executive Director	UC Irvine Family Health Centers (FQHC)
5	Richard Van Etten, MD, PhD	Director	Chao Family Comprehensive Cancer Center, UCI School of Medicine
6	Rachel Goldberg, PhD	Assistant Professor	Department of Sociology, University of California, Irvine
7	Holly Hagler	President and Chief Executive Officer	SeniorServ
8	Marshall Moncrief	Executive Director	Mental Health Institute, St. Joseph Health
9	Jose Mayorga, MD	Chief Medical Officer	UCI Health Family Health Centers (FQHC)
10	Michelle Murphy	Associate Director, Advocacy and Health	Orange County United Way
11	Tricia Nguyen	Chief Executive Officer	Vietnamese Community of Orange County
12	Oladele Ogunseitan, PhD	Professor	UCI Program in Public Health
13	Pamela Pimentel	Chief Executive Officer	MOMS of Orange County
14	Barry Ross	Vice President	Healthy Communities, St. Jude Medical Center
15	David Snow, PhD	Distinguished Professor	Department of Sociology, University of California, Irvine
16	Allyson W. Sonenshine, JD	Project Director	Orange County Women's Health Project
17	David M. Souleles, MPH	Deputy Agency Director, Public Health Services	Orange County Health Care Agency
18	Sora Park Tanjasiri, DrPH, MPH	Associate Director	Chao Family Comprehensive Cancer Center, UCI School of Medicine

Attachment 3. Resources to Address Needs

UCI Medical Center solicited community input through key stakeholder interviews to identify resources potentially available to address the significant health needs. These identified resources are listed in the table below. This is not a comprehensive list of all available resources. For additional resources refer to Orange County's Healthier Together at http://www.ochealthiertogether.org and 211 Orange County at https://www.211oc.org/.

Health Need	Community Resources
Access to health care	• Access OC • CalOptima • Coalition of Orange County Community Health Centers (COCCH) • Health Funders Partnership of Orange County • Health Improvement Partnership • Illumination Foundation • Korean Community Services Health Center • Latino Health Access • Lestonnac Free Clinic • MOMS of Orange County • Multi-Ethnic Collaborative of Community Agencies (MECCA) • Orange County Health Improvement Partnership Coalition • Orange County Women's Health Project • Share Our Selves Medical Services • Southland Integrated Services • UCI Health Family Health Center FQHC • Vietnamese Community of Orange County
Alzheimer's Disease	• Alzheimer's Association and Alzheimer's Orange County • Alzheimer's Disease Research Center at UCI • Family Caregiver Resource Center (FCRC)
Cancer	• American Cancer Society • The Cambodian Family • Coalition of Orange County Community Health Centers (COCCH) • Korean Community Services • Korean Health Education and Referral Center • Latino Health Access • Leukemia Lymphoma Society

Health Need	Community Resources
	• Orange County Asian and Pacific Islander Community Alliance (OCAPICA) • Orange County Herald Center • Orange County Women's Health Project • Susan G. Komen Orange County • UCI Health Family Health Center FQHC • Vietnamese American Cancer Association • Vietnamese Cancer Foundation • YWCA
Housing and homelessness	• American Family Housing • Build Futures • Collette's Children's Home • County of Orange • Cypress Senior Support Services • Families Forward • Family Assistance Ministries • Family Resource Centers • Friendship Shelter Orange County United Way • HUD • Illumination Foundation • Jamboree • Medicaid waiver program • Mercy House • Midnight Mission • Pathways of Hope • OC Homeless Plan • United Way 10 • Village of Hope Orange County Rescue Mission • WISEPlace • Whole Person Care (WPC)
Mental health	• Be Well OC • Coalition of Orange County Community Health Centers (COCCH) • County Prenatal and Postpartum Program • Each Mind Matters • Families and Communities Together (FaCT) Spark Project • Human Options • Illumination Foundation • Korean Community Services • Mental Health Advisory Board

Health Need	Community Resources
	• Mental Health Association of OC • Mental Health Faith Leaders • Mental Health Institute at St. Joseph Health • Mental Health Services Act Steering Committee • MOMS of Orange County • NAMI OC • OC Healthier Together Coalition • OC Homeless Plan • OC Older Adult Mental Health Advisory Council • Orange County Asian and Pacific Islander Community Alliance (OCAPITA) • Orange County Behavioral Health • Orange County Community Coalition for Mental Health • Orange County Women's Health Project • Saddleback Church • Strong Families, Strong Children • UCI Health Family Health Center FQHC
Overweight and obesity	• Alliance for a Healthy OC • Camino Health Center • Coalition on Nutrition • Community Action Partnership of OC (CAPOC) • Healthier Together Coalition • Healthy Communities St. Jude • Kaiser HEAL initiative • Latino Health Access • Nutrition Education and Obesity Prevention (NEOP) • OC Food Access Coalition • Public Health Foundation Enterprises • Santa Ana Building Healthy Communities • St Jude Medical Center (5 year 5 million to reduce obesity in low-income communities) • UCI Health Family Health Center FQHC • WIC
Preventive practices	• 1-800-No-Butts • American Academy of Pediatrics OC • American Cancer Society • Boys and Girls Clubs • Coalition of Orange County Community Health Centers (COCCH) • CVS • Korean Community Services

Health Need	Community Resources
	• Latino Health Access • MOMS of Orange County • Orange County Women's Health Project • Rite Aid • St. Jude Medical Center Asian Community Roundtable • Teen reproductive task force with Planned Parenthood • UCI Health Family Health Center FQHC • UCI Healthy campus 2020 • Vietnamese Community of Orange County • Walgreens
Senior Health	• AARP • Adult Protective Services • Age Well Senior Services & Meals on Wheels • Cambodian Family Community Center • Caregiver Resource Center • Center for Successful Aging • Coalition of Community Health Clinics • Coalition of Orange County Community Health Centers (COCCH) • Coalition of Senior Health • Flower Park Plaza Santa Ana • Korean American Senior Association • Korean Community Services • Multi-Ethnic Collaborative of Community Agencies (MECCA) • OC Aging Services Collaborative • OC Office on Aging • OneCare Connect Program CalOptima • Program of All-inclusive Care for the Elderly (PACE CalOptima) • SeniorServ • St Jude Senior Services Program and Collaborative • Tyrol Plaza Housing • Veterans Affairs • Vietnamese Community of Orange County
Stroke	• American Heart Association • American Stroke Association • Caregiver Resource Center • Roxanna Todd Hodges Stroke Foundation • St Jude Medical Center Comprehensive Stroke Center

Health Need	Community Resources
Substance use and misuse	• ACT for Youth • Alcoholics Anonymous • American Lung Association • Korean Community Services • Narcotics Anonymous • OC Tobacco Use Prevention Program (TUPP) • Orange County Women's Health Project • PC1000 Drug Diversion • Positive Action Center Sober Living • Safe RX OC • Waymakers

Attachment 4. Report of Progress

UCI Medical Center developed and approved an Implementation Strategy to address significant health needs identified in the 2016 Community Health Needs Assessment. The medical center addressed: access to health care and preventive health care, cancer, chronic diseases, including overweight and obesity, and mental health through a commitment of community benefit programs and resources.

To accomplish the Implementation Strategy, goals were established that indicated the expected changes in health needs as a result of community programs and education. Strategies to address the priority health needs were identified and measures tracked. The following section outlines the health needs addressed since the completion of the 2016 CHNA.

Access to Health Care and Preventive Care

Primary Care

UCI Health operates the UCI Health Family Health Center, a Federally Qualified Health Center, with locations in Santa Ana and Anaheim. The mission of the health center is to improve the health and well-being of patients by providing high-quality, accessible and comprehensive primary care to every member of the family. The majority of patients seen at the clinic sites were low-income, ethnic minorities. In 2016, 14.7% of the patients who were cared for were uninsured. In 2017, 12.8% of the patients were uninsured and in 2018, 11.1% of patients were uninsured. Medi-Cal patients increased from 74.1% in 2016 to 76.1% in 2017 and 2018.

Clinic Patients, Demographic Characteristics and Insurance Coverage

	2016	2017	2018
Patients	21,794	21,835	20,650
Ethnic minorities	84.3%	84.2%	85.2%
<200% FPL	97.9%	96.8%	99.9%
Uninsured	14.7%	12.8%	11.1%
Medi-Cal	74.1%	76.1%	76.1%

Source: https://bphc.hrsa.gov/uds/datacenter

Financial Assistance

The hospital provided available financial assistance to qualified patients. From FY16 through FY18, UCI Medical Center provided more than $151 million in traditional charity care for indigent patients who did not have healthcare coverage.

Integrative Wellness

UCI Health and Orange County community partners launched an initiative designed to improve health outcomes for the underserved through an integrative approach to

medicine. “Live Healthy OC – Empowering a Community of Wellness” seeks to shift the focus of community health centers from disease treatment to disease prevention and wellness.

The initiative is supported by a generous grant from the UniHealth Foundation to support the project between 2016 and 2019. Joining UniHealth and UCI Health are Health Funders Partnership of Orange County, the UCI School of Medicine, the Samueli Foundation, the Susan Samueli Integrative Health Institute, the Blue Shield Foundation of California, the Children and Families Commission of Orange County, the Kay Family Foundation and the Coalition of Orange County Community Health Centers.

The following clinics participated in the 18-month training period to put integrative medicine practices and principles into action.

- Center for Comprehensive Care & Diagnosis of Inherited Blood Disorders
- Children’s Hospital of Orange County, Orange Primary Care Clinic
- North OC Regional Health Foundation
- Serve the People Community Health Center
- Vietnamese Community of Orange County, Inc.

Cancer

The UCI Health Family Health Centers in Santa Ana and Anaheim conducted colorectal cancer and cervical cancer screenings. The rate of screening is shown in the table below, based on the number of patients eligible for the screening.

Clinic Patients, Percent Receiving Preventive Cancer Screening

	2016	2017	2018
Colorectal cancer screening	41.4%	34.3%	47.5%
Cervical cancer screening	74.3%	61.4%	58.2%

Source: https://bphc.hrsa.gov/uds/datacenter

At the UCI Chao Family Comprehensive Cancer Center, a number of support groups were provided for individuals coping with cancer and their caregivers. Support groups included:

- Oral, head and neck cancers support group
- Pancreatic cancer support group
- Brain tumor support group
- Multiple myeloma support group
- Chronic Lymphocytic Leukemia (LLC) support group
- Korean Women’s cancer support group

Chronic Disease Including Overweight and Obesity

At the UCI Health Family Health Centers, patients with chronic disease received primary care services to manage their conditions.

Clinic Patients with Chronic Diseases, Percent of Patients with Medical Conditions

	2016	2017	2018
Hypertension	15.7%	15.6%	16.1%
Asthma	4.1%	4.1%	5.0%
Diabetes	12.7%	12.7%	13.0%

Source: https://bphc.hrsa.gov/uds/datacenter

Compliance with chronic disease management measures for clinic patients is outlined below.

Chronic Disease Management Measures

	2016	2017	2018
Asthma treatment (appropriate treatment plan)	98.6%	87.1%	87.1%
Cholesterol treatment (lipid therapy)	80.0%	88.6%	76.9%
Heart attack/stroke treatment (aspirin therapy)	95.7%	92.9%	72.7%
Blood pressure control (<140/90)	61.9%	58.2%	64.1%
Diabetes control (HbA1c <=9%)	46.4%	47.1%	62.9%

Source: https://bphc.hrsa.gov/uds/datacenter

Weight assessment and physical activity and nutrition counseling were provided for children and adolescents. Body Mass Index (BMI) screening and follow-up were provide to adult clinic patients.

Overweight and Obesity Measures

	2016	2017	2018
Weight assessment, nutrition and physical activity counseling, children and teens	77.1%	61.4%	65.0%
BMI screening and follow-up, adults	60.0%	45.7%	37.3%

Source: https://bphc.hrsa.gov/uds/datacenter

The UCI Health Family Health Centers in Anaheim and Santa Ana hosted a monthly mobile food pantry. The food pantry provided fruits and vegetables free of charge to community residents.

Mental Health

At the UCI Health Family Health Centers, patients were screened for clinical depression and provided with a follow-up plan, as needed.

Mental Health Screening

	2016	2017	2018

Screening for clinical depression and follow-up plan	70.0%	57.1%	87.5%

Source: https://bphc.hrsa.gov/uds/datacenter

UCI Health participated in Be Well OC, a community-based, cross-sector strategy to create a community-wide, coordinated ecosystem to support optimal mental health.

To address these and other community health needs, UCI Medical Center provided support groups, community group health education classes and community events to better inform the public and improve health and wellness.

Health Education and Outreach

	2016	2017	2018
Total classes sessions	97	149	148
Number of client encounters for health education	717	1,036	1,314

Topics addressed in the support groups and community education programs included:

- Cancer treatment and support
- Weight loss
- Relaxation and meditation
- Vision care
- Joint replacement
- Heart failure
- Kidney health
- First aid
- Inflammatory bowel disease
- Childbirth preparation
- Newborn care
- Breastfeeding
- Men’s health
- Diabetes