CHOC Children's

Community Health Needs Assessment

Children's Hospital of Orange County

Orange, CA

December 12, 2019

Table of Contents

OVERVIEW

EXECUTIVE SUMMARY

CHOC Children's has two hospital campuses – CHOC Children's Hospital ("CHOC at Orange") and CHOC Children's at Mission Hospital ("CHOC at Mission"), collectively referred to as "CHOC Children's". While the law requires that each licensed hospital conduct a Community Health Needs Assessment ("CHNA"), it may be conducted with another hospital or group of hospitals, so long as the characteristics and specific needs of each hospital's population are distinctly identified where different. Because both CHOC Children's facilities are located within the same county (Orange), serve many of the same populations and provide many of the same types and levels of services, CHOC Children's conducted the CHNA for its two facilities simultaneously. Another consideration for issuing a joint CHNA is that many health indicators (morbidity, mortality, etc.,) are only available at the county level. This 2019 CHNA report will assist in prioritizing the unmet health needs adversely affecting the community.

The purpose of the CHNA is to identify community health assets and issues, determine and monitor the overall health of the population, and set health objectives. The final deliverable will then be used to assist the CHOC Board and Senior Management in setting priorities and allocating resources over the next several years.

CHOC Children's CHNA Steering Committee comprised of the following individuals who helped conduct the 2019 CHNA:

- Shahab Dadjou, Chief Strategy Officer
- Jena Jensen, Chief Governmental Relations Officer
- Michael Weiss, DO, Vice President of Population Health
- Charles V. Golden, DO, Vice President and Executive Medical Director of CHOC Children's Primary Care Network
- Anita Sankaran, Director of CHOC Children's Primary Care Network
- Billy Lambon, Senior Strategy Consultant
- Michael Jones, Strategy Consultant
- Roseanne De Lemos, Operations Administrative Resident

Note: CHOC Children's did not contract with any third parties to assist in conducting its 2019 CHNA.

PRIORITIZED HEALTH NEEDS

To prioritize the identified community needs, each member of CHOC Children's CHNA Steering Committee utilized a matrix to measure the burden, severity, impact, and urgency of each CHNA need on a numerical scale of one to five.

1. **Burden:** Population size within the community;
2. **Severity:** Acuity, risk of mortality, or major loss of function on an individual;
3. **Impact:** If this health or socioeconomic issue were not addressed, how severely would this impact the overall well-being of children in Orange County; and
4. **Urgency:** Effect on children of waiting to address need (focused on time and resource availability).

For community needs that were previously identified as a top priority need in CHOC Children's 2016 CHNA, the need was allocated an addition of one point to the total. The total weight of each need from all the committee responses was averaged and then ranked from greatest to least in weight. Based on this methodology, the following health needs were ranked from most to least critical:

1. Mental Health and Autism
2. Access to Pediatric Specialists
3. Immunizations (Vaccines) and Infectious Diseases
4. Substance Abuse
5. Pediatric Obesity
6. Respiratory Illness
7. Oral Health
8. Collaboration and Partnerships with School Programs
9. Bullying and Other Stressors in School
10. Pediatric Diabetes
11. Cost of Child Care
12. Housing Affordability

The strategies for addressing these gaps can be found in the Implementation Plan on the CHOC Children's website.

Goals of the Community Health Needs Assessment

The Patient Protection and Affordable Care Act (ACA) (HR3590), Internal Revenue Service section 501(r)(3) and California Senate Bill 697 direct tax-exempt hospitals to conduct a CHNA and develop an implementation strategy to address these needs every three years.

The primary goals of the CHNA include the following:

- Defining the patient population served by CHOC Children's and the communities from which this population originates;
- Determining community health needs and resources, including those specifically related to pediatric inpatient and outpatient care;
- Identifying significant gaps hindering the provision of pediatric primary and specialty inpatient/outpatient services; and
- Mitigating the barriers to meeting health and social needs through the development of an Implementation Plan.

To meet these primary goals, CHOC Children's 2019 CHNA sought input from experts in public health, local health departments and community members who were representative of and providing service to minority groups, low-income individuals and medically underserved populations. Engaging the community in this way helps CHOC Children's develop an informed understanding of the most pressing needs or health gaps existing within communities served. To provide comments about CHOC Children's 2019 CHNA, please contact us at:

CommunityComments@CHOC.org

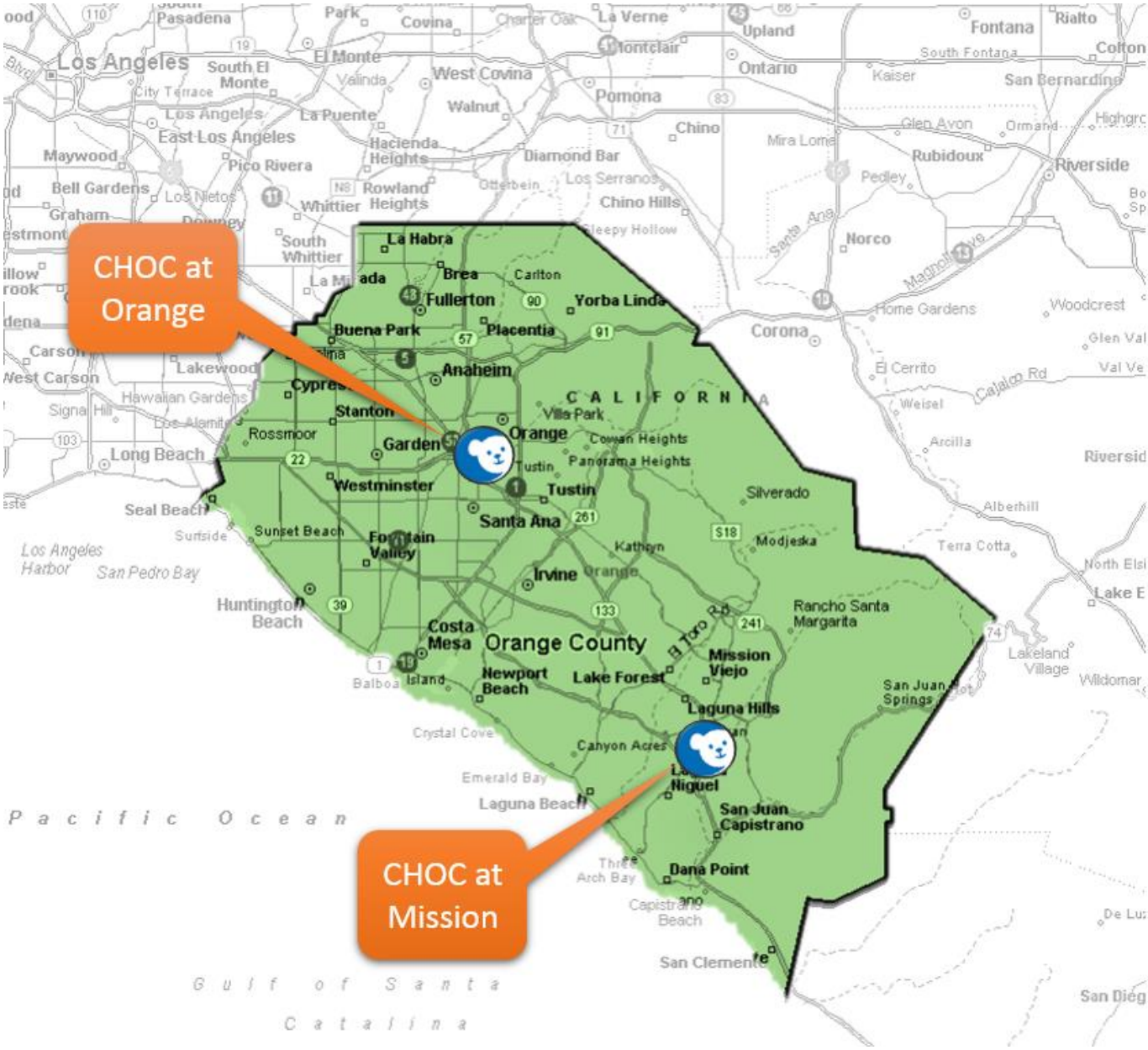
CHOC Children's 2019 CHNA fulfills the requirements of the ACA, IRS Section 501(r) and California law. See Appendix F for more details.

About CHOC Children's Hospital

CHOC at Orange is a licensed 334-bed tertiary/quaternary children's hospital dedicated to the provision of care ranging from prenatal and neonatal (newborns) through 17 years of age, to patients up to 25 years of age diagnosed with certain rare conditions. CHOC at Orange is located at 1201 W La Veta Avenue, Orange, CA 92868.

CHOC at Mission is a licensed 54-bed "hospital within a hospital" that treats patients ranging in age from newborn through 17 years of age. It is located at 27700 Medical Center Road, Mission Viejo, CA 92691 on the 5th floor of Mission Hospital.

Although CHOC Children's provides healthcare services to pediatric and young adult patients from across the nation, CHOC Children's primary service area (PSA) is Orange County, California. CHOC at Orange and CHOC at Mission are the only hospitals in Orange County that exclusively treat inpatient pediatrics. The map below shows that CHOC Children's is uniquely positioned to provide pediatric health care services to all Orange County pediatric residents.



Mission of CHOC Children's

To nurture, advance and protect the health and well-being of children

Vision of CHOC Children's

To be the leading destination for children's health by providing exceptional and innovative care

CORE VALUES OF CHOC CHILDREN'S

Excellence	Setting and achieving the highest standards in all we do
Innovation	Advancing children's healthcare by leading with new ideas and technology
Service	Delivering unmatched personal experience
Collaboration	Working together with our colleagues and partners to achieve our mission
Compassion	Caring with sensitivity and respect
Accountability	Serving as dedicated stewards of the lives and resources entrusted to us

PROGRAMS & SERVICES

CHOC Children's offers an array of primary, secondary, tertiary, and quaternary services across its network of inpatient, outpatient and ancillary centers including, but not limited to, the following:

- A 30-bed PICU that offers the highest levels of care to critically ill or injured children. CHOC Children's pediatric intensive care specialists are available in the hospital 24-hours-a-day, seven-days-a-week, along with highly skilled nursing and support staff;

- CHOC Children's has a total of 101 licensed inpatient neonatal intensive care (NICU) beds. This includes a 37-bed, Level 4 NICU at CHOC at Orange,[1] offering critical tertiary and quaternary care for newborn babies suffering from respiratory, circulatory, neurological, surgical and cardiac problems. This unit provides all private rooms;

- CHOC at Orange also offers a 12-bed Small Baby Unit, a special unit designed for babies born at less than 28 weeks gestation or who weigh less than 1,000 grams; and

- Also sitting on our hospital license, CHOC at Orange operates a 13-bed, Level 2 NICU at St. Joseph Hospital - Orange, with all private rooms. St. Joseph Hospital – Orange is located next door to CHOC at Orange and is joined by an underground tunnel for fast and efficient patient transfers.

[1] For states and hospitals who use this classification, a level 4 NICU is an intensive care unit that can care for babies as young as 22 to 24 weeks gestational age. The term "micro-preemies" is used to describe babies born between 22 and 26 weeks of gestation or smaller than 1 pound 13 ounces. Level 4 NICUs can provide very sophisticated types of respiratory support for very sick babies, including extracorporeal mechanical oxygenation or ECMO. They also offer a wide variety of neonatal surgeries including heart surgeries for babies born with congenital heart disease.

The following is a list of CHOC Children's inpatient and outpatient services:

Adolescent Medicine
- Eating Disorders
- Reproductive Health
- Mental Health
- (LGBTQIA) Adolescent Health Care

Allergy/Immunology
- Asthma Education Programs
- Breathmobile
- Eosinophilic Esophagitis Clinic

Cardiology (Heart Institute)
- Cardiac Catheterization Laboratory
- Cardiodiagnostics
- Cardiovascular Intensive Care Unit (CVICU)
- Electrophysiology (EP) Program
- Healthy Lifestyle Classes
- Heart Surgery
- Interventional Cardiology Program
- Lipid Clinic
- Pacemaker & Implantable Cardioverter Defibrillator Program
- Pulmonary Hypertension Clinic
- Sports Cardiology Program

Critical Care
- Cardiovascular Intensive Care Unit (CVICU)
- Extracorporeal Life Support Program (ECMO)
- Neonatal Intensive Care Unit (NICU)
- Pediatric Intensive Care Unit (PICU)
- Transport Services

Dentistry

Dermatology

Developmental and Behavioral Pediatrics
- Developmental Services

Emergency Medicine
- Emergency Department
- Transport Services
- Trauma Center

Endocrinology and Diabetes
- Healthy Lifestyle Classes

Gastroenterology
- Colorectal/Bowel Management Program
- Eosinophilic Esophagitis Clinic

Oncology (Hyundai Cancer Institute)
- Adolescent and Young Adult Cancer Program
- After Cancer Treatment Survivorship Program
- Blood and Marrow Transplant Program
- Bone and Soft Tissue Sarcoma Program
- Histiocytosis Program
- Leukemia Program
- Lymphoma Program
- Neuro-oncology Program
- Recurrent and Refractory Cancer Program
- Solid Tumor Program

Ophthalmology

Orthopaedics (Orthopaedic Institute)
- Clubfoot and Foot Disorder Program
- Fracture Clinic
- Hand Program
- Infant and Adolescent Hip Disorder Program
- Limb Program
- Muscular Dystrophy Association Clinic
- Musculoskeletal Tumor Program
- Neuromuscular Disease Program
- Orthopaedic Surgery
- Spasticity Clinic
- Spina Bifida Clinic
- Spine Center
- Sports Medicine Program

Otolaryngology (Ear, Nose and Throat)
- Cleft and Craniofacial Program
- Cochlear Implant Program
- Vascular Anomalies Center

Physical Medicine and Rehabilitation
- Rehabilitation Services
- Physical Therapy
- Occupational Therapy
- Speech and Language Pathology
- Developmental Therapy

Plastic Surgery
- Brachial Plexus Program
- Cleft and Craniofacial Program
- Vascular Anomalies Center

- Feeding Program
- Functional Abdominal Pain Program
- Gastrointestinal Motility Program
- Inflammatory Bowel Disease (IBD) Program
- Intestinal Rehabilitation Program

General and Thoracic Surgery

Genetics

Hematology

- Vascular Anomalies Center

Infectious Disease

Metabolic Disorders

- Metabolic Lab

Neonatology/Perinatology

- Neonatal Intensive Care Unit (NICU)
- Neurocritical NICU
- Small Baby Unit
- Surgical NICU
- High-Risk Infant Follow-Up Clinic

Nephrology

Neurology/Neurosurgery (Neuroscience Institute)

- Brachial Plexus Program
- Concussion Program
- Craniosynostosis Program
- Developmental Services
- Down Syndrome Program
- Epilepsy Program
- Hydrocephalus Program
- Muscular Dystrophy Association Clinic
- Neurodiagnostics
- Neurofibromatosis Program
- Neurometabolic Program
- Neuromuscular Disease Program
- Neuro-oncology Program
- Plagiocephaly Clinic
- Sleep Center
- Sleep Disorder Center
- Spasticity Clinic
- Spina Bifida Clinic
- Tuberous Sclerosis Program

Psychology/Psychiatry

- Autism Assessments
- Mental Health Services
- Neuropsychology Program

Pulmonology

- Sleep Disorder Center

Radiology/Imaging

Rheumatology

Surgical Services

Thoracic Surgery

Urology

- Bedwetting and Daytime Incontinence Program
- Disorders of Sexual Differentiation Program
- Hypospadias Program
- Spina Bifida Clinic

Wellness and Primary Care

- Adolescent and Teen Medicine
- Behavioral Services
- Eating Disorders Program
- Human Papillomavirus (HPV) Vaccination
- Immunizations
- Management of Chronic Conditions
- Screenings
- Sports Physicals
- Urgent Care (Orange Clinic)
- Well-child, Routine and Sick Visits

COMMUNITY BENEFITS PROGRAM

CHOC Children's is committed to the children and families in Orange County who depend on CHOC for care. With the provision of $84.5 million in community benefits in the fiscal year 2018, CHOC Children's continues to provide 89 benefit services to address the following:

- **Healthcare Access:** increase access to quality pediatric healthcare resources and information to families, especially low-income and medically underserved, throughout Orange County;
- **Behavioral Health Access:** enhance the community's access to behavioral health information and social and emotional services, targeting the underserved;
- **Disease Prevention:** increase awareness of disease prevention and promote early intervention of major diseases that affect the community;
- **Information Resource:** provide the community with resources for information and education on health risk behaviors;
- **Injury Prevention:** actively contribute to reducing the number of unintentional injuries to young children, especially targeting low-income, ethnically diverse and medically underserved populations; and
- **Community Action:** actively recruit, recognize and advocate for the importance of volunteer leadership and community assistance in providing care for children.

To see CHOC Children's Community Benefit Report, please visit CHOC Children's website for the most up-to-date annual public report.

CHNA Methodology

Definition and Characterization of Primary Service Area

CHOC Children's primary service area (PSA) was determined by utilizing statewide inpatient data and calculating the patient origin from which the majority of CHOC Children's inpatient population resides. In calendar year (CY) 2017, the most recent year inpatient data was made available, CHOC Children's inpatient market share was 70.5%. The PSA has a total pediatric population of nearly 720,000. Cities and ZIP Codes making up the PSA include (for the sake of this report, the term PSA and Orange County are one and the same):

ZIP Code	City
92656	Aliso Viejo
92801	Anaheim
92802	Anaheim
92804	Anaheim
92805	Anaheim
92806	Anaheim
92807	Anaheim
92808	Anaheim
92821	Brea
92823	Brea
90620	Buena Park
90621	Buena Park
92624	Capistrano Beach
92625	Corona del Mar
92626	Costa Mesa
92627	Costa Mesa
90630	Cypress
92629	Dana Point
92610	Foothill Ranch
92708	Fountain Valley
92831	Fullerton
92832	Fullerton

ZIP Code	City
92833	Fullerton
92835	Fullerton
92840	Garden Grove
92841	Garden Grove
92843	Garden Grove
92844	Garden Grove
92845	Garden Grove
92646	Huntington Beach
92647	Huntington Beach
92648	Huntington Beach
92649	Huntington Beach
92602	Irvine
92603	Irvine
92604	Irvine
92606	Irvine
92612	Irvine
92614	Irvine
92617	Irvine
92618	Irvine
92620	Irvine
92697	Irvine
90631	La Habra

ZIP Code	City
90623	La Palma
92694	Ladera Ranch
92651	Laguna Beach
92653	Laguna Hills
92677	Laguna Niguel
92637	Laguna Woods
92630	Lake Forest
90720	Los Alamitos
92655	Midway City
92691	Mission Viejo
92692	Mission Viejo
92660	Newport Beach
92661	Newport Beach
92662	Newport Beach
92663	Newport Beach
92657	Newport Coast
92865	Orange
92866	Orange
92867	Orange
92868	Orange
92869	Orange
92870	Placentia

ZIP Code	City
92688	Rancho Santa Margarita
92672	San Clemente
92673	San Clemente
92675	San Juan Capistrano
92701	Santa Ana
92703	Santa Ana
92704	Santa Ana
92705	Santa Ana
92706	Santa Ana
92707	Santa Ana
90740	Seal Beach
92676	Silverado
90680	Stanton
90742	Sunset Beach
92679	Trabuco Canyon
92780	Tustin
92782	Tustin
92861	Villa Park
92683	Westminster
92886	Yorba Linda
92887	Yorba Linda

To further characterize the PSA population, secondary data was collected from reputable resources and then analyzed to understand known disparities, community needs and community assets. See Appendix B for list of reputable data sources used within the 2019 CHNA report.

Engagement of Community Stakeholders

Additionally, community members who represent broad interests of the community were solicited for input to further identify community needs and community assets, such as programs, services and resources that improve the health and well-being of community members. Community stakeholders include regional governmental public health departments and members of medically underserved, low-income and minority populations in the community. In September and October 2019, input was solicited through a combination of interviews and survey questionnaires. CHOC Children's received 232 responses from community members and key informants who are knowledgeable pediatric experts in Orange County. See Appendix C and D for copies of the questionnaire and survey used to engage the community.

Additionally, no written comments from CHOC Children's 2016 CHNA or Implementation Strategy Plan were received from the community. CHOC Children's will continue to track any submissions made to ensure that all relevant comments are reviewed and addressed by appropriate hospital staff.

Identification and Prioritization of Needs/Health Gaps

Through primary and secondary data collection and analysis, CHOC Children's PSA health needs were identified. To prioritize the health needs, the CHNA Steering Committee members were asked to each complete a decision matrix. In this decision matrix, each identified community health need was assessed on burden, scope, impact and severity using a numerical scale of one to five:

1. **Burden:** Population size within the community;
2. **Severity:** Acuity, risk of mortality, or major loss of function on an individual;
3. **Impact:** If this health or socioeconomic issue were not addressed, how severely would this impact the overall well-being of children in Orange County; and
4. **Urgency:** Effect on children of waiting to address need (focused on time and resource availability).

For community needs that were previously identified as a top priority need in CHOC Children's 2016 CHNA, the need was allocated an addition of one point to the total. The total weight of each need from all the committee responses was averaged and then ranked from greatest to least in weight.

A gap analysis was conducted by comparing prioritized health needs with CHOC Children's services and PSA community assets. Additionally, the gap analysis process included an evaluation of the 2016 CHNA and implementation initiatives.

From the gaps identified and needs prioritized, an implementation strategy will be developed to address needs and bridge gaps which is further supported and approved by CHOC Children's leadership and overall organization.

Information Gaps

Many social, economic, morbidity, mortality, and health outcomes data points (secondary data) are tracked and recorded at the county level across all population cohorts, including the age cohort 18+, making it challenging to

determine the effect these indicators have on just the population CHOC Children's serves. Other qualitative and quantitative information limitations include:

- **Secondary data:** Much of the secondary data analyzed is only available at the county level. This limited CHOC Children's ability to decipher and assess social determinants within individual communities within Orange County. CHOC Children's mitigated this issue by conducting interviews with community stakeholders familiar with the individual communities within Orange County to determine access and availability of healthcare services;

- **Interviews and surveys:** Opinions gathered from community representatives could differ from those of the broader Orange County population. While every effort was made to recruit a sample size representative of CHOC Children's entire pediatric population, the diverse group of participants representing each of the unique cities within Orange County could not be guaranteed. This challenge is expected in metropolitan areas such as Orange County;

- **Inpatient data:** There is an approximate 12-18-month lag in the availability of inpatient data provided by the Office of Statewide Healthcare Planning and Development (OSHPD). CY 2017 is the most recent year OSHPD inpatient data was made available. This lag in data access means CHOC Children's, at times, is assessing the impact of inpatient healthcare initiatives on data that may or may not be representative of the times. This could result in misinterpretations to the actual state of affairs of a given health or social determinant;

- **Outpatient data:** Although CHOC Children's has invested heavily in outpatient data, by purchasing claims data from a third-party vender, this information is neither current (through CY 2018) nor complete (limitations by payer, heath system, self-insured entities, employers, IPA, and Medical Foundations) and therefore limits CHOC Children's ability to conduct a conclusive and holistic assessment of Orange County's current pediatric health needs. In these types of instances, CHOC Children's relied on a combination of historical data as well as interviews (both community and individual input) to provide a more conclusive viewpoint of any possible health or social issues; and

- **Data lag:** The list of data sources included in this report provides the dates for each of the major data sets referenced when conducting the CHNA. This data was valuable and allowed the identification of health needs relative to CHOC Children's PSA. However, older datasets may not reflect recent trends in health statistics and outcomes. Again, this challenge was mitigated by referencing feedback received from community input to compare and contract possible discrepancies.

DEMOGRAPHICS

Studying demographics helps uncover possible health disparities often attributed to social, economic, and/or environmental disadvantage. According to Healthy People 2020, "health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion."

To reiterate, Orange County is CHOC Children's PSA. California's total population is 39,813,541 people of which 22.9%, or 9,125,894, are children aged 0-18 years old.[2] Orange County has 8% of California's total population but 0.5% of its land area. Orange County is the third largest county in California by population size with 3,252,459 residents in 2019. The median age is 37.9 years old.[3] Children (0-18 years old) make up 22.1%, or 719,221 children,[4] of the Orange County population. Orange County's age cohort 0-18 is projected to decrease nearly 1% by 2024.

POPULATION CHANGE

The shifting population trend is important to assess for potential impacts on healthcare providers, healthcare access and utilization of community resources. While the natural population increase (births minus deaths) has outpaced migration as the county's principle source of growth, international immigration—largely from Asia and Latin America—has contributed significantly to Orange County's growth over the past 30 years. Between 2019 and 2024, it is estimated that Orange County will have a 3.6% total population increase.[5]

Orange County Growth by Age Cohort, 2019-2024

	Orange County			California		
Population Cohort	2019	2024	Change	2019	2024	Change
0-4	189,786	197,313	4.0%	2,514,863	2,613,297	3.9%
5-9	198,109	194,343	-1.9%	2,531,536	2,529,445	-0.1%
10-14	208,745	202,612	-2.9%	2,578,717	2,582,014	0.1%
15-17	122,581	118,529	-3.3%	1,500,778	1,490,027	-0.7%
All Pediatrics (0-18)	**719,221**	**712,797**	**-0.9%**	**9,125,894**	**9,214,783**	**1.0%**
Adult (18+)	2,533,238	2,656,064	4.8%	30,687,647	31,951,603	4.1%
Senior (65+)	482,516	564,170	16.9%	5,735,473	6,642,285	15.8%
Total Population	**3,252,459**	**3,368,861**	**3.6%**	**39,813,541**	**41,166,386**	**3.4%**
Females 15-44	663,768	687,063	3.5%	8,181,735	8,434,932	3.1%

Source: Esri, 2019

[2] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017
[3] Census.Gov – American Communities Survey 2013-2017
[4] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017
[5] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017

Age Cohort 0-18: The Orange County age cohort 0-18 is projected to decrease by approximately 1% from 719,221 children in 2019 to 712,797 in 2024. This is lower than the California growth rate that is projected to increase by 1% over the same period.

Age Cohort 0-4: The age cohort 0-4 (+4.0%) is the only Orange County age cohort, within the age range 0-18, that is projected to increase between 2019 and 2024. This increase is consistent with California. Orange County's age cohort 0-4 makes up 26% of all children in the county. This percentage is projected to grow to 28% of all Orange County children by 2024.

Age Cohort 5-9: The Orange County age cohort 5-9 is projected to contract nearly 2% between 2019 and 2024 to nearly 195,000 children. Over the same period, California's population is projected to remain stagnant on just over 2.5 million children. The age cohort 5-9 makes up 27% of the population 0-18 which is consistent with California overall.

Age Cohort 10-14: The Orange County age cohort 10-14 is projected to contract by 3% to 212,612 children by 2024. By contrast, California's population is projected to grow slightly to nearly 2.6 million over the same period.

Age Cohort 15-17: The Orange County age cohort 15-17 is projected to decrease by 3.3% from 122,581 children in 2019 to 118,529 in 2024. This is the steepest decrease across all age cohorts, including adult, within Orange County. The California growth rate for age cohort 15-17 is projected to decrease by 0.7% over the same period.

Age Cohort 18+: Despite the Orange County population 0-18 projected to shrink nearly 1% between 2019 and 2024, the adult population 18+ is forecast to increase 4.8% to nearly 2.7 million over the same period. This is higher than the California growth rate of 4.1%. Much of this growth can be attributed to net in-migration among adults embarking on employment opportunities and Orange County aging overall. For this reason, the age cohort 18+ is projected to make up a larger percentage of the overall population (79%) by 2024, an increase of 1% from 2019. California is also projected to age slightly more by 2024 with the age cohort 18+ projected to increase to 78% by 2024.

Age Cohort 65+: The Orange County age cohort 65+ is projected to increase nearly 17% from 482,516 in 2019 to 564,170 in 2024. This is the steepest growth increase across all age cohorts in Orange County. California's growth rate in the age cohort 65+ is also projected to increase considerably by 2024 but at a slightly slower rate than Orange County overall (16%).

Females 15-44: This population group is important as it measures the reproductive age span of women assumed for statistical purposes. The number of Orange County females 15-44 is predicted to increase 3.5% from 663,768 in 2019 to 687,063 in 2024. This increase is higher than the California increase of 3.1% over the same period.

Ethnicity & Race

Understanding race and ethnicity composition can better assist in determining health disparities including higher rates of chronic disease, healthcare access, premature death, and other health determinants affecting a community's population.

Orange County continues to experience increased racial and ethnic diversification. Within the age cohort 0-18, the racial distribution is as follows: White (49.4%), Some Other Race (21.3%) and Asian (18.2%). Nearly 49% of Orange County is of Hispanic or Latino origin. This is lower than the California Hispanic or Latino population percentage of 54.3%.

Among the different Orange County races and ethnicities 0-18, White (-5.8%) and American Indian/Alaska Native (-4.3%) populations are expected to see the largest decrease in population change between 2019 and 2024.[6] Over this same period, Asian and Multiple Races are expected to see the largest gain in 0-18 population increasing by 7.7% and 6.4%, respectively.

Age Cohort 0-18: Population Change by Ethnicity and Race, 2019-2024

	Orange County					California				
	2019		2024		Change	2019		2024		Change
Population Cohort	Pop.	%	Pop.	%	2019-2024	Pop.	%	Pop.	%	2019-2024
White	355,593	49.4%	334,828	47.0%	-5.8%	4,257,623	46.7%	4,147,595	45.0%	-2.6%
Black / African American	12,975	1.8%	13,267	1.9%	2.3%	546,370	6.0%	536,114	5.8%	-1.9%
American Indian / Alaska Native	4,404	0.6%	4,214	0.6%	-4.3%	95,910	1.1%	96,086	1.0%	0.2%
Asian	131,099	18.2%	141,228	19.8%	7.7%	1,123,987	12.3%	1,198,989	13.0%	6.7%
Pacific Islander	2,335	0.3%	2,271	0.3%	-2.8%	38,588	0.4%	39,390	0.4%	2.1%
Some Other Race	153,283	21.3%	153,486	21.5%	0.1%	2,241,548	24.6%	2,314,862	25.1%	3.3%
Multiple Races	63,376	8.8%	67,409	9.5%	6.4%	875,776	9.6%	932,499	10.1%	6.5%
Total Population (0-18)	**719,221**	**100%**	**712,797**	**100%**	**-0.9%**	**9,125,894**	**100%**	**9,214,783**	**100%**	**1.0%**
Hispanic Population	351,812	48.9%	353,824	49.6%	0.6%	4,957,082	54.3%	5,160,420	56.0%	4.1%

Source: Esri, 2019

Households

According to How Housing Matters, growing up in an affordable home can have a significant effect on a child's ability to thrive. Other findings on the importance of a suitable home environment for children include:

- Poor housing quality is associated with higher baseline symptoms of depression, anxiety, and aggression from elementary school through young adulthood;
- The strain of household affordability and a history of moving often are associated with adverse health outcomes for effected children;
- Compared to home owners with children, renter households with children are more likely to have asthma triggers in their homes and are more likely to have at least one child diagnosed with asthma;
- Moving schools is associated with lower reading scores;

[6] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017

- Children living in a housing cost burden environment, including living in homes that are in foreclosure or in tax delinquency, are more likely to receive inferior kindergarten readiness scores than children living in a stable housing environment; and
- Children living in a crowded household are less likely to graduate from high school and tend to have lower educational attainment by age 25.

Orange County's household population is projected to grow 3.6% from 3,207,763 in 2019 to 3,324,165 in 2024. This is similar to the projected growth rate in California (3.5%) overall. The current household growth rate of 0.72 is expected to decrease to 0.64 by 2024.

Household Growth by Year, 2019-2024						
	Orange County			California		
	2019	2024	Change	2019	2024	Change
Household Population	3,207,763	3,324,165	3.6%	38,995,367	40,348,212	3.5%
Households: Annual Growth Rate	0.72	0.64	↘	0.64	0.62	↘
Total Households	1,060,886	1,095,455	3.3%	13,339,357	13,759,222	3.1%
Average Household Size	3.02	3.03	0.3%	3.03	2.93	-3.3%
Total Family Households	756,645	781,140	3.2%	9,162,700	9,449,863	3.1%

Source: Esri, 2019

In Orange County, there are a total of 1,060,886 households,[7] with an average household size of 3.02. Over 71% of Orange County's total households are considered Family Households – slightly higher than the California percentage of 69%. Although an estimated 35,000 additional homes will be constructed in Orange County between 2019 and 2024, the change in population growth (3.6%) is still predicted to outpace the increased number of houses (3.3%) over the same period. This trend is consistent with California (3.5% increase in the size of the population versus 3.1% increase in the number of total households).

The number of households with one or more persons with a disability is 203,829 or 19.2% of total households. Having a disabled child may increase stress and affect physical health and make it difficult to find appropriate and affordable child care.

Household Income

Orange County continues to be among the most inaccessible places to live for low and moderate-income earners. This is a major concern for families as cost burden affects quality of life. Additionally, the number of households receiving food stamps or participating in the Supplemental Nutrition Assistance Program (SNAP) within Orange County is 66,353 or 8.8% of Orange County's total family households (this is lower than the California rate of 10.0%). The number of married couple families living below poverty level is 30,957 or 4.1% of total family households.

[7] Total households refer to people who are living in a housing structure, and can be made up of family households or non-family householders. Family households is a household maintained by a householder who is in a family and includes unrelated people who may be residing there. The number of family households is equal to the number of families. A nonfamily household consists of a householder living alone or shared home exclusively with people to whom he/she isn't related.

Orange County Household Income Distribution						
	2019 Estimate			2024 Projection		
Variable	OC	CA	USA	OC	CA	USA
Median Household	$88,453	$74,520	$60,548	$102,755	$86,333	$69,180
Average Household	$121,359	$106,321	$87,398	$139,918	$123,187	$99,638
$0 - $15,000	6.8%	9.0%	10.7%	5.3%	7.3%	9.0%
$15 - $24,999	6.1%	7.6%	9.0%	4.7%	6.0%	7.7%
$25 - $34,999	5.8%	7.3%	8.9%	4.7%	6.2%	7.8%
$35 - $49,999	8.6%	10.6%	12.4%	7.2%	9.2%	11.5%
$50 - $74,999	14.8%	15.8%	17.5%	13.4%	14.8%	17.0%
$75 - $99,999	13.1%	12.4%	12.6%	12.9%	12.6%	13.1%
$100 - $149,999	19.4%	16.9%	15.1%	20.9%	18.7%	17.0%
$150,000 -$199,999	10.7%	8.8%	6.5%	13.1%	11.0%	8.3%
$200,000+	14.7%	11.8%	7.3%	17.7%	14.3%	8.6%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Esri and US. Census, 2019

For 2019, it is estimated that Orange County has an average median household income of $88,453.[8] This is nearly 20% higher than the California average of $74,520 and 46% higher than the U.S. average of $69,180. The percentage of higher-income households ($100,000+) in Orange County is projected to grow from 44.8% of total households in 2019 to 51.7% of households in 2024. This is significantly higher than the 2024 California (44.0%) and U.S. (33.9%) projections.

Orange County's median home value is $682,052 and average rental rate is $2,004.[9] By 2024, Orange County's home value is estimated to increase to $715,049 and median household income to $102,755.[10] This is a concern as a larger proportion of wages spent on housing expenses such as rent and mortgage takes away from spending towards preventative care, medical care, cost of raising a child, or vehicle maintenance. Households with low incomes spend a greater percentage of their income on housing. According to the Legislative Analyst's Office, high home prices force workers in California's coastal communities, like Orange County, to commute 10% further each day than commuters elsewhere in the nation, largely because limited affordable housing options exist near major job centers.

In general, Orange County has higher home values compared to that of the state. California's median home value is $556,621 with median household income of $74,520. By 2024, these values are expected to increase to $617,383 and $86,333, respectively.

[8] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017
[9] CoStar.com – As Cited by Collins, Jeff, Orange County Register May 31, 2019
[10] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017

Socioeconomic Factors

Education Levels

According to the Centers for Disease Control and Prevention (CDC), people with at least some college education have mortality rates (deaths per 1,000 individuals per year) less than half of those without any college education. In addition, people who are more educated exhibit less anxiety and depression, have fewer functional limitations, and are less likely to have a serious health condition like diabetes, cardiovascular disease or asthma.

Nearly 72% of Orange County's population over the age of three are not enrolled in school while 28.3% are enrolled.

2013-2017 Population 3+ by School Enrollment (ACS)				
	Orange County		California	
	Number	% of Total	Number	% of Total
Not Enrolled in School	**2,183,080**	**71.7%**	**27,006,356**	**72.0%**
Enrolled in School:	**862,152**	**28.3%**	**10,518,223**	**28.0%**
- Enrolled in Nursery/Preschool	49,835	1.6%	597,861	1.6%
- Enrolled in Kindergarten	38,493	1.3%	523,699	1.4%
- Enrolled in Grade 1-4	152,101	5.0%	1,967,827	5.2%
- Enrolled in Grade 5-8	164,590	5.4%	2,035,389	5.4%
- Enrolled in Grade 9-12	175,723	5.8%	2,174,435	5.8%
- Enrolled in College	233,022	7.7%	2,703,745	7.2%
- Enrolled in Grad/Professional Schoc	48,388	1.6%	515,267	1.4%
Total School Enrollment Base	**3,045,232**	**100%**	**37,524,579**	**100%**

Source: Esri and US. Census, 2019

The Orange County Department of Education is a public education organization offering support to 27 school districts. It is estimated that there are 493,030 students enrolled in public schools in Orange County. Enrollment is comprised of the following: 49.1% Hispanic or Latino, 27.5% White, 15.6% Asian/Asian American, 2.1% Filipino, 1.4% Black, 0.3% American Indian or Alaska Native, and 4.0% Other.

In Orange County, about 5.7% of high school students drop out of school.[11] This rate is less than that of California's high school dropout rate of 10.7%.[12] High school dropout rates are important to track when determining educational attainment. Educational attainment is a social determinant of health and is one of 26 leading health indicators (LHI) of Healthy People 2020. Its objective is to increase the proportion of students graduating from high school within 4 years of starting 9th grade.

[11] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017
[12] California Dept. of Education, California Longitudinal Pupil Achievement Data System. As cited by www.kidsdata.org. Retrieved 9/2019.

Additionally, Orange County's educational attainment is higher than California with nearly half of the population having earned a college degree or higher. Specifically, 26.4% of the population obtained a bachelor's degree, 14.7% obtained a graduate/professional degree, and 7.7% achieved an associate degree.

2019 Educational Attainment				
	Orange County		California	
	Number	Percentage	Number	Percentage
Less than 9th Grade	174,353	7.8%	2,398,105	9.0%
9-12th Grade/No Diploma	137,966	6.2%	1,945,226	7.3%
High School Diploma	349,136	15.7%	4,978,329	18.6%
GED/Alternative Credential	37,113	1.7%	602,829	2.2%
Some College/No Degree	441,880	19.8%	5,626,754	21.0%
College Degree	1,086,646	48.8%	11,243,010	42.0%
- Associate Degree	172,073	7.7%	2,081,852	7.8%
- Bachelor Degree	588,219	26.4%	5,720,791	21.4%
- Graduate/Professional Degree	326,354	14.7%	3,440,367	12.8%
2019 Educational Attainment Base	**2,227,094**	**100%**	**26,794,253**	**100%**

Source: Esri, 2019

Increased education attainment leads to higher incomes that helps in the purchasing of healthy foods, affords more time to exercise regularly, and pays for health services and transportation. Conversely, job insecurity, low wages, and lack of assets associated with less education can make individuals and families more vulnerable during hard times—which can lead to poor nutrition, unstable housing, and unmet medical needs.

Chronic Absenteeism

Chronic absenteeism is a measurement based on the number of students absent at least 10% of the instructional days that they were enrolled in school. According to Attendance Works, kindergarten students who are chronically absent are likely to be less proficient readers and be held back in later grades. The study went on to show that by sixth grade, chronic absenteeism is one of the early warning indicators influencing eventual high school graduation.

The report below shows the annual Orange County K–12 public school chronic absenteeism rate by ethnicity.

Orange County K-12 Chronic Absenteeism by Ethnicity, 2017/2018

Ethnicity	K-12 Enrollment		Chronic Absenteeism Count		Chronic Absenteeism Rate	
	Orange County	California	Orange County	California	Orange County	California
African American	6,855	351,274	925	70,622	13.5%	20.1%
American Indian or Alaska Native	1,101	33,157	179	6,958	16.3%	21.0%
Asian	81,251	578,878	2,446	22,270	3.0%	3.8%
Filipino	10,218	153,577	436	8,017	4.3%	5.2%
Hispanic or Latino	243,526	3,426,105	23,923	415,666	9.8%	12.1%
Pacific Islander	1,660	29,539	240	5,141	14.5%	17.4%
White	128,234	1,462,370	10,794	141,803	8.4%	9.7%
Two or More Races	18,532	224,439	1,431	23,764	7.7%	10.6%
Not Reported	4,412	55,792	564	8,290	12.8%	14.9%
Total	**495,789**	**6,315,131**	**40,938**	**702,531**	**8.3%**	**11.1%**

Source: California Department of Education

Note: Lower rate is better

= Above California Average (11.1%)

Overall, the Orange County chronic absenteeism rate (8.3%) is lower than that of the California statewide rate (11.1%). Despite Orange County's chronic absenteeism rate being lower than California, many ethnic groups within Orange County recorded rates far higher than the average statewide rate. This included:

- African American: 13.5% chronic absenteeism rate;
- American Indian or Alaska Native: 16.5% chronic absenteeism rate; and
- Pacific Islander: 14.5% chronic absenteeism rate.

Also assessed was the chronic absenteeism rates of school districts within Orange County. Only three school districts reported higher chronic absenteeism rates when compared to the statewide rate (11.1%). These include the Orange County Department of Education (36.3%), Fullerton Joint Union High (11.7%), and Anaheim Union High School District (11.4%). The school district with the lowest chronic absenteeism rate in Orange County was Fountain Valley Elementary School District. Only 3.7% of the district's 6,519 enrolled students were reported as being chronically absent over the course of the school year.

Orange County K-12 Chronic Absenteeism by School District, 2017/2018					
District Name	K-12 Enrollment	Chronic Absenteeism Count	Chronic Absenteeism Rate	Above/Below OC Average	Above/Below CA Average
Orange County Department of Education[1]	9,073	3,290	36.3%	●	●
Fullerton Joint Union High	14,143	1,652	11.7%	●	●
Anaheim Union High	31,455	3,580	11.4%	●	●
Laguna Beach Unified	2,975	309	10.4%	●	●
Capistrano Unified	55,649	5,707	10.3%	●	●
Newport-Mesa Unified	21,720	2,248	10.3%	●	●
Orange Unified	28,559	2,862	10.0%	●	●
Huntington Beach Union High	16,409	1,627	9.9%	●	●
Magnolia Elementary	6,288	534	8.5%	●	●
Saddleback Valley Unified	27,899	2,280	8.2%	●	●
Placentia-Yorba Linda Unified	26,329	2,114	8.0%	●	●
SBE - Magnolia Science Academy Santa Ana	761	59	7.8%	●	●
Anaheim Elementary	18,658	1,405	7.5%	●	●
La Habra City Elementary	4,871	363	7.5%	●	●
Garden Grove Unified	44,288	3,259	7.4%	●	●
Santa Ana Unified	54,254	3,848	7.1%	●	●
Tustin Unified	24,582	1,706	6.9%	●	●
Buena Park Elementary	4,896	330	6.7%	●	●
Brea-Olinda Unified	6,053	380	6.3%	●	●
Westminster	9,489	580	6.1%	●	●
Centralia Elementary	4,473	264	5.9%	●	●
Ocean View	8,490	474	5.6%	●	●
Huntington Beach City Elementary	7,283	402	5.5%	●	●
Irvine Unified	35,891	1,855	5.2%	●	●
Fullerton Elementary	13,667	664	4.9%	●	●
Savanna Elementary	2,360	106	4.5%	●	●
Cypress Elementary	4,074	161	4.0%	●	●
Los Alamitos Unified	9,965	391	3.9%	●	●
Fountain Valley Elementary	6,519	239	3.7%	●	●
Orange County Total	**495,789**	**40,938**	**8.3%**		
California	**6,315,131**	**702,531**	**11.1%**		

Source: California Department of Education

Note: Lower rate is better

[1] Includes Juvenile Hall and other Alternative, Community, and Correctional Education Schools

The cause of chronic absenteeism can have many underlying factors, such as domestic violence, child neglect, bullying, and transportation issues.

English Proficiency

Limited English proficiency (LEP) is a term used to describe individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English. Currently, 44.5 million people in the United States (or nearly 14% of the population) are foreign born—up from 7.9% in 1990. As this number grows, so does the amount of health utilization by LEP patients increase. An inability to speak English well can create barriers to healthcare access, provider communication, and health literacy and education. Barriers to communication can also result in fewer provider and wellness visits leading to delays in receiving preventative services, which can lead to chronic conditions and increased risk to hospitalization.

English Proficiency by Ethnicity and Age Cohort				
	Age Cohort 5-17		Age Cohort 18-64	
	Population	Percentage of Total	Population	Percentage of Total
Only English	**283,943**	**53.8%**	**1,056,521**	**52.5%**
Spanish	**172,766**	**32.7%**	**541,964**	**26.9%**
Spanish & English Very Well/Well	166,428	31.5%	383,928	19.1%
Spanish & English Not Well	5,665	1.1%	111,996	5.6%
Spanish & No English	673	0.1%	46,040	2.3%
Asian-Pacific Islander Language	**52,665**	**10.0%**	**307,123**	**15.3%**
Asian-Pacific Islander & English Very Well/We	49,252	9.3%	238,045	11.8%
Asian-Pacific Islander & English Not Well	3,191	0.6%	59,068	2.9%
Asian-Pacific Islander & No English	222	0.0%	10,010	0.5%
Other Indo-European Language	**12,986**	**2.5%**	**83,952**	**4.2%**
Indo-European & English Very Well/Well	12,327	2.3%	78,674	3.9%
Indo-European & English Not Well	632	0.1%	4,617	0.2%
Indo-European & No English	27	0.0%	661	0.0%
Other Language	**5,455**	**1.0%**	**23,044**	**1.1%**
Other Language & English Very Well/Well	5,097	1.0%	20,408	1.0%
Other Language & English Not Well	278	0.1%	2,286	0.1%
Other Language & No English	80	0.0%	350	0.0%
Language Spoken at Home	**527,815**	**100%**	**2,012,604**	**100%**

Source: Esri, 2019

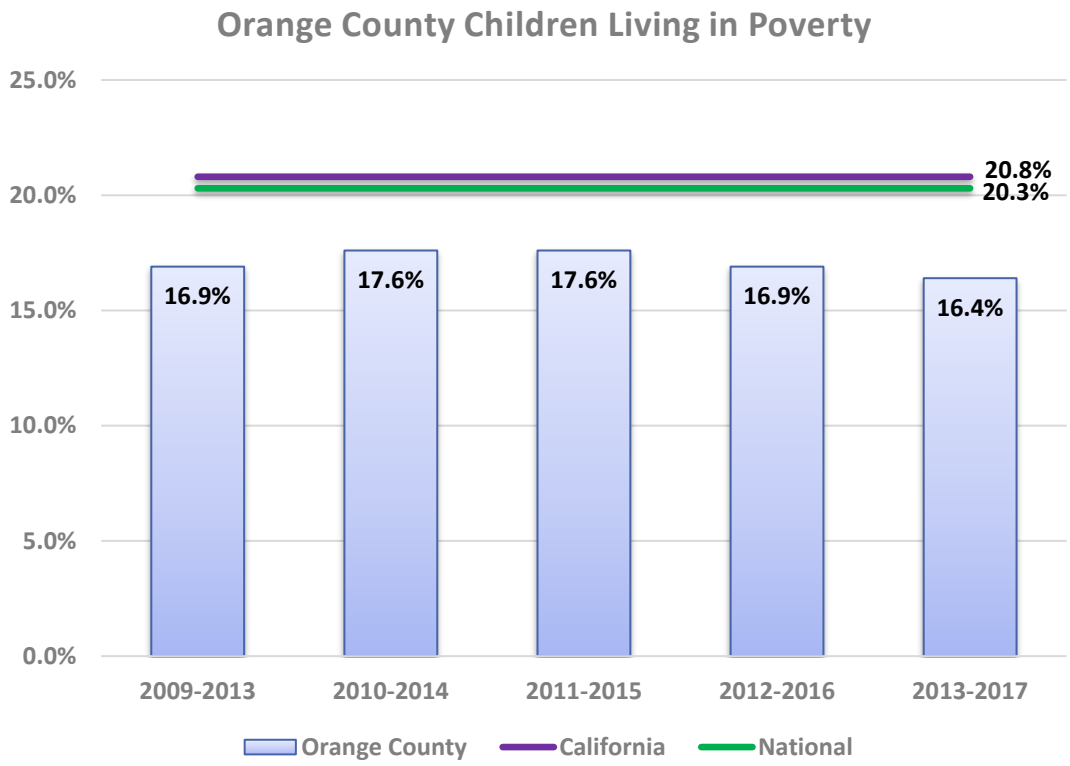
According to recent census data, 29.2% of Spanish speaking Orange County residents aged 18 to 64 years, reported that they spoke English either "not well" or "not at all." The same study also reported that 22.5% of Asian-Pacific Islanders in Orange County aged 18 to 64, reported that they spoke English either "not well" or "not at all." Within the age cohort 5-17, under 4% of Orange County residents who speak Spanish, reported that they spoke English either "not well" or "not at all." Nearly 7% of Orange County residents 5-17 who speak an Asian-Pacific Islander Language, reported that they spoke English either "not well" or "not at all." Some of these children may be born in the U.S. but live in relatively isolated ethnic enclaves.

CHOC Children's offers translational services across dozens of languages through a combination of on-site services and third-party vendors.

Child Poverty

Child poverty has various negative effects on the physical and mental health of children. According to Orange County Children's Partnerships (OCCP), poverty is linked to substandard housing, homelessness, inadequate nutrition, food insecurity, inadequate child care, lack of access to health care, and generally unsafe neighborhoods. The implications for children living in poverty include greater risk for poor academic achievement, school dropout, abuse and neglect, behavioral and socioemotional problems, physical health problems and developmental delays.

Evidently, poverty is a relevant indicator as it creates barriers to health promotion and management. The overall percentage of residents living in poverty in Orange County is 12.1%. Approximately 16.4% of children (ages 0-17) live in poverty, 5.3% of children live in deep poverty (<50% Federal Poverty Threshold) and 5.8% of Orange County children are considered homeless.[13]



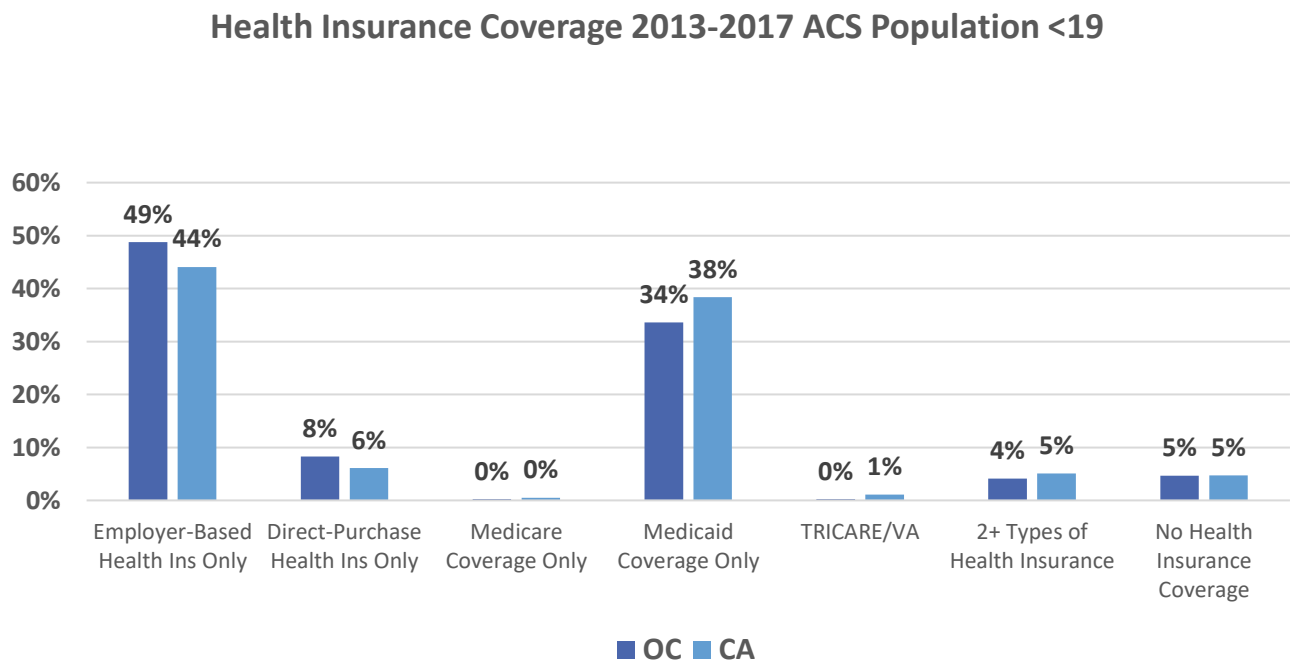
Source: United States Census Bureau, American Community Survey, 2009-2017

[13] U.S. Census Bureau, 2016 American Community Survey. As cited on www.kidsdata.org, a program of the Lucile Packard Foundation for Children's Health. Retrieved 7/2019.

Healthcare Access

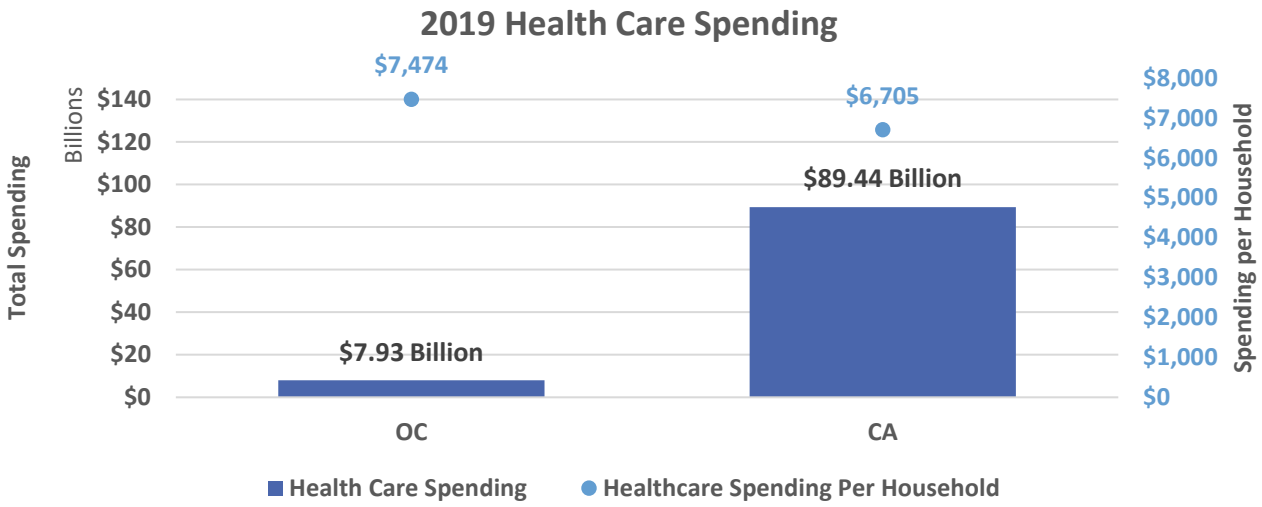
Access to comprehensive quality health care services is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity for all Americans. Health insurance coverage helps patients enter the health care system whereas a lack of adequate health insurance coverage makes it difficult for people to get the health care they need. When families with inadequate health insurance do get care they need, they can be burdened with large medical bills. According to Healthy People 2020, uninsured people are more likely to have a poor health status, are less likely to receive medical care, and are more likely to die prematurely.

Through California's adoption of the ACA, the percentage of statewide population without health insurance has been greatly reduced to approximately 5%. Orange County generally mirrors enrollment levels observed throughout the state but is slightly more affluent and has 5% more employer-based coverage, 2% more self-pay (direct-purchase coverage), and 4% less Medicaid/Medi-Cal when compared to the rest of the state.



Source: Esri, 2019

Annual health care spending per household in Orange County is approximately 10% higher than the state average at $7,474 per household compared to $6,705 at the state level. Health Insurance Premium spending is also 10% higher, with an average household health insurance premium of $4,450 or $370 per month.



Source: Esri, 2019

The table below shows the Orange County pediatric population, by insurance coverage type, compared to the state of California for 2019. Overall, the Orange County pediatric population has higher rates of employer-based health insurance and lower rates of Medi-Cal coverage when compared to California. In Orange County, 48.75% of the pediatric population obtain coverage through employer-based insurance and 33.62% through Medi-Cal.

Orange County Pediatric Population by Insurance Type, 2019				
	Orange County		California	
Insurance Type	Pediatric Population	Percentage	Pediatric Population	Percentage
One Type of Health Insurance	692,548	91.20%	8,691,191	90.18%
– Employer-Based Health Ins Only	370,189	48.75%	4,248,385	44.08%
– Direct-Purchase Health Ins Only	63,147	8.32%	588,224	6.10%
– Medicare Coverage Only	1,847	0.24%	47,144	0.49%
– Medi-Cal Coverage Only	255,261	33.62%	3,700,128	38.39%
– TRICARE/Military Health Only	2,035	0.27%	105,534	1.10%
– VA Health Care Only	69	0.01%	1,776	0.02%
2+ Types of Health Insurance	31,313	4.12%	489,325	5.08%
No Health Insurance Coverage	35,483	4.67%	457,257	4.74%
Pediatric Population	**759,344**	**100%**	**9,637,773**	**100%**

Source: Esri, 2019

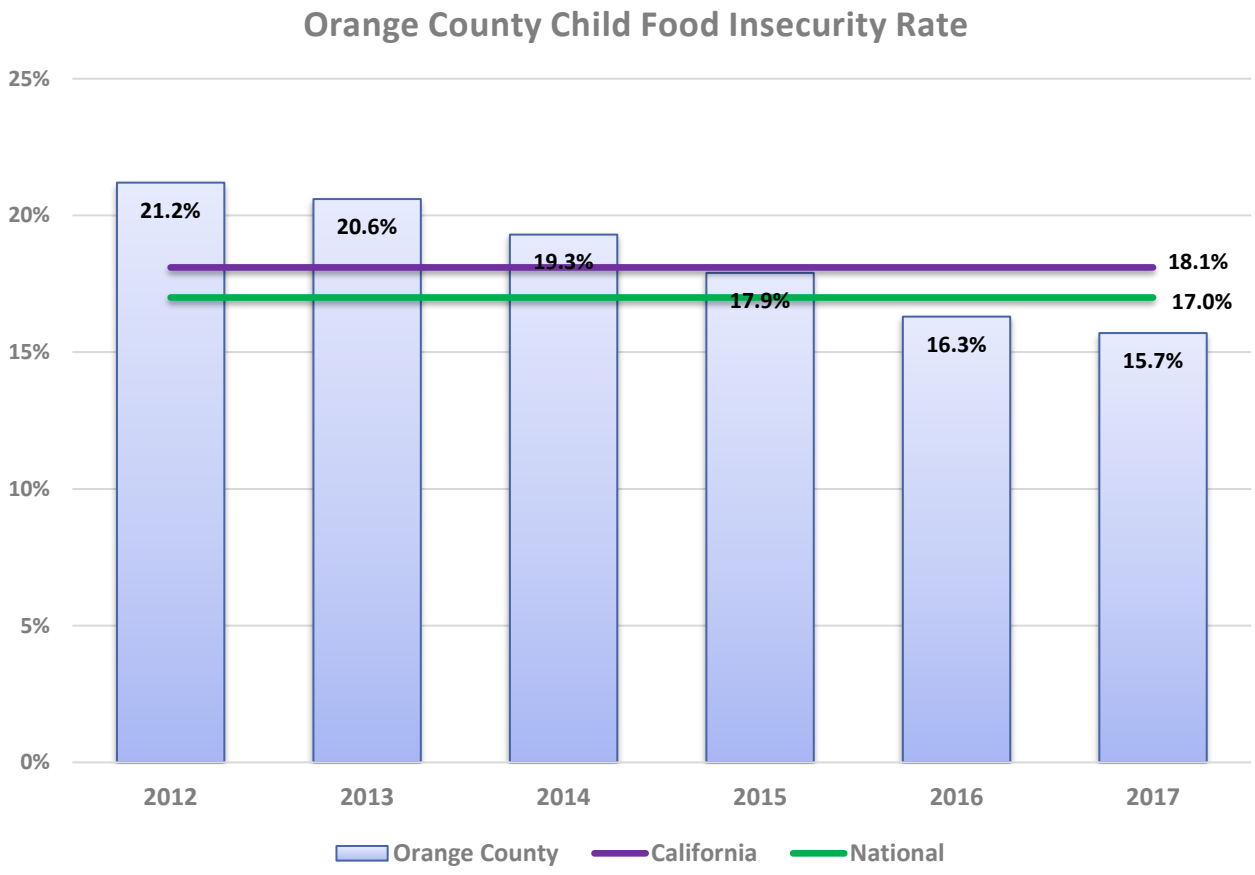
In Orange County, 4.67% of the pediatric population are uninsured which is slightly lower than the state average (4.74%).[14] More Hispanic children continue to have higher uninsured rates than other racial/ethnic groups.[15]

[14] Esri Demographics – 2019 Population Estimates based in US Census and American Communities Survey 2013-2017
[15] Orange County Children's Partnership (2019). *The 24th Annual Report on the Conditions of Children in Orange County* [Report].

Food Insecurity

According to Healthy People 2020, food insecurity is defined as the disruption of food intake or eating patterns because of a lack of money and other resources—which can be temporary or long-term. Food insecurity is an important social determinant within the economic stability domain. Food insecurity does not necessarily cause hunger; however, hunger is an outcome of food insecurity. Food insecurity may reflect a household's need to make trade-offs between important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods.

Having limited food access due to cost can be associated with chronic morbidities, such as obesity and diabetes. Seth A. Berkowitz, Andrew J. Karter and their colleagues conducted a study to analyze the association between food insecurity, low physical food access (food deserts), and glycemic control (diabetes). In March 2018, their study was published in the American Diabetes Association with the conclusion that food insecurity is associated with higher HbA1c (diabetes). However, living in an area with low physical food access (i.e., food deserts) is not associated with diabetes. Therefore, this study supports governmental efforts such as National School Lunch Program (NSLP), the Women, Infants, and Children (WIC) program and the Supplemental Nutrition Assistance Program (SNAP) to reduce food insecurity.



Source: Feeding America, 2012-2017

Feeding America, a not-for-profit organization focusing on food access and nutrition, noted that the food insecurity rate in Orange County, across all age cohorts, was 9.2%. When looking at food insecurity rate for children, Feeding America reported that 15.7% of Orange County children experience food insecurity. This figure has dropped continually since 2012 (21.2%) and is below the California and National child food insecurity rates. Food insecure children are those children living in households experiencing food insecurity.

The table below ranks the Orange County school districts based on number of children eligible to receive either free or reduced priced meals.

Orange County School Districts by Number of Children Enrolled Eligible for Free or Reduced Priced Meals							
		Free Meal Eligible			Free or Reduced Price Meal Eligible		
School District	Children Enrolled (K-12)	Number	% of District	Above/Below CA Average	Number	% of District	Above/Below CA Average
Anaheim Elementary	17,342	12,931	74.6%	●	14,656	84.5%	●
Magnolia Elementary	5,851	4,487	76.7%	●	4,886	83.5%	●
Santa Ana Unified	51,482	37,867	73.6%	●	41,542	80.7%	●
SBE - Magnolia Science Academy Santa Ana	674	504	74.8%	●	535	79.4%	●
La Habra City Elementary	4,656	2,980	64.0%	●	3,463	74.4%	●
Westminster	9,120	5,789	63.5%	●	6,595	72.3%	●
Anaheim Union High	30,292	18,888	62.4%	●	21,604	71.3%	●
Savanna Elementary	2,199	1,383	62.9%	●	1,552	70.6%	●
Garden Grove Unified	42,301	25,590	60.5%	●	29,015	68.6%	●
Buena Park Elementary	4,552	2,773	60.9%	●	3,113	68.4%	●
Orange County Department of Education	6,955	4,002	57.5%	●	4,340	62.4%	●
Centralia Elementary	4,221	2,269	53.8%	●	2,505	59.3%	●
Fullerton Joint Union High	13,695	5,711	41.7%	●	6,719	49.1%	●
Fullerton Elementary	13,067	5,650	43.2%	●	6,386	48.9%	●
Orange Unified	27,478	11,797	42.9%	●	12,942	47.1%	●
Ocean View	7,986	3,392	42.5%	●	3,721	46.6%	●
Newport-Mesa Unified	20,641	8,169	39.6%	●	9,038	43.8%	●
Tustin Unified	23,768	7,906	33.3%	●	9,242	38.9%	●
Huntington Beach Union High	15,967	5,359	33.6%	●	5,974	37.4%	●
Placentia-Yorba Linda Unified	25,477	8,538	33.5%	●	9,496	37.3%	●
Cypress Elementary	3,923	1,158	29.5%	●	1,342	34.2%	●
Brea-Olinda Unified	6,008	1,563	26.0%	●	1,826	30.4%	●
Saddleback Valley Unified	26,747	7,236	27.1%	●	7,972	29.8%	●
Capistrano Unified	53,269	12,567	23.6%	●	13,840	26.0%	●
Fountain Valley Elementary	6,328	1,345	21.3%	●	1,508	23.8%	●
Huntington Beach City Elementary	6,949	1,250	18.0%	●	1,353	19.5%	●
Irvine Unified	35,291	5,837	16.5%	●	6,610	18.7%	●
Los Alamitos Unified	9,730	1,328	13.6%	●	1,634	16.8%	●
Laguna Beach Unified	2,861	300	10.5%	●	330	11.5%	●
Orange County Total	**478,830**	**208,569**	**43.6%**	●	**233,739**	**48.8%**	●
California Total	**6,186,628**	**3,236,350**	**52.3%**		**3,675,129**	**59.4%**	

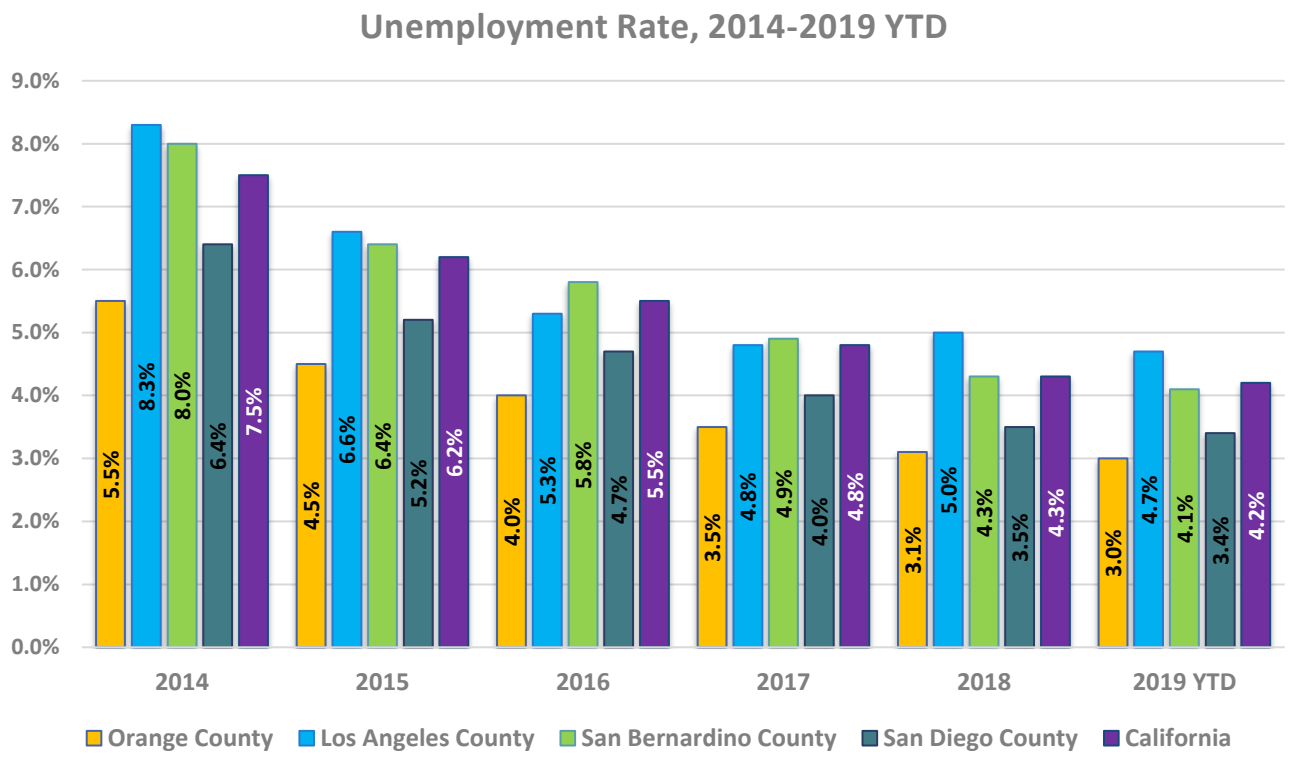
Source: California Department of Education, January 31, 2019

Of the 479,000 students enrolled in public schools in Orange County, approximately 49% are eligible to receive free or reduced-price meals. School districts are often the primary source of nutrition for feeding children growing up with food insecurity. This is especially challenging for school districts with over 75% of students enrolled in the free and reduced-price meal programs.

Food insecurity negatively impacts health outcomes—a statement supported by multiple studies. The Center on the Developing Child at Harvard University stated that "inadequate nutrition can permanently alter a child's brain architecture and stunt their intellectual capacity, affecting the child's learning, social interaction, and productivity. Children who do not receive what they need for strong, healthy brain development during early childhood may never recover their lost potential for cognitive growth and eventual contributions to society."

UNEMPLOYMENT

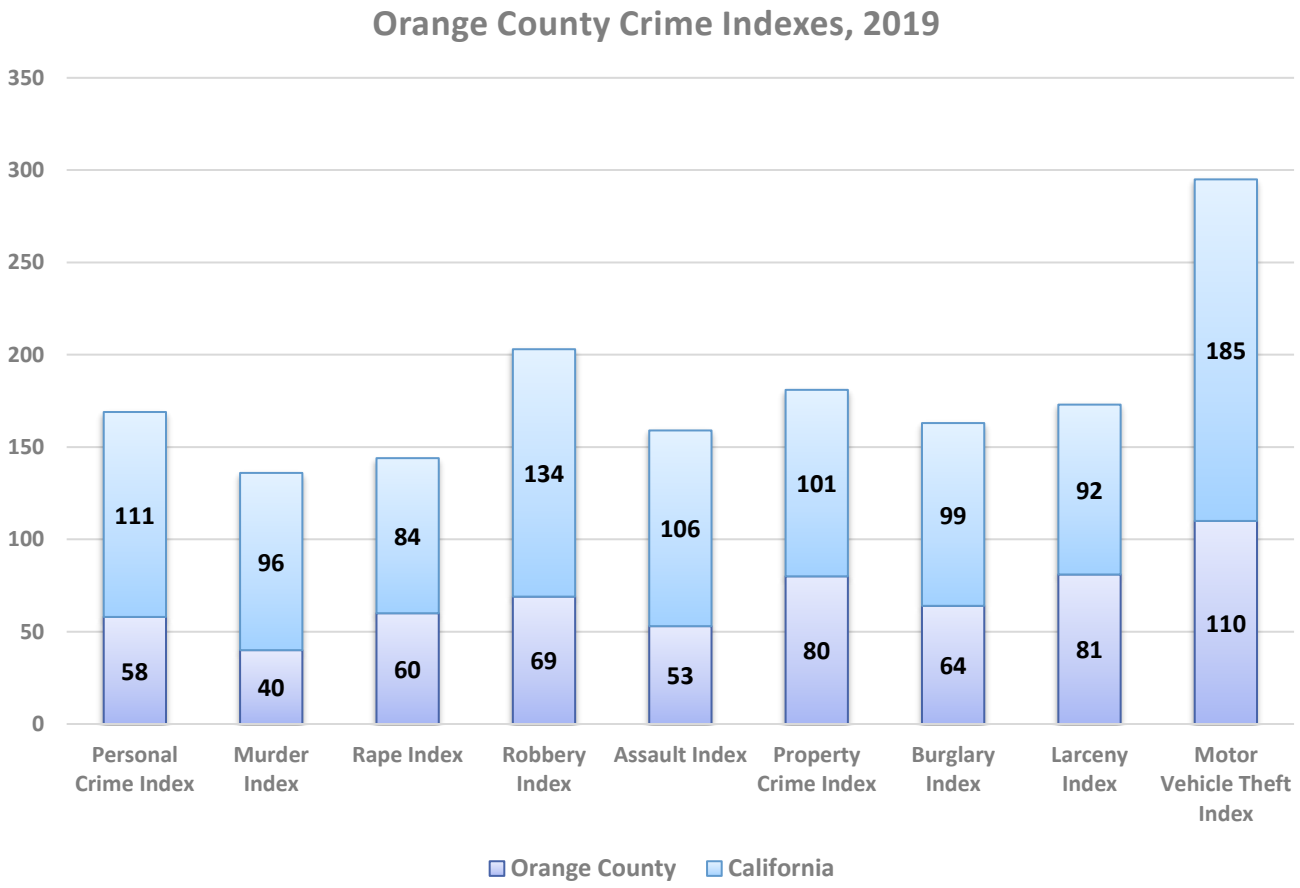
Unemployment is a relevant indicator as unemployment creates financial instability and barriers to access including insurance coverage, health services, healthy food, and other necessities that contribute to poor health status. Unemployment status can be a stressor for individuals and their families. According to California Employment Development Department Bureau of Labor Statistics, Orange County's unemployment rate was 3.0% in August 2019. This is less than the California (4.2%) and national (3.8%) rate.



Source: State of California, Employment Development Department, 2014-2019 YTD

CRIME

Crime can deter individuals from pursuing healthy behaviors. Not only can it increase stress, it can compromise physical safety and psychological well-being. Orange County enjoys one of the nation's lower crime rates. The crime index in Orange County is 77, which is significantly less than California (103 crime index). The city of Irvine is considered to be one of the safest cities in America.



Source: Esri, 2019

HEALTH INDICATORS

MORTALITY

The overall age-adjusted mortality rate for Orange County is significantly lower than that of California. Orange County reported age-adjusted mortality rates in three causes that did not meet the national objective: cerebrovascular disease, chronic liver disease and cirrhosis, and drug-induced deaths.

2019 Mortality Statistics: Rate Per 100,000 Population, All Ages					
	Age Adjusted				
		Above/Below:			
Selected Cause	Orange County	California	National Objective	California	National Objective
All Causes	545.9	●	-	608.5	a
All Cancers	129.1	●	●	140.2	161.4
Colorectal Cancer	1.8	●	●	12.8	14.5
Lung Cancer	25.8	●	●	28.9	45.5
Female Breast Cancer	18.2	●	●	19.1	20.7
Prostate Cancer	17.7	●	●	19.6	21.8
Diabetes	13.9	●	-	20.7	b
Alzheimer's Disease	38.6	●	-	34.2	a
Coronary Heart Disease	77.2	●	●	89.1	103.4
Cerebrovascular Disease (Stroke)	35.9	●	●	35.3	34.8
Influenza/Pneumonia	15.1	●	-	14.3	a
Chronic Lower Respiratory Disease	26.8	●	-	32.1	a
Chronic Liver Disease and Cirrhosis	10.7	●	●	12.2	8.2
Accidents (Unintentional Injuries)	26.5	●	●	30.3	36.4
Motor Vehicle Traffic Crashes	7	●	●	8.8	12.4
Suicide	9.3	●	●	10.4	10.2
Homicide	2.3	●	●	5	5.5
Firearm-Related Deaths	4.6	●	●	7.6	9.3
Drug-Induced Deaths	12.1	●	●	12.2	11.3

Source: California Department of Public Health

a: Healthy People 2020 (HP 2020) National Objective has not been established.

b: National Objective is based on both underlying and contributing cause of death which requires use of multiple cause of death files. California's data exclude multiple/contributing causes of death.

Infant Mortality

Infant mortality rate is the death of an infant before his or her first birthday, which is an important indicator of the overall health of a community. According to the American Academy of Pediatrics, the infant mortality rate is a crude indicator of not only community health status, but also poverty and socioeconomic status levels that provide context on the overall availability and quality of local health services.

Between 2007 and 2016, the infant mortality rate in Orange County decreased by 64.3%.[16] The Orange County infant mortality rate (3.1 deaths per 1,000) is lower than that of California (4.4 deaths per 1,000) and the national objective (6.0 deaths per1,000).

Even with declines in infant mortality, Orange County sees significant disparities ethnically and racially. The Hispanic population's infant mortality rate is 3.8 deaths per1,000 which is higher than the Orange County rate of 3.1 deaths per 1,000. The White population has the second highest (2.4 deaths per 1,000) and the Asian/Pacific Islander population ranks lowest with 2.1 deaths per 1,000. Despite this fluctuation, all races and ethnicities in Orange County ranked better than the California average (4.4 deaths per 1,000) and Healthy People 2020 national objective (6.0 deaths per 1,000).

2019 Infant Mortality Rate Per 1,000 Population					
	Age Adjusted				
		Above/Below:			
Infant Mortality	Orange County	California	National Objective	California	National Objective
All Races	3.1	●	●	4.4	6.0
Asian/ Pacific Islander	2.1	●	●	3.2	6.0
African American	n/a*	-	-	9.8	6.0
Hispanic	3.8	●	●	4.4	6.0
White	2.4	●	●	3.6	6.0

Source: California Department of Public Health

* Rates are deemed unreliable when based on fewer than 20 data elements

In the 24th Annual Report on Conditions of Children in Orange County (2018), the leading causes of infant mortality in Orange County were:

1. Congenital anomalies (birth defects): 33.7%;
2. Maternal causes: 25.6%;
3. Other conditions of perinatal period: 18.7%;
4. All other causes: 9.4%;
5. Short gestation/low birth weight: 9.3%; and
6. Respiratory Distress Syndrome (RDS): 1.2%.

[16] Orange County Children's Partnership (2019). *The 24th Annual report on the Conditions of Children in Orange County* [Report].

NATALITY

Natality, or birth rate, is a population health measure that helps determine the rate of population growth and therefore provide substance to the bigger picture when trying to understand impact of community and health care resource utilization. Natality depends on both level of fertility and the age structure of populations. In Orange County, the natality rate is 11.9 live births per 1,000.

Preterm birth is defined as delivery of an infant at less than 37 weeks of gestation. It is an important public health issue as preterm infants are more likely to suffer lifelong neurologic, cognitive and behavioral problems, which is why preterm birth requires sustained focus on its causes, consequences, and prevention strategies. Reducing preterm births is a Healthy People 2020 LHI with a goal to decrease preterm live births by 10 percent to reach a target of 9.4% by 2020. Currently, the national percentage of preterm births is 9.9%. Both California (8.7%) and Orange County (8.0%) meet the Healthy People 2020 target.

Orange County Natality Statistics, 2019					
	Age Adjusted				
		Above/Below:			
Infant Natality	Orange County	California	National Objective	California	National Objective
Low Birthweight Infants	6.1%	●	●	6.9%	7.8%
First Trimester Prenatal Care	86.8%	●	●	83.5%	77.9%
Adequate/ Adequate Plus Prenatal Care	83.7%	●	●	77.9%	77.6%
Births to Mothers Aged 15-19 (rates per 1,000)	10.8	●	-	15.7	a
Breastfeeding Initiation	95.0%	●	●	94.0%	81.9%

Source: California Department of Public Health

a Healthy People 2020 National Objective has not been established.

Teen births (births to mothers aged 15-19 years old) is another public health issue that not only affects children but families and society. Teen mothers are less likely to complete high school or college, more likely to require public assistance, and more likely to live in poverty when compared to peers who are not mothers.[17] Additionally, infants born to teen mothers have lower probability of obtaining emotional and financial resources and are at greater risk for low birth weight, preterm birth, and death in infancy.[18] In Orange County, the teen birth rate is 10.8 births per 1,000, which is considerably less than the California (15.7 births per 1,000) and national (18.8 births per 1,000) teen birth rate.

[17] Orange County Children's Partnership (2019). *The 24th Annual report on the Conditions of Children in Orange County* [Report].
[18] Orange County Children's Partnership (2019). *The 24th Annual report on the Conditions of Children in Orange County* [Report].

MORBIDITY

Morbidity refers to communicable diseases within a population—a relevant indicator to understanding community health needs. Morbidity is relevant because current behaviors are determinants of future health. It may illustrate which diseases and conditions are prevalent and who is more likely to become afflicted. In Orange County, the California Department of Public Health reported on the following morbidities affecting the overall population of Orange County.

Orange County Morbidity Statistics, 2019					
		Above/Below:			
Health Status Indicator	Orange County	California	National Objective	California	National Objective
HIV/AIDS Incidence (Age 13 and over)	271.5	●		397.7	a
Chlamydia Incidence	401.3	●		514.6	c
Gonorrhea Incidence (Female Age 15-44)	143.0	●	●	252.4	251.9
Gonorrhea Incidence (Male Age 15-44)	272.4	●	●	444.8	194.8
Tuberculosis Incidence	5.4	●	●	5.3	1.0
Primary Secondary Syphilis Female	1.0	●	●	3.5	1.3
Primary Secondary Syphilis Male	18.7	●	●	26.2	6.7

Source: California Department of Public Health

a: Healthy People (HP) 2020 National Objective has not been established.

c: Prevalence data are not available in all California counties to evaluate HP 2020 National Ol

Overall, Orange County meets the national objective in two of five available morbidity indicators.

IMMUNIZATIONS (VACCINES)

Understanding immunization rates is an important public health indicator for overall health of a community. Having kids properly immunized can help prevent many serious and once-common childhood infections. The immunization rate focuses on up-to-date vaccine records of children beginning kindergarten. According to the Orange County Children's Partnership (OCCP) report, the immunization rates for kindergartners are at their highest level in 10 years. In Orange County, 92.5% of children are properly immunized by the time they reach kindergarten. This rate is similar to that of California.

California already has some of the strictest vaccination laws in the country, preventing children from skipping immunizations unless exemption is provided by a doctor for some type of medical reason. Health advocates are concerned that parents are obtaining exemptions for their children without valid medical reasons after it was reported that since stricter laws took effect in 2017, there has been a 70% increase in medical exceptions for vaccines. In the 2018/2019 school year, there were approximately1,500 schools in California that had kindergarten vaccination rates below 95%. Orange County reported 125 schools with vaccination rates below 95%. School districts with the lowest vaccination rates in California were Los Angeles Unified School District (Los Angeles County), Capistrano Unified School District (Orange County), and San Diego Unified School District (San Diego County).

Below is a summary report measuring compliance with the school immunization law, conducted in Orange County schools with kindergartens, for the last three school years. The table shows the schools with immunization rates below 85% of total enrollees. The worst offending schools with the lowest immunization rates include: EPIC Charter (28%), Journey School (53%), Capistrano Connections Academy (53%), Capo Beach Christian School (57%), Waldorf School of Orange County (58%), Prospect Elementary (64%), and Anneliese Schools (64%).

Orange County Immunization Status of Kindergarten Students by School Year							
					School Year		
SCHOOL NAME	PUB/ PRIV	PUBLIC SCHOOL DISTRICT	CITY	ENROLLMENT	2016/2017	2017/2018	2018/2019
EPIC Charter	Public	OC Department of Education	Anaheim	68	-	-	28%
Journey School	Public	Capistrano Unified	Aliso Viejo	129	42%	49%	53%
Capistrano Connections Academy	Public	Capistrano Unified	San Juan Capistrano	121	61%	49%	53%
Capo Beach Christian School	Private	-	Capistrano Beach	28	-	≥95%	57%
Waldorf School of Orange County	Private	-	Costa Mesa	33	44%	57%	58%
Prospect Elementary	Public	Orange Unified	Orange	76	≥98%	≥98%	64%
Anneliese Schools	Private	-	Laguna Beach	28	-	60%	64%
Mariners Christian	Private	-	Costa Mesa	95	88%	84%	66%
Bethany Christian Academy	Private	-	Westminster	21	-	-	71%
Our Lady of Guadalupe Elementary	Private	-	La Habra	22	91%	-	73%
Blessed Sacrament School	Private	-	Westminster	26	-	≥95%	73%
California Elementary	Public	Orange Unified	Orange	96	94%	88%	75%
Vineyard Christian School	Private	-	Anaheim	22	≥95%	-	77%
Anneliese Schools	Private	-	Laguna Beach	39	-	60%	77%
Our Lady Queen of Angels School	Private	-	Newport Beach	39	≥95%	87%	77%
Our Lady of Fatima Academy	Private	-	San Clemente	41	-	-	78%
Capistrano Valley Christian Schools	Private	-	San Juan Capistrano	32	73%	72%	78%
Kinetic Academy	Public	Huntington Beach City Elementary	Huntington Beach	50	82%	77%	82%
Harbor View Elementary	Public	Newport-Mesa Unified	Corona Del Mar	63	91%	87%	83%
Hephatha Lutheran School	Private	-	Anaheim	24	-	92%	83%
Trinity Lutheran Christian	Private	-	Anaheim	30	81%	88%	83%
Palm Lane Elementary Charter	Public	Anaheim Elementary	Anaheim	83	-	-	84%
Circle View Elementary	Public	Ocean View	Huntington Beach	108	94%	96%	84%

Source: www.shotsforschool.org

ORAL HEALTH

Oral health is an integral part of overall health and well-being. Untreated tooth decay and gum disease are signs of poor oral health, which can cause unnecessary pain, infection and tooth loss. Largely preventable and treatable, tooth decay remains to be one of the most common chronic disease nationally. It is 5 times more common than asthma.[19] Oral Health is one of 26 Healthy People 2020 LHI with an objective that increases the proportion of children, adolescents, and adults who used the oral health care system in the past year.

The Orange County Local Oral Health Program (OC-LOHP) conducted a six-month assessment to create an Oral Health Strategic Plan for 2018-2022. Within Orange County, they found that the utilization of dental services by the Medi-Cal child population is low and varies significantly by age, with Orange County's youngest and oldest children utilizing services at a rate lower than their counterparts. Utilization of services by Medi-Cal eligible children is higher than the California average but falls short of statewide targets.

OC-LOHP found that the primary reason for non-utilization of dental services by children 0-5 years of age, as reported by parent/guardian, was "cost" (although Medi-Cal covers all dental services) followed by "not having a

[19] OC Healthier Together (2018). *OC Oral Health Strategic Plan 2018-2022* [Report].

dentist/difficulty finding one" among 6-18-year-olds. From the assessment, they found that only 3% of all active dentists in Orange County are pediatric dentists.

According to County Health Rankings for Orange County, there are 110 dentists per 100,000 population which places Orange County in top 50th percentile when compared to state and national levels.[20] Per American Academy of Pediatric Dentists, parents and other care providers help every child establish a dental home by 12 months of age.[21]

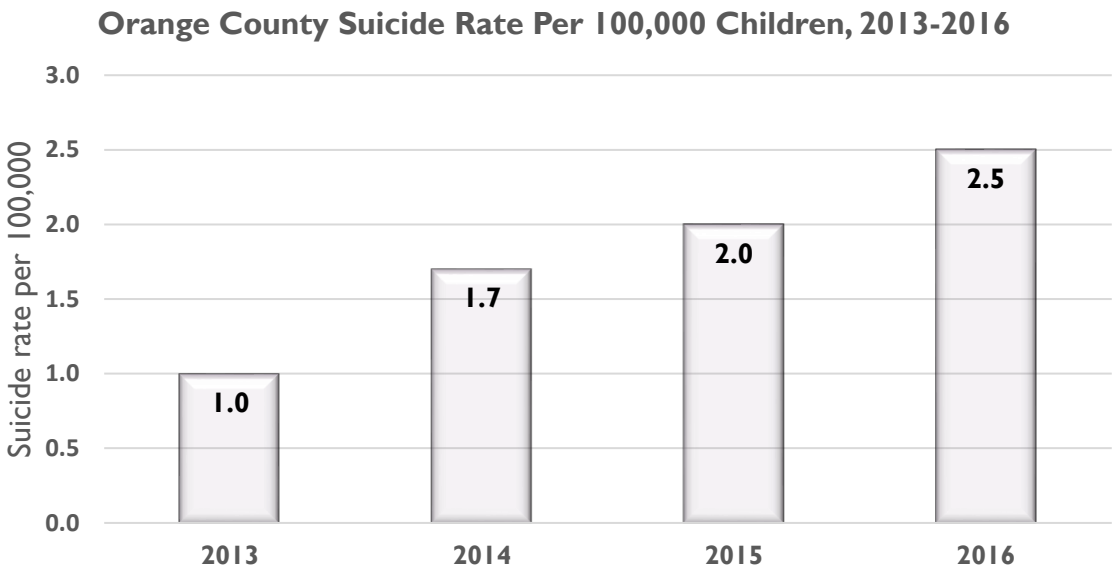
Additionally, the CDC noted that pregnant women are more prone to gum disease and cavities which can affect the baby's health. Within Orange County, OC-LOHP found that only half the pregnant women (50%) reported receiving any dental care during pregnancy. Low-income pregnant women in Orange County constitute an underserved population that faces barriers in utilizing dental services during pregnancy and has limited access to information about oral health practices and resources.

In addition to low-income status, disparities by race and ethnicity exist among pregnant woman. OC-LOHP found that Black and Latina women had the lowest utilization rates (39.8% and 42.4% respectively) followed by Asian women (51.6%). All non-White groups of women utilized dental services at a lower rate during pregnancy than utilization rates for White women in Orange County and utilization rates for Black and Latina women were also lower than the Orange County average (50%).

[20] Conduent Healthy Communities Institute, 2017 County Health Rankings. As cited in OCHealthierTogether.org, an initiative led by HIP. Retrieved 8/2019.
[21] OC Healthier Together (2018). *2018-2022 OC Oral Health Strategic Plan* [Report].

SUICIDE

The child suicide rate is an important indicator for public health advocates and policymakers. Suicide rates for children have increased 150% from 1.0 per 100,000 children in 2013 to 2.5 per 100,000 children in 2016 (the latest year available). Suicide is listed as the third leading cause of death in Orange County behind unintentional injuries and cancer.



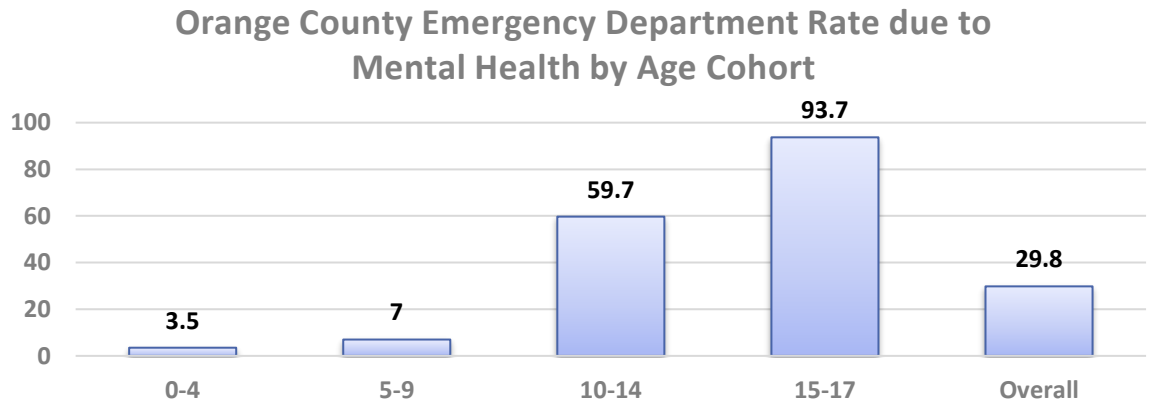
Source: OC Children's Partnership (2019). The 24th Annual report on the Conditions of Children in OC

Mental Health and Autism

The presence of behavioral health disorders can impact not only individuals and their families but also systems within the community, such as schools or the juvenile justice system.[22] Behavioral health is an LHI of Healthy People 2020 with primary objectives focusing on reducing the proportion of adolescents aged 12-17 years old who experience major depressive episodes (MDEs). The CDC lists the following set of facts on the widespread abundance of mental health disorders affecting children across the nation:

- 9.4% of children aged 2-17 years have received an ADHD diagnosis;[23]
- 7.4% of children aged 3-17 years have a diagnosed behavior problem;
- 7.1% of children aged 3-17 years have diagnosed anxiety;
- 3.2% of children aged 3-17 years have diagnosed depression; and
- 1 in 6 U.S. children aged 2–8 years (17.4%) had a diagnosed mental, behavioral, or developmental disorder.

One measure to determine demand for mental health services is to study the age-adjusted Emergency Room (ER) rate, of patients under 18, with a primary diagnosis related to mental health. Orange County has 29.8 ER visits per 10,000 populations under 18 years old.[24] As seen in the graph below, the age cohort with the highest ER utilization was age cohort 15-17 (93.7 per 10,000), followed by age cohort 10-14 (59.7 per 10,000), and age cohort 5-9 (7.0 per 10,000).



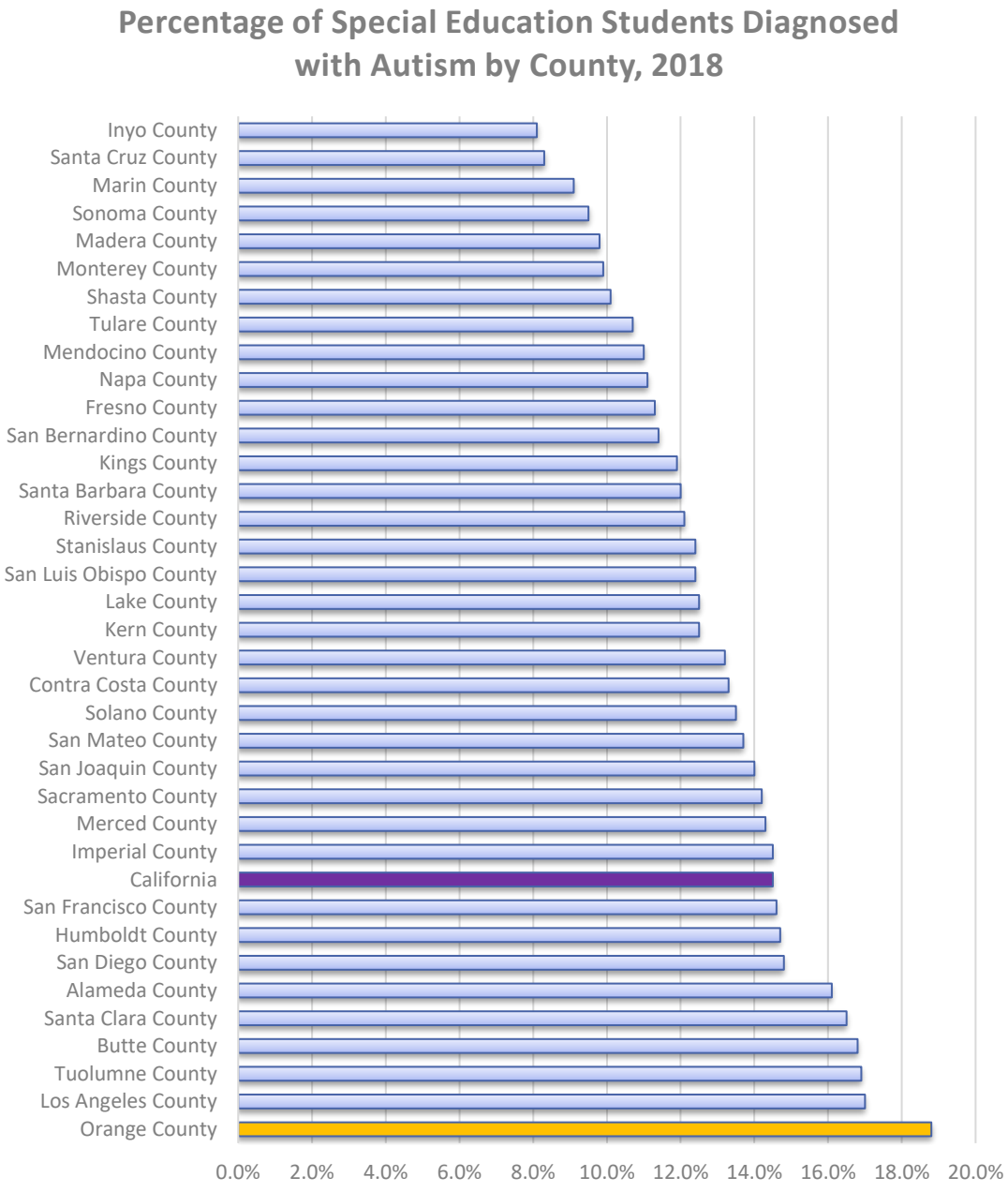
Source: ochealthiertogether.org and the Office of Statewide Health Planning and Development, 2017

Compared to other California counties, Orange County falls within the top 50% of counties who do well in addressing ER utilization for mental health. According to the Orange County's Healthier Together (an initiative led by the Health Improvement Partnership), treatment for mental disorders is a major cause of hospitalization for children and adolescents between the ages of 10 and 21 years. As for hospitalization rate due to pediatric mental health, Orange County's age-adjusted rate is 18.5 hospitalizations per 10,000 populations under 18-year-

[22] Orange County Children's Partnership (2019). *The 24th Annual report on the Conditions of Children in Orange County* [Report].
[23] Attention-deficit/hyperactivity disorder (ADHD) is a disorder that makes it difficult for a person to pay attention and control impulsive behaviors. He or she may also be restless and almost constantly active.
[24] Conduent Healthy Communities Institute, 2015-2017 CA Office of Statewide Health Planning and Development. As cited on OCHealthierTogether.org, an initiative led by HIP. Retrieved 8/2019.

olds.[25] The age group who have significantly higher hospitalization rates due to pediatric mental health is the 15 to 17-year-old with 68.6 hospitalizations/10,000 populations under 18-year-olds.

According to KidsData.org, a Stanford Lucile Packard program, approximately 19% of all Orange County children, ages three to 22 years old, in special education, have been diagnosed with autism, a dramatic increase from 2000 when less than 3% were diagnosed with autism. The autism rate in Orange County is the highest in the state, followed by Los Angeles County (17.0%), Tuolumne County (16.9%), and Butte County (16.8%).



Source: KidsData.org and the California Department of Education, 2018

[25] Conduent Healthy Communities Institute, 2015-2017 CA Office of Statewide Health Planning and Development. As cited on OCHealthierTogether.org, an initiative led by HIP. Retrieved 8/2019.

Substance Abuse

Drug addiction, also called substance use disorder, is a disease that affects a person's brain and behavior and leads to an inability to control the use of a legal or illegal drug or medication. Substances such as alcohol, marijuana, and nicotine are considered drugs. Sometimes it is difficult to distinguish signs of drug use, which the Mayo Clinic identified as:

- Problems at school or work;
- Physical health issues, such as lack of energy and motivation, weight loss or gain, or red eyes;
- Neglected appearance;
- Changes in behavior; and
- Indebtedness.

Healthy People 2020 focuses on reducing substance abuse to protect the health, safety, and quality of life for all people, especially children. The effects of substance abuse affect individuals, families and communities. The Healthy People 2020 substance abuse LHI objective is to reduce the number of adolescents using alcohol or illicit drugs in the past 30 days by 10%.

Overall, Orange County youth reported less alcohol and drug use (AOD) when compared to California when assessing alcohol consumption and drug use in the past 30 days:

2013-2015 Alcohol/Drug Use on School Property in Past Month, by Grade Level						
	Orange County				California	
Grade Level	Some AOD Use	Above/ Below CA	No AOD Use	Above/ Below CA	Some AOD Use	No AOD Use
7th Grade	3.9%	●	96.1%	●	4.1%	95.9%
9th Grade	7.5%	●	92.5%	●	7.5%	92.5%
11th Grade	6.8%	●	93.2%	●	7.5%	92.5%
Non-Traditional	21.1%	●	78.9%	●	25.6%	74.4%

Source: WestEd, California Healthy Kids Survey. California Department of Education (Jul. 2017).

According to OC Health Care Agency (OCHCA), although Orange County youth are reporting less alcohol and drug use compared to statewide averages, Orange County is seeing an increase in drug-related overdose deaths (of ~80% between 2000-2017) across all age groups.

Opioid

According to OCHCA, drug overdose (poisoning) is now the leading cause of unintentional injury death in the United States, causing more deaths than motor vehicle crashes. Opioids – both prescription painkillers and heroin – are responsible for most of those deaths. Nationally, there is sizeable attention to the growing opioid epidemic. The number of Californians affected by prescription and non-prescription opioid misuse and overdose is substantial, with rates varying significantly across counties, and even within counties. The OCHCA noted that coastal cities of Orange County are reporting higher opioid use compared to other cities within the county.

Alcohol

According to research by the National Institute on Alcohol Abuse and Alcoholism, adolescents who begin drinking at a young age are more likely to develop alcohol dependence than those who begin drinking at age 21. Patterns formed during adolescence play a critical role in health throughout adulthood. Alcohol use also impairs judgment and can lead to other high-risk behaviors such as driving while intoxicated.

As part of the California Healthy Kids Survey, youth were asked if they had ridden in a car driven by someone who had been drinking alcohol or if they had ever driven a car when they had been drinking alcohol in their lifetime. Compared to California, Orange County youth were less likely to drink and drive or ride with someone who had been drinking alcohol. However, of concern is the high percentage of 9th grade (12.2%) and 11th grade (16.9%) students who reported drinking and driving or riding with someone who had been drinking.

2013-2015 Drinking and Driving or Riding with a Driver Who Has Been Drinking, by Grade Level

	Orange County			California		
Number	9th Grade	11th Grade	Non-Traditional program	9th Grade	11th Grade	Non-Traditional program
0 times	87.9%	83.0%	62.7%	86.2%	81.9%	67.0%
1 + times	12.2%	16.9%	37.2%	13.8%	18.0%	33.1%
1 time	4.5%	5.3%	7.2%	4.4%	6.5%	6.5%
2 times	3.0%	4.3%	8.3%	3.4%	4.4%	4.8%
3-6 times	2.4%	3.8%	9.9%	3.2%	3.7%	10.6%
7 or more times	2.3%	3.5%	11.8%	2.8%	3.4%	11.2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: WestEd, California Healthy Kids Survey. California Department of Education (Jul. 2017).

In Orange County, 9th grade (14-15 years old) and 11th grade (16-17 years old) students are less likely to drink and drive or ride with someone who has been drinking when compared to students in non-traditional programs.

Vaping

Vaping is a more recent phenomenon that is quickly building traction with teens and young adults. Vaping is the inhaling of aerosol from a vaping device that heats a liquid that can contain various flavored substances including nicotine, marijuana (THC), and cannabidiol (CBD). These devices are frequently referred to as e-cigarettes, e-cigs, vapes, vape pens, electronic vaporizers, pod mods, or pod systems. According to the CDC, more than 3.5 million teens reported using e-cigarettes in 2018. This is a national increase of more than 1.5 million teens from 2017. From 2017 to 2018, use of e-cigarettes across the United States increased from 11.7% to 20.8% among high school students and from 3.3% to 4.9% among middle school students.

On September 24, 2019, the California Department of Public Health (CDPH) released a health advisory related to the public health risks posed by vaping any product. The advisory stated that as of June 2019 in California, CDPH has received reports that two people have died and 90 people with a history of vaping were hospitalized with severe breathing problems and lung damage. The CDPH's studies show lung damage from vaping to be sudden, effecting both young people who have not been vaping for a long time, and healthy people who do not have a history of lung disease. According to the CDPH, teenagers and young adults make up nearly 50% of all breathing related hospitalizations from vaping in California.

Aside from the physical health risks associated with vaping and the use of e-cigarettes, the California Department of Education reports that extended use of these products can also lead to mental and behavioral health risks including depression, anxiety, and other mood disorders.

The CDPH has the following recommendations for the public:

- Quit vaping altogether, no matter the substance or source. Those that continue to vape are urged to avoid buying any vaping products on the street and never modify a store-bought vape product;
- Anyone who has in the past few months vaped and is having problems with breathing, or other related symptoms, should seek medical care immediately; and
- Do not replace vaping with smoking combustible cigarettes but rather ask your doctor for FDA-approved quitting treatments.

In 2018, there were 86 vaping retail outlets in Orange County, down 75% from the number reported in 2014/2015. The decrease in the number of stores is related to a 2017 enacted California law that increased the minimum age of purchase to 21 years of age, as well as requiring such stores to apply and retain a California retailer tobacco license.

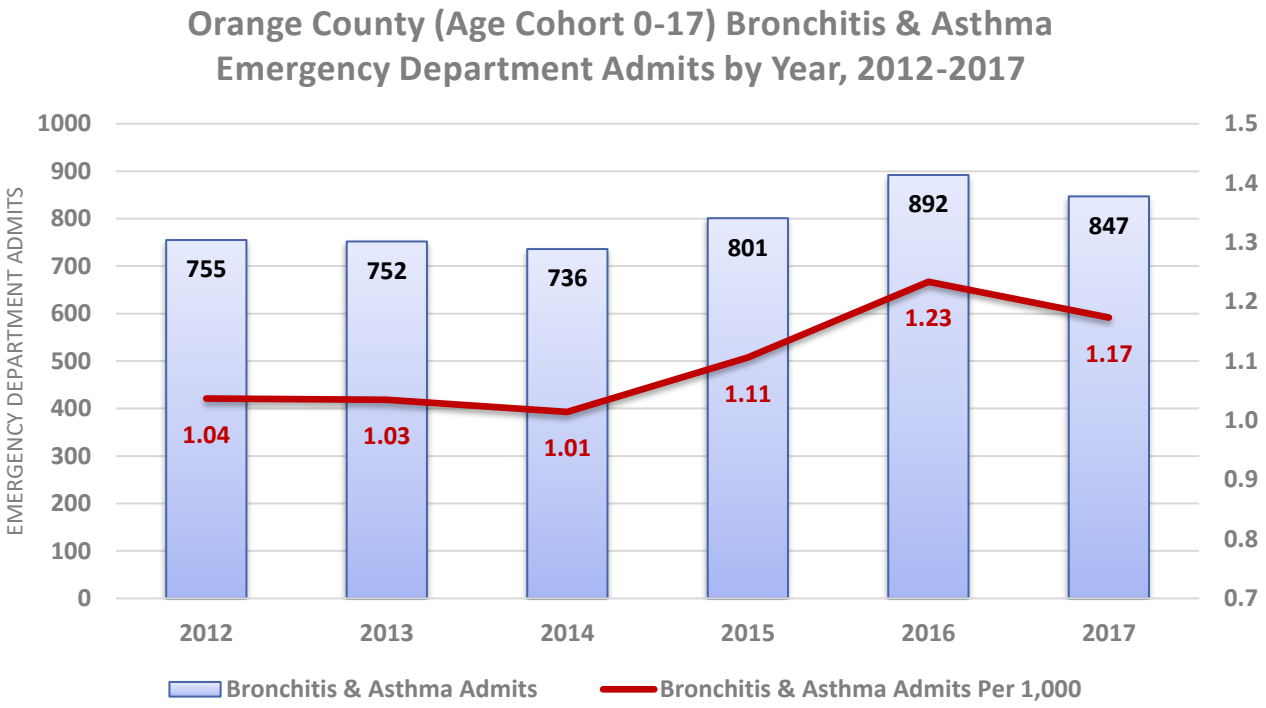
According to a California Healthy Kids survey, 27.5% of high school students, and 13.4% of middle-school students, reported having tried vaping. These statistics are higher than the national average reported by the CDC.

Asthma

Asthma is a long-term condition in which a person's air passage becomes inflamed. It is a serious public health problem, especially in Orange County, as it can cause missed school days, daily activity limitations, ER visits, and even hospitalization. Additionally, studies have shown that asthma disproportionately affects low-income and minority children.

14.1% of Orange County's pediatric population have been diagnosed with asthma, which is a growing trend.[26]

[26] Conduent Healthy Communities Institute, 2014-2015 California Health Interview Survey. As cited on OCHealthierTogether.org, an initiative led by HIP. Retrieved 8/2019.



Source: OSHPD Discharge Database, 2012-2017

According to OSHPD, bronchitis and asthma related diagnoses consistently rank as the number one reason patients 0-17 are admitted through the emergency department in Orange County. The admits per 1,000 patients remained steady between 2012 and 2014 before spiking to 1.23 admits per 1,000 in 2016 and 1.17 admits per 1,000 in 2017.

Obesity and Diabetes

According to Orange County's Healthier Together, obesity and diabetes are major contributors to the leading causes of death including heart disease, stroke, and certain cancers. Diabetes is itself a major cause of death and the rate of those living with diabetes has been increasing in the last 30 years. The increasing trend of obesity and diabetes is heavily influenced by a person's community and health habits.

The CDC defines childhood obesity as a child who is well above the normal or healthy weight for his/her age and height. The CDC noted that more than one-third (35%) of U.S. Children ages 2-19 are overweight or obese. Childhood obesity can cause chronic diseases, such as Type 2 diabetes which is a condition of having high blood sugar levels. Although Type 2 diabetes most often develops in people over the age of 45, more children, teens, and young adults are developing it.

To tackle this national issue, Healthy People 2020 LHI is focused on reducing the proportion of children and adolescents aged 2-19 years old who are considered obese.

The obesity population among youth in Orange County is less than that of California and is on target for Healthy People 2020 LHI. The table to the right shows Orange County 5th grade students who are obese, by school district.

Although the overall percentage of Orange County 5th graders (18.4%) who are obese is lower than the California average (21.3%), many school districts meet neither the state average or national objective (14.5%).

Of the 26 public school districts serving 5th graders in Orange County, only eight meet the national objective; Laguna Beach Unified School District (3.5%) recorded the lowest percentage followed by Irvine Unified School District (7.1%), Huntington Beach Unified School District (8.9%), Capistrano Unified School District (9.8%), and Fountain Valley Elementary School District (9.9%).

5th Grade Students who are Obese by School District, 2017/2018

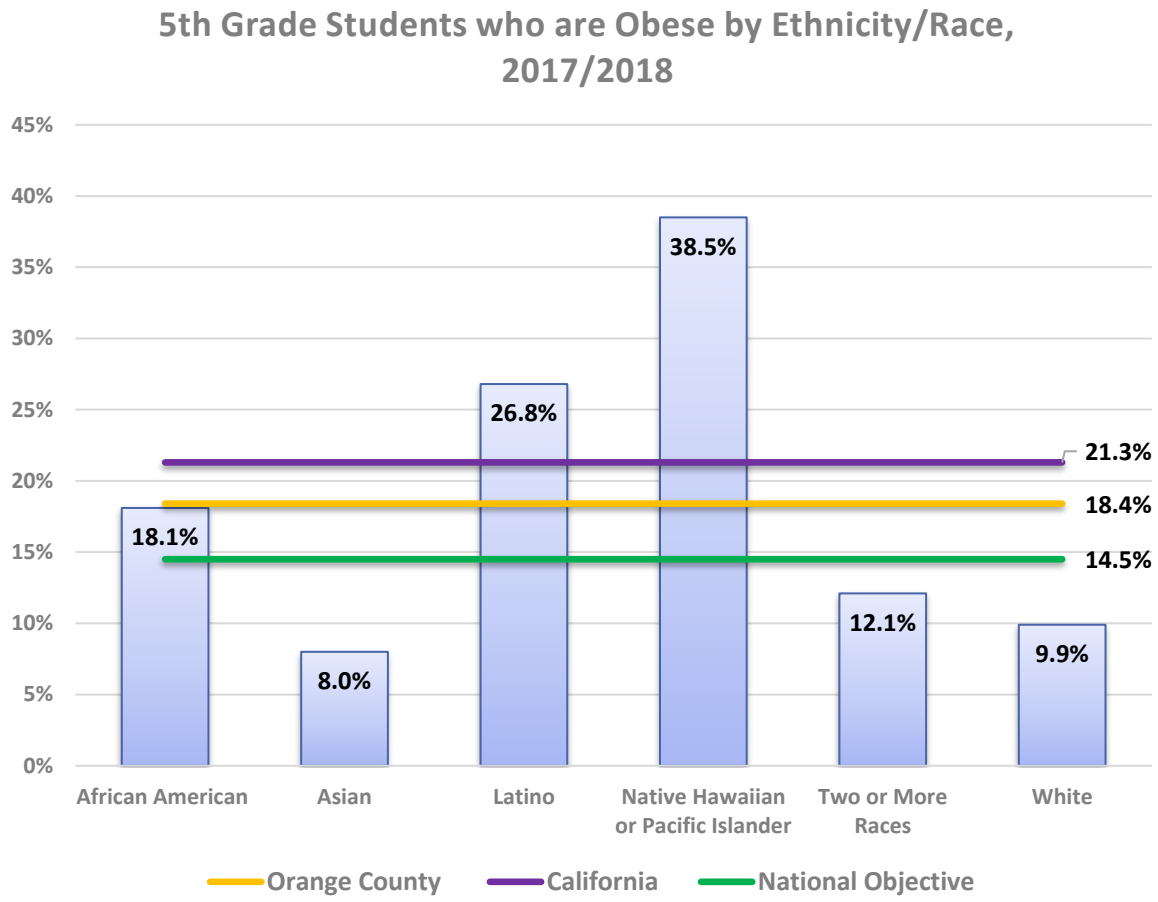
Location	Percentage Obese	Above/Below: OC Average	Above/Below: California	Above/Below: National Objective
La Habra City Elementary	33.0%	🔴	🔴	🔴
Buena Park Elementary	29.6%	🔴	🔴	🔴
Anaheim City Elementary	29.5%	🔴	🔴	🔴
Santa Ana Unified	28.1%	🔴	🔴	🔴
Magnolia Elementary	26.1%	🔴	🔴	🔴
Savanna Elementary	25.9%	🔴	🔴	🔴
Orange Unified	23.5%	🔴	🔴	🔴
Garden Grove Unified	21.9%	🔴	🔴	🔴
Westminster Elementary	21.9%	🔴	🔴	🔴
Centralia Elementary	20.6%	🔴	🟢	🔴
Fullerton Elementary	18.4%	🟢	🟢	🔴
Brea-Olinda Unified	18.2%	🟢	🟢	🔴
Newport-Mesa Unified	16.6%	🟢	🟢	🔴
Ocean View Elementary	16.4%	🟢	🟢	🔴
Tustin Unified	16.3%	🟢	🟢	🔴
Placentia-Yorba Linda Unified	15.4%	🟢	🟢	🔴
Saddleback Valley Unified	13.1%	🟢	🟢	🟢
Cypress Elementary	12.4%	🟢	🟢	🟢
Los Alamitos Unified	10.4%	🟢	🟢	🟢
Fountain Valley Elementary	9.9%	🟢	🟢	🟢
Capistrano Unified	9.8%	🟢	🟢	🟢
Huntington Beach City Elementary	8.9%	🟢	🟢	🟢
Irvine Unified	7.1%	🟢	🟢	🟢
Laguna Beach Unified	3.5%	🟢	🟢	🟢
Orange County	18.4%	-	🟢	🔴
California	21.3%	🟢	-	🔴

Note: Healthy People 2020 Objective for Obesity in Children and Adolescents = 14.5%

Source: California Department of Education

However, 16 of 26 Orange County school districts fall short of the national objective, nine of which do not meet the California average either. The school districts with the highest percentage of obese 5th graders in Orange County include; La Habra City Elementary School District (33.3%), Buena Park Elementary School District (29.6%), Anaheim City Elementary School District (29.5%), Santa Ana Unified School District (28.1%), and Magnolia Elementary School District (26.1%).

Much of the disparity in 5th grade obesity rates can be traced to ethnicity and race. The table below shows 5th grade obesity rates by ethnicity/race in Orange County.



Source: California Department of Education, 2017/2018

According to the California Department of Education, over 38% of Orange County's Native Hawaiian or Pacific Islander 5th graders are obese. This is nearly three times the national objective and twice the average of Orange County overall. Also concerning is the high Latino obesity rate among 5th graders (26.8%). nearly twice that of the national objective. The Asian (8%) and White (9.9%) 5th grade obesity rates were considerably lower than the Orange County average (18.4%), California average (21.3%), and national objective (14.5%).

Obesity statistics by ethnicity and race are an important measure as cultural perspectives on obesity can pose challenges for understanding the extent of the problem leading to a lack of precautionary measures. Proper physical activity and nutrition are necessary actions for preventing obesity and diabetes.

Physical Fitness

Physical fitness helps maintain proper weight and prevent obesity, diabetes, and its associated risks. The table below shows that Orange County 5th, 7th, and 9th grade students perform better or on par with statewide averages when comparing aerobic capacity, body composition, abdominal strength, trunk extension strength, upper body strength, and flexibility.

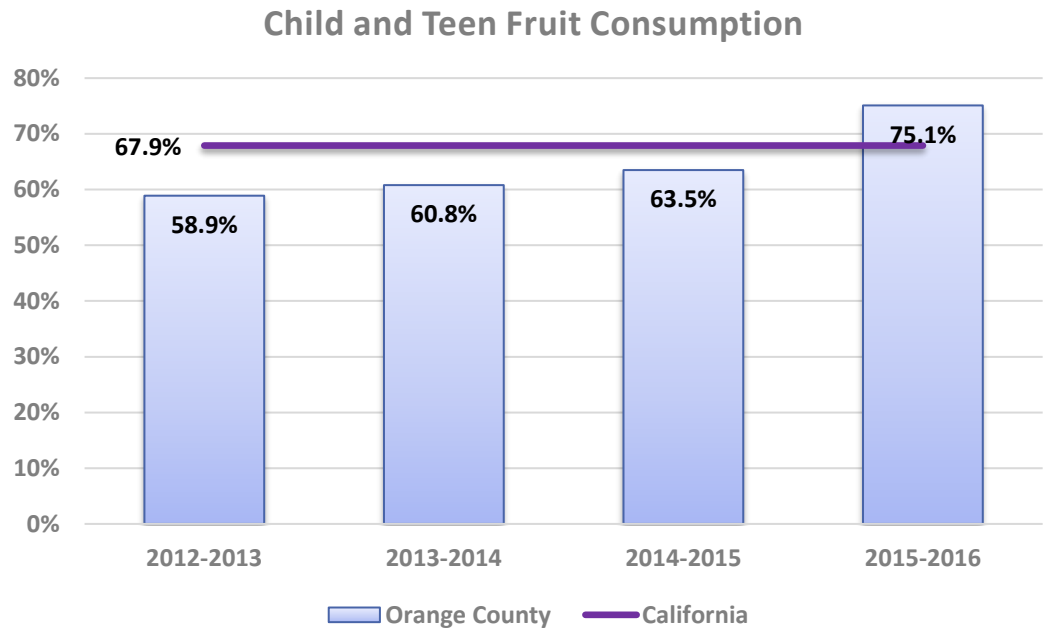
2017-18 California Physical Fitness Report: Percentage of Students, by Grade, in Need of Physical Improvement by Fitness Area									
	% Grade 5 Students in Need of Improvement			% Grade 7 Students in Need of Improvement			% Grade 9 Students in Need of Improvement		
Physical Fitness Area	OC	CA	Above/ Below	OC	CA	Above/ Below	OC	CA	Above/ Below
Aerobic Capacity	25.6%	31.4%	●	19.9%	26.4%	●	18.6%	24.6%	●
Body Composition	17.8%	19.2%	●	17.5%	19.2%	●	16.4%	18.9%	●
Abdominal Strength	27.0%	29.9%	●	18.1%	21.6%	●	12.5%	17.6%	●
Trunk Extension Strength	13.9%	16.1%	●	12.7%	13.4%	●	10.5%	10.4%	●
Upper Body Strength	34.4%	38.0%	●	31.3%	35.3%	●	22.2%	30.3%	●
Flexibility	26.6%	28.5%	●	17.8%	20.6%	●	14.0%	15.7%	●
Total Students	**35,146**	**458,099**		**36,172**	**455,075**		**37,218**	**446,738**	

Source: California Department of Education

According to the U.S. Department of Health and Human Resources, regular physical activity can produce long-term health benefits including prevention of chronic diseases such as heart disease, cancer, and stroke (the three leading health-related causes of death), control weight, reduce fat, promote strong bone, muscle, and joint development, condition heart and lungs, build overall strength and endurance, improve sleep, decrease potential for becoming depressed, increased energy and self-esteem, relieve stress, and ultimately increase your chances of living longer.

NUTRITION

In addition to physical fitness, children need good nutrition to foster healthy growth and development and to maintain proper weight. A proper diet is important to prevent risks of chronic diseases. One of 26 Healthy People 2020 LHI is to increase the contribution of total vegetables to the diets of the population aged 2 years and older.



Source: ochealthiertogether.org, 2012-2016

Of Orange County's children and teens aged 2-17 years old, 75.1% eat at least two servings of fruits per day—which is high compared to other California counties.[27]

[27] Conduent Healthy Communities Institute, 2015-2016 CA Health Interview Survey. As cited on OCHealthierTogether.org, an initiative led by HIP. Retrieved 8/2019.

BREASTFEEDING

Breastfeeding is an important health indicator, especially for the CHOC Children's population, because breastfeeding provides many benefits for healthy infant growth and development. Breastfeeding provides benefits to the mother as it can mitigate maternal risks of postpartum bleeding, post-menopausal osteoporosis, and cancer of the breast and ovaries.[28] Additionally, breastfeeding helps the entire family with food security and income because the family income does not have to be spent on buying formula.

In-Hospital Breastfeeding of Newborns		
	Orange County	California
Exclusive Breastfeeding	65.80%	69.80%
Any Breastfeeding	94.80%	94.00%

Source: Kidsdata.org, (2019)

In Orange County, the percentage of newborns who were exclusively fed breast milk during their hospitalization is 65.8%, less than that of California. The percentage of newborns who were breastfed exclusively *and* those who received both breast milk and formula was 94.8% in Orange County.

[28] Orange County Children's Partnership (2019). *The 24th Annual report on the Conditions of Children in Orange County* [Report].

COMMUNITY ASSETS

To fully understand the strengths or positive attributes of Orange County, the following section analyzes Orange County's community resources which can be utilized to improve the quality of community life. Also, see Appendix E for a list of community assets identified by community members.

ACCESS TO PRIMARY CARE

A lack of access to primary care presents barriers to preventative care and good health. The supply and accessibility of primary care physicians, the type and lack of insurance coverage, poverty level, transportation obstacles, and cultural and language competency affect access. Individuals in communities affected by barriers to primary care have shown increased rates of morbidity, mortality, and emergency department hospitalizations. These can all be reduced if residents have access to primary care services, including health screenings, routine tests, and vaccinations.

If an average pediatrician performs 5,000 primary care encounters per year, we can estimate the number of full-time-equivalent (FTE) physicians practicing in the market.

Orange County Primary Care Visits, 0-18: CY 2018		
Metric	Encounters	Estimated FTE @ 5,000 Enc/FTE
Visits Rendered by Primary Care Physicians in OC	2,210,990	442
Visits Consumed by OC Residents	1,843,550	369
Difference	**367,440**	**73**

Source: BluePrint Claims Data, CY 2018

In 2018, primary care physicians with an office location based inside of Orange County rendered over 2.2 million patient visits. At the same time, Orange County residents aged 0-18 consumed approximately 1.8 million patient visits in Orange County. This means that Orange County is net-provider of pediatric primary care visits to the point that over 360,000 pediatric visits were rendered to patients living outside of Orange County by physicians practicing inside Orange County. Assuming the average pediatrician performs 5,000 primary care encounters per year, we can estimate the number of full-time-equivalent (FTE) physicians practicing in the market. Using this methodology, Orange County is a net supplier of pediatric primary care services with the equivalent of 442 providers operating in the county and local patient demand for only 369 providers. In other words, there is an excess of 73 primary care providers in Orange County that are serving patients originating from Los Angeles, San Bernardino, and Riverside - counties that have known primary care physician shortages.

FACILITIES

Pediatric Acute Capacity Analysis

CHOC at Orange (158 licensed beds) and CHOC at Mission (24 licensed beds) have a combined 182 licensed inpatient pediatric beds. CHOC at Orange reported 10,509 inpatient discharges, 36,650 patient days resulting in an occupancy rate of 63.6% and an average daily census of 100.4 patients. CHOC at Mission reported 1,557 inpatient discharges, 3,167 patient days resulting in an occupancy rate of 36.2% and an average daily census of 8.7 patients. Service area hospitals run at a combined 60.2% occupancy rate based upon 207 licensed inpatient pediatric beds. Therefore, on average, there are approximately 80 licensed pediatric beds available in the service area.

Also assessed was bed utilization at hospitals located outside of the service area but within 25-mile radius of CHOC at Orange. In total, there are an additional 250 licensed inpatient pediatric beds, within 25-mile radius of CHOC at Orange, across seven hospital providers resulting in an occupancy rate of 35.1%.

On average, there is an excess of 244 licensed inpatient pediatric beds when aggregating all hospitals within the service area and within a 25-mile radius of CHOC at Orange. This indicates that the service area, and surrounding area, have a sufficient number of inpatient pediatric beds serving the community.

LICENSED INPATIENT PEDIATRIC BEDS WITHIN 25-MILE RADIUS OF CHOC AT ORANGE, 2018

Hospital	Driving Distance from CHOC at Orange (miles)	Driving Distance from CHOC at Mission (miles)	Within Service Area	Licensed Beds	Discharges	Patient Days	ADC	Occupancy Rate	Available Beds
CHOC at Orange	**-**	**21.3**	**X**	**158**	**10,509**	**36,650**	**100.4**	**63.6%**	**58**
CHOC at Mission	**21.3**	**-**	**X**	**24**	**1,557**	**3,167**	**8.7**	**36.2%**	**15**
Kaiser Foundation Hospital - Anaheim	7.7	26.2	X	12	921	2,511	6.9	57.3%	**5**
Fountain Valley Regional Hospital	8.7	21.8	X	13	1,211	3,185	8.7	67.1%	**4**
Service Area Sub-Total				**207**	**14,198**	**45,513**	**124.7**	**60.2%**	**82**
St. Mary Medical Center - Long Beach	19.6	37.1		16	328	861	2.4	14.7%	**14**
Kaiser Foundation Hospital - Downey	20.6	40.6		17	549	2,091	5.7	33.7%	**11**
Miller Children's Hospital	21.3	39.2		138	7,573	21,469	58.8	42.6%	**79**
Beverly Hospital	24.9	45.4		15	486	1,171	3.2	21.4%	**12**
Corona Regional Medical Center	25.1	35.5		5	150	298	0.8	16.3%	**4**
Pomona Valley Hospital Medical Center	26.2	46.3		34	970	2,273	6.2	18.3%	**28**
LAC/Harbor-UCLA Medical Center	29.7	47.2		25	1,550	3,908	10.7	42.8%	**14**
25-Mile Radius Sub-Total				**250**	**11,606**	**32,071**	**87.9**	**35.1%**	**162**
Total				**457**	**25,804**	**77,584**	**212.6**	**46.5%**	**244**

Source: OSHPD Disclosure Reports, FY 2018

Neonatal Intensive Care (NICU) Capacity Analysis

CHOC at Orange (104 licensed beds) and CHOC at Mission (22 licensed beds) have a combined 126 licensed inpatient NICU beds. CHOC at Orange reported 786 inpatient discharges, 17,719 patient days resulting in an occupancy rate of 46.7% and an average daily census of 48.5 patients. CHOC at Mission reported 204 inpatient discharges, 2,983 patient days resulting in an occupancy rate of 37.1% and an average daily census of 8.2 patients. Service area hospitals run at a combined 47.3% occupancy rate based upon 4,227 licensed inpatient NICU beds. Therefore, on average, there are approximately 179 licensed NICU beds available in the service area.

Also assessed was bed utilization at hospitals located outside of the service area but within 25-mile radius of CHOC at Orange. In total, there are an additional 300 licensed inpatient NICU beds, within 25-mile radius of CHOC at Orange, across eight hospital providers resulting in an occupancy rate of 50.1%.

On average, there is an excess of 328 licensed inpatient NICU beds when aggregating all hospitals within the service area and within a 25-mile radius of CHOC at Orange. This indicates that the service area, and surrounding area, have a sufficient number of inpatient NICU beds serving the community.

LICENSED INPATIENT NEONATAL BEDS WITHIN 25-MILE RADIUS OF CHOC AT ORANGE									
Hospital	Driving Distance from CHOC at Orange (miles)	Driving Distance from CHOC at Mission (miles)	Within Service Area	Licensed Beds	Discharges	Patient Days	ADC	Occupancy Rate	Available Beds
CHOC at Orange	**-**	**21.3**	**X**	**104**	**786**	**17,719**	**48.5**	**46.7%**	**55**
CHOC at Mission	**21.3**	**-**	**X**	**22**	**204**	**2,983**	**8.2**	**37.1%**	**14**
UC Irvine Medical Center	2.1	22.6	**X**	45	461	10,416	28.5	63.4%	**16**
Garden Grove Hospital and Medical Center	3.1	23.4	**X**	12	99	855	2.3	19.5%	**10**
Orange County Global Medical Center	3.5	18.3	**X**	24	121	1,000	2.7	11.4%	**21**
AHMC Anaheim Regional Medical Center	7.7	27.7	**X**	11	580	2,422	6.6	60.3%	**4**
Kaiser Foundation Hospital - Anaheim	8.5	26.2	**X**	26	481	8,438	23.1	88.9%	**3**
Fountain Valley Regional Hospital	8.7	21.0	**X**	23	364	2,962	8.1	35.3%	**15**
MemorialCare Orange Coast Medical Center	10.4	21.8	**X**	12	135	894	2.4	20.4%	**10**
St. Jude Medical Center	11.7	30.9	**X**	14	208	2,073	5.7	40.6%	**8**
Kaiser Foundation Hospital - Irvine	12.6	11.3	**X**	6	185	2,355	6.5	107.5%	**0**
Hoag Memorial Hospital Presbyterian	13.9	19.4	**X**	21	431	4,520	12.4	59.0%	**9**
MemorialCare Saddleback Medical Center	16.4	6.7	**X**	19	172	1,907	5.2	27.5%	**14**
Service Area Sub-Total				**339**	**4,227**	**58,544**	**160.4**	**47.3%**	**179**
PIH Health Hospital - Whittier	19.4	39.4		34	383	4,376	12.0	35.3%	**22**
St. Mary Medical Center - Long Beach	19.6	37.1		25	177	2,916	8.0	32.0%	**17**
Kaiser Foundation Hospital - Downey	20.6	40.6		49	528	11,189	30.7	62.6%	**18**
Miller Children's Hospital	21.3	38.8		95	1,125	20,826	57.1	60.1%	**38**
PIH Health Hospital - Downey	22.3	42.0		7	85	345	0.9	13.5%	**6**
Beverly Hospital	24.9	45.4		10	40	196	0.5	5.4%	**9**
Pomona Valley Hospital Medical Center	26.2	46.3		53	710	12,191	33.4	63.0%	**20**
LAC/Harbor-UCLA Medical Center	29.7	47.2		27	37	2,776	7.6	28.2%	**19**
25-Mile Radius Sub-Total				**300**	**3,085**	**54,815**	**150.2**	**50.1%**	**150**
Total				**639**	**7,312**	**113,359**	**310.6**	**48.6%**	**328**

Source: OSHPD Disclosure Reports, FY 2018

Pediatric Intensive Care (PICU) Capacity Analysis

CHOC at Orange (54 licensed beds) and CHOC at Mission (8 licensed beds) have a combined 62 licensed inpatient PICU beds. CHOC at Orange reported 970 inpatient discharges, 10,601 patient days resulting in an occupancy rate of 53.8% and an average daily census of 29.0 patients. CHOC at Mission reported 272 inpatient discharges, 948 patient days resulting in an occupancy rate of 32.5% and an average daily census of 2.6 patients. Service area hospitals run at a combined 50.6% occupancy rate based upon 73 licensed inpatient PICU beds. Therefore, on average, there are approximately 36 licensed PICU beds available in the service area.

Also assessed was bed utilization at hospitals located outside of the service area but within 25-mile radius of CHOC at Orange. In total, there are an additional 46 licensed PICU beds, within 25-mile radius of CHOC at Orange, across three hospital providers resulting in an occupancy rate of 39.1%.

On average, there is an excess of 64 licensed inpatient neonatal beds when aggregating all hospitals within the service area and within a 25-mile radius of CHOC at Orange. This indicates that the service area, and surrounding area, have a sufficient number of PICU beds serving the community.

LICENSED INPATIENT PICU BEDS WITHIN 25-MILE RADIUS OF CHOC AT ORANGE									
Hospital	Driving Distance from CHOC at Orange (miles)	Driving Distance from CHOC at Mission (miles)	Within Service Area	Licensed Beds	Discharges	Patient Days	ADC	Occupancy Rate	Available Beds
CHOC at Orange	**-**	**21.3**	**X**	**54**	**970**	**10,601**	**29.0**	**53.8%**	**25**
CHOC at Mission	**21.3**	**-**	**X**	**8**	**272**	**948**	**2.6**	**32.5%**	**5**
Fountain Valley Regional Hospital	8.7	21.0	**X**	11	257	1,946	5.3	48.5%	**6**
Service Area Sub-Total				**73**	**1,499**	**13,495**	**37.0**	**50.6%**	**36**
Miller Children's Hospital	21.3	38.8		30	464	4,666	12.8	42.6%	**17**
Kaiser Foundation Hospital - Downey	22.3	42		8	135	811	2.2	27.8%	**6**
LAC/Harbor-UCLA Medical Center	29.7	47.2		8	145	1,095	3.0	37.5%	**5**
25-Mile Radius Sub-Total				**46**	**744**	**6,572**	**18.0**	**39.1%**	**28**
Total				**119**	**2,243**	**20,067**	**55.0**	**46.2%**	**64**

Source: OSHPD Disclosure Reports, FY 2018

Adolescent & Child Psychiatric Capacity Analysis

CHOC opened its inpatient Mental Health unit in mid-2018 resulting in data that reflects a partial year. CHOC at Orange operates 18 inpatient psychiatric beds reporting 72 inpatient discharges, 607 patient days resulting in an occupancy rate of 9.2% and an average daily census of 1.7 patients. Service area hospitals run at a combined 54.8% occupancy rate based upon 450 licensed inpatient psychiatric beds. Therefore, on average, there are approximately 23 licensed psychiatric beds available in the service area.

Also assessed was bed utilization at hospitals located outside of the service area but within 25-mile radius of CHOC at Orange. In total, there are an additional 115 licensed psychiatric beds, within 25-mile radius of CHOC at Orange, across four hospital providers resulting in an occupancy rate of 70.2%.

On average, there is an excess of 57 licensed inpatient Adolescent & Child Psychiatric beds when aggregating all hospitals within the service area and within a 25-mile radius of CHOC at Orange. This indicates that the service area, and surrounding area, have a sufficient number of inpatient psychiatric beds serving the community.

LICENSED INPATIENT ADOLESCENT & CHILD PSYCHIATRIC BEDS WITHIN 25-MILE RADIUS OF CHOC AT ORANGE								
Hospital	Driving Distance from CHOC at Orange (miles)	Within Service Area	Licensed Beds	Discharges	Patient Days	ADC	Occupancy Rate	Available Beds
CHOC at Orange*	**-**	**X**	**18**	**72**	**607**	**1.7**	**9.2%**	**16**
UC Irvine Medical Center	2.1	**X**	15	411	3,646	10.0	66.6%	**5**
College Hospital Costa Mesa	11.6	**X**	17	971	5,739	15.7	92.5%	**1**
Service Area Sub-Total			**50**	**1,454**	**9,992**	**27.4**	**54.8%**	**23**
College Hospital	17.3		41	1,098	8,612	23.6	57.5%	**17**
Canyon Ridge Hospital	26.7		35	3,797	8,311	22.8	65.1%	**12**
LAC + USC Medical Center	29.7		10	204	2,817	7.7	77.2%	**2**
Aurora Charter Oak - Los Angeles	28.0		29	1,560	9,742	26.7	92.0%	**2**
25-Mile Radius Sub-Total			**115**	**6,659**	**29,482**	**80.8**	**70.2%**	**34**
Total			**165**	**8,113**	**39,474**	**108.1**	**65.5%**	**57**
Del Amo Hospital	31.2		45	3,098	15,406	42.2	93.8%	**3**
Kedren Community Health Center	32.1		17	695	5,588	15.3	90.1%	**2**
Gateways Hospital	33.2		27	548	3,296	9.0	33.4%	**18**
Star View Adolescent Center	34.9		16	68	5,467	15.0	93.6%	**1**
BHC Alhambra Hospital	35.1		32	1,888	11,942	32.7	102.2%	**-1**
Loma Linda University Behavioral Medicine Center	53.2		41	1,935	11,503	31.5	76.9%	**9**
Resnick Neuropsychiatric Hospital at UCLA	44.0		25	506	7966	21.8	87.3%	**3**
Riverside University Health System	52.2		12	744	2,284	6.3	52.1%	**6**
Other Regional Adolescent and Child Providers			**215**	**9,482**	**63,452**	**173.8**	**80.9%**	**41**

Source: OSHPD Disclosure Reports, FY 2018

*Partial year

COMMUNITY INPUT

SURVEY PROCESS & RESULTS

Orange County community members were sent an online link to a survey via the survey conveyer Survey Monkey. It was made available in September and October 2019, which allowed CHOC Children's to receive 207 responses. The survey was not intended to be a scientific or statistically valid sampling of the population. Instead, the survey was designed to collect both qualitative and quantitative data from residents—including those in medically underserved, low-income, and minority populations—in order to identify perceived community health needs affecting children within Orange County. In order to qualify to participate in the survey, respondents had to meet two criteria: 1) that they lived within the boundaries of Orange County, and 2) that they be a parent or guardian of a child under the age of 18.

DEMOGRAPHICS OF SURVEY RESPONDENTS

Most survey respondents reside in the cities of Anaheim (13%), Huntington Beach (7%), Santa Ana (7%), Irvine (6%), Westminster 5%, with the remaining 60% of respondents coming from other cities across Orange County.

When respondents were asked how long they had lived in Orange County, 62% responded 11+ years, 13% responded 6-10 years, 13% responded with 3-5 years, 9% responded with 1-2 years, with the remaining 3% reporting living in Orange County for less than 1 year.

Based on the survey results for the age of the survey respondents, 8% of the survey respondents are 18-25 years of age, 28% are 26-34 years of age, 30% are 35-44 years of age, and 22% are 45-54 years of age. Based on the survey results for race/ethnicity, approximately 54% of survey respondents identified as Caucasian/White, 24% identified as Hispanic/Latino, 19% identified as Asian, 5% identified as African American/Black, 1% identified as American Indian/Alaska Native, 1% identified as Native Hawaiian/Pacific Islander, and 1% of survey respondents identified as Middle Eastern. Of the survey respondents, 75% identified as female and 25% identified as male.

When asked the composition of households based on number of family members, nearly 79% of respondents reported having a household size of 3-5 people, 12% reported a household size of 1-2 people, 8% reported a household size of 6-8 people, and 2% reported more than 9 people living in a single household. Survey respondents were also asked the number of household members by each age cohort. Within the age cohort 0-18, 49% of respondents reported one child, 33% reported having 2 children, and 18% reported having three children.

In total, nearly 70% of the survey respondents reported being married, 19% as never married/single, 8% as divorced, 2% as widowed, and 1% as separated. Pertaining to household income, 22% of the survey respondents reported earning $100,000-150,000 per year, 21% reported earning $50,000-74,999 per year, 18% reported earning $150,000 or more per year, 15% reported earning $75,000-99,000 per year, 13% reported earning $30,000-49,000 per year, and 10% reported earning less than $29,000 per year.

Many respondents reported their own health as being "good" (54%) or "very good" (24%). Nearly 18% reported their health as "fair" with the remaining 4% reporting their heath as "poor" (3%) or "very poor" (1%).

Access to Healthcare

Approximately 56% of survey respondents have employer sponsored health insurance, 30% have Medi-Cal, 13% are Medicare beneficiaries, and 10% reported having private health coverage. The remaining survey respondents (7%) selected either "I have no insurance" (5%) or "my child(ren) have no health insurance" (1%). Most survey respondents (80%) reported their child/children receiving routine healthcare services at a doctor's office during the past 12 months. Almost 14% reported their child/children receiving routine medical care in urgent care clinics (5%), 4% in an emergency room, 2% in a school-based health center, and nearly 2% in a retail clinic. Nearly 7% of the survey respondents reported their child/children not needing routine medical care in the last 12 months.

Critical Health Concerns

Survey respondents were also asked to report on the critical needs or concerns affecting children's health in Orange County on a scale of "not at all critical" to "very critical".

Access to Healthcare (55%)
When asked about the need for "access to healthcare" for children living in your community, 55% of respondents replied with "very critical" (35%) or "somewhat critical" (20%). However, nearly 25% reported that access to healthcare was "not at all critical" (9%) or "not really critical" (15%). Approximately 21% reported "neutral" on the importance of access to healthcare in their community.

Access to Pediatric Specialists (55%)
When asked about the need for "access to pediatric specialists" for children living in your community, 55% of respondents replied with "very critical" (27%) or "somewhat critical" (27%). In addition, 22% of respondents believe access to pediatric subspecialists either to be "not at all critical" (7%) or "not really critical" (15%).

Autism Spectrum Disorder (49%)
When asked about the need for access to "autism spectrum disorder" services for children living in your community, 49% of respondents replied with "very critical" (18%) or "somewhat critical" (31%). Only 4% of respondents believe the community in which they reside does not have a critical need at all for autism spectrum disorder services.

Community-Based Education or Community Learning (49%)
When asked about the need for "Community-based Education or community learning" to assist children living in your community, 49% of respondents replied with "very critical" (21%) or "somewhat critical" (28%). Over 30% responded with "neutral" and the remaining 20% responded with "not really critical" (14%) or "not critical at all" (6%).

Cost burden of Raising a Child (75%)
When asked about the cost burden of raising a child in Orange County, over 75% of respondents replied with "very critical" (43%) or "somewhat critical" (32%). Over 18% responded with "neutral". Only 5% believe the

cost burden of raising a child in the community in which they reside to be "not really critical" (3%) or "not critical at all" (2%).

Crime and Community Violence (60%)
When asked about how concerned respondents were about "crime and community violence" affecting children living in your community, 60% of respondents replied with "very critical" (31%) or "somewhat critical" (29%). Only 16% of respondents believe crime and community violence to be "not at all critical" (4%) or "not really critical" (12%).

Environmental Quality (60%)
When asked about the importance for improved "environmental quality (i.e. air pollution, mold, lead, water)" your community, 60% of respondents replied with "very critical" (28%) or "somewhat critical" (32%). Nearly 14% believed the environmental quality to be "not at all critical" (3%), or "not really critical" in the community in which they reside.

Cost Burden of Housing (70%)
When asked about the cost burden of housing and the importance of adequate housing for children living in your community, over 70% of respondents replied with "very critical" (39%) or "somewhat critical" (31%). Over 22% responded with "neutral". Only 1% or respondents believe that adequate housing to be "not at all critical" to children living in the community.

Hunger or Access to Healthy Foods (60%)
When asked about the issues surrounding "hunger or access to healthy foods", nearly 60% of respondents replied with "very critical" (31%) or "somewhat critical" (28%). Just 21% were "neutral" with their response with the remaining 20% as either "not at all critical" (6%) or "somewhat critical" (14%).

Language Barriers (45%)
When asked about the obstacles surrounding "language barriers" when accessing healthcare services for children in Orange County, 45% of respondents replied with "very critical" (14%) or "somewhat critical" (30%). Only 4% of survey respondents believe language not to be a barrier for accessing healthcare services with 37% of respondents being indifferent or "neutral" on the subject.

Legal Barriers (60%)
When asked about the obstacles surrounding "legal" barriers when accessing healthcare services for children in Orange County, 60% of respondents replied with "neutral" (37%), "somewhat critical" (17%), or "not critical at all" (5%). However, 14% responded that legal barriers were "very critical" when it came to affecting children's health in Orange County.

Pediatric Dental Services (43%)
When asked about the need for "pediatric dental services" for children living in your community, 43% of respondents replied with "very critical" (21%) or "somewhat critical" (22%). However, 21% reported that pediatric dental care services were "not at all critical" (7%) or "not really critical" (14%). The largest cohort, "neutral" (35%), were indifferent on the need for improved pediatric dental services in the community.

Pediatric Obesity (58%)
When asked about the critical needs or concerns related to "pediatric obesity" affecting children in Orange

County, over 58% of respondents replied with "very critical" (25%) or "somewhat critical" (33%). Approximately 29% responded with "neutral". Only 4% believe that childhood obesity to be "not at all critical".

School Programs (56%)
When asked about the importance of "school programs" and the importance of such programs when it comes to how they affect children's health, nearly 56% of respondents replied with "very critical" (26%) or "somewhat critical" (30%). Just 27% were "neutral" with their response with the remaining 15% as either "not at all critical" (5%) or "somewhat critical" (12%).

Social Media or Screen Time (65%)
When asked about the health issues surrounding children's use of "social media or screen time", nearly 65% of respondents replied with "very critical" (32%) or "somewhat critical" (33%). The remaining 25% responded with "not at all critical" (4%) or "somewhat critical" (8%), or "neutral" (22%).

Special Education Needs (53%)
When asked about the importance of "special education needs" for children in Orange County, 53% of respondents replied with "neutral (39%), "somewhat critical" (25%), or "not critical at all" (5%). However, 14% responded that legal barriers were "very critical" when it came to affecting children's health in Orange County.

Quality of Care

Approximately 18% of respondents rated the overall health of Orange County community, in which they reside, as "very good", 45% as "good", 33% as "fair" and 4% as poor. Nearly 95% of survey respondents reported their own children's health as "very good" (47%) or "good". Less than 5% reported their children's health as fair with only one respondent reporting their child/children being in "poor" health.

Health Behaviors

The survey respondents were also asked to list the three most common and serious "risky behaviors" affecting children living in their community. In total, 621 votes were cast (3 per respondent). The survey included health and safety concerns often associated with a thriving and healthy community. Overwhelmingly, drug abuse (20% of the vote) was listed as the most serious "risky behavior" followed by alcohol abuse (16% of the vote), and lack of exercise/physical activity (12% of the vote). The remaining 50% of the vote included poor eating habits (10%), being overweight (9%), unsafe sex (6%), and lack of immunizations (5%).

In addition, survey respondents were asked what other health issues affected children living in their communities. Seven respondents replied in total. Of the seven, two believe vaping to be of concern, and one on the risks associated with texting and driving.

Health Problems

The survey respondents were asked what they believed to be the three most important health problems that affect children within their communities (i.e., the three problems that have the greatest impact on overall health of children in Orange County). In total, 621 votes were cast (3 per respondent). Over 19% of the votes cast

referenced "bullying and other stressors at school" as the most important health problem affecting children in Orange County. "Mental or behavioral health" ranked as the second most important health concern, with 12% of the vote, and "obesity" ranked third, with 9% of the vote. Other health concerns referenced by survey respondents include "child abuse" (8% of the vote), "environmental quality" (6% of the vote), "domestic violence" (5% of the vote), lack of "physical activity" (5% of the vote), "suicide" (5% of the vote), and "cancers" (5% of the vote). Only 2% of survey respondents believe dental problems to be a top health problem for children in the county.

KEY INFORMANT SURVEY

DEMOGRAPHICS OF SURVEY RESPONDENTS AND SURVEY PROCESS

CHOC Children's solicited input from knowledgeable community members who are considered experts in the fields of health policy and/or population health. They serve children and families in Orange County, including members of the underserved, low-income, and minority populations. In total, CHOC Children's had 25 participating key informants. See Appendix B to see the full list of community groups and their representation of, or service to, low-income, medically underserved, and minority populations. Their opinion was acquired through a combination of one-on-one interviews and surveys distributed through email in September and October of 2019.

SURVEY FINDINGS

Throughout this process, several themes emerged regarding patient access, preventative care, gaps in services, and opportunities to enhance and improve upon the services currently provided in Orange County.

Mental Health Services

Almost all the interviewees listed the importance of improving pediatric access to mental health services, including enhanced coordination of care in order to successfully treat behavioral health conditions and improve patient outcomes, as one of the most critical health needs facing Orange County. The interviewees explained that more mental health resources would help families and children who have difficulty finding and accessing mental health services in the county. The interviewees believe pediatric mental health conditions, if left untreated, could have dire consequences well into their adult years.

Many interviewees expressed concern in the high prevalence of anxiety and depression among the school-age population in Orange County. Interviewees attribute these often-untreated conditions with bullying and other stressors in school, social media and screen time, which can lead to low school attendance rates, lack of physical activity, and, in extreme cases, teen suicides. Suggestions offered by interviewees include courses offered by mental health professions for school nurses to assist in identifying early symptoms, additional mental health resources to families through improved access to community-based education and learning, and access to pediatric mental health services. Interviewees believe children today are under far more pressure in the era of social media. Several interviewees attributed depression and anxiety to social media and screen time. This belief is supported by a longitudinal study published in the journal The Lancet Child & Adolescent Health that interviewed almost 10,000 children between the ages of 13 and 16 years of age. They found that social media may harm girls' mental health by increasing their exposure to bullying and reducing their sleep and physical exercise. Although conclusions of this study focus on one gender, this study is among many that support the association between mental health of children, social media and other health outcomes. Several respondents supported the notion that bullying among students was of critical health concern in Orange County.

Some interviewees believe greater coordination and access to pediatric mental health specialists and services would eliminate barriers to adequately treating children needing mental health services in Orange County.

Specific mental health services believed too inadequate or in short supply include universal screening for mental health and suicide risk.

Some suggested to address deficiencies in mental health services. Interviewees commented that improved communication between CHOC Children's and schools/school districts, through electronic health system access and shared standards of care, would assist in providing enhanced and expanded coordinated care.

Obesity

Since CHOC Children's 2016 CHNA, obesity continues to rank as a top concern in Orange County. Obesity is associated with chronic diseases—such as asthma, sleep apnea, ADHD, and metabolic disorders—and other critical concerns like bullying, stress in school, low self-esteem, mental health, and suicidal ideations. Pediatric public health key informants have attributed a high incidence and prevalence of obesity to risky behaviors and to systems that use food as a positive reinforcer. Risky behaviors include children's dietary choices (being picky eaters) and their sedentary lifestyle caused mostly by increased screen time. Another risky behavior that our key informants from school districts noted is the increasing number of students trying to get a doctor's note to avoid Physical Education (P.E.). This, along with lack of obesity education, exacerbates the problem.

Obesity education is accessible through community evidence-based programs and interventions, such as teaching parents food parentings practices (FPPs) that are useful strategies to influence the amount and types of food a child eats. Accessible community evidence-based programs and interventions are concerns for providers and families alike. Especially concerning are families and children in the low-income and medically underserved populations where disparities exist. Some key informants noted that not only does reimbursement affect their ability to provide these resources to the populations in need, but also families' ability to pay are hindering their pediatric obesity treatment and management. In addition to costs related to reimbursement, another concern is transportation to these resources. Consistent attendance and participation in these evidence-based programs and interventions are necessary to ensure change of behavior for both children and their families.

Because Orange County is a diverse metropolitan area with different racial and ethnic groups, another challenge is the cultural perspective on obesity. Educating families and children on obesity is difficult, and key informants commented during the surveys and one-on-one interviews that it is the responsibility of physicians to educate families on Body Mass Index (BMI) and explain the diagnosis of obesity. The language barrier adds another layer of difficulty for educating certain ethnic groups on proper nutrition and healthier options.

Even with free community-educational classes and provider efforts in education, another challenge to consider is the cost of these healthier food choices to ensure proper nutrition. The cost of healthier foods is more expensive than the cheap, quick, and convenient fast foods that are available in Orange County, which boasts a diversity of trendy food chains. In addition to cost of healthier food options, there are food deserts to consider.[29]

Key informants also identified a lack of green space (park land) for recreational activities. These are important resources for communities to live a healthier, active lifestyle. Although Orange County is ranked one of the safest counties (with low crime rates) in the nation, some cities within the county still have crime and

[29] A food desert is an area that has limited access to affordable and nutritious food.

community violence that deter outdoor activities. Housing, environmental quality, and crime and community violence all play a part in the healthier lifestyle that reduces incidence and prevalence of obesity.

Overall, the problem with obesity is multilayered and complex as described by key informants and secondary research, but there are many ways in which to address this critical community concern. Key informants suggested to strengthen and continue partnership and collaboration between CHOC Children's, agencies, other organizations, and most especially school systems. Data sharing can help with communication and connecting families to pediatric specialists and other community resources. The key informants have so far identified Dr. Riba's Health Club, CalOptima's weight loss program, Team KiPOW, and many others. To find the list of the mentioned community assets, see Appendix E. The key is collaboration.

Diabetes

Another major concern for the pediatric population, especially those in the Irvine, Fullerton, La Habra, and Buena Park as identified by key informants, is Type 2 Diabetes (also known as adult-onset diabetes). According to Mayo Clinic, there is no cure for Type 2 Diabetes, but losing weight, increased physical activity and proper nutrition are ways of managing this chronic disease.

Key informants identified these challenges when managing Type 2 Diabetes: lack of access to healthy foods; need for more partnerships and collaborations with other agencies; increased social media exposure and screen time; and decreased physical activity.

As noted by key informants, the ways to overcome these obstacles include CHOC Children's NEW You (Nutrition, Exercise, Wellness), Kids Fit Club, and PODER (Prevention of Obesity and Diabetes through Education and Resources). These classes are free and available to both the children and their families. Having on-site diabetes prevention classes for families is another important resource.

Food Insecurity

Key informants identified obesity and diabetes as concerning morbidities, which is why some key informants are attributing food insecurity as a root cause and major issue that needs to be prioritized and addressed. They identified food insecurity as a highly critical need because it is often overlooked and not discussed. The lack of discussion and community concern impacts the most vulnerable populations. When families are faced with food insecurity, this becomes their top priority. This means that making well child visits, making sick child visits and managing complex conditions become secondary priorities to food security.

To keep the discussion alive, key informants emphasized existing community resources already addressing the issue, such as the "No Kid Hungry" program and "Waste Not OC" Coalition. They suggest having more awareness and collaboration. An additional list of community assets can be found in Appendix E.

Respiratory Illness

Respiratory illness is another critical health concern that almost all key informant interviewees mentioned as important to address. The concern for respiratory illnesses is attributed to the increasing prevalence of asthma and allergies, which is further exacerbated by environmental quality (air pollution) in Orange County.

Asthma is one of the most critical respiratory illnesses needing to be addressed. In Orange County, it has been increasing over the past three decades and is a major cause of ED visits, hospitalizations, and school absenteeism. Most especially worrisome is the disparity seen among the underserved population. This is in part due to language barriers; lack of resources and access to pediatric specialists; immediate identification and

connectivity to resources; and need for education to understand the respiratory disease treatment and management. Another barrier is social media or screen time for respiratory illnesses – being cooped up inside rather than outside is also a concern, especially if living conditions frequently trigger asthma attacks.

To address respiratory illness, CHOC Children's Breathmobile program, which has been serving the community for 17 years, has been commended and highly valued by the community, including Hoag Hospital's Community Benefit Program. It has been suggested that more mobile clinics, like the Breathmobile, be distributed through Orange County as it provides additional support and resources while improving access for underserved isolated children and families. CHOC Children's Breathmobile program further increases access to high risk asthmatics as home visits are made to assess and remediate key allergic and nonallergic triggers by providing house dust mite covers to those sensitive to this allergen, for instance.

Additional suggestions focus on improving communication and collaboration between CHOC Children's, agencies, the community, and the children and families. The use of electronic health systems was suggested as one platform for achieving collaboration.

Substance Abuse

In CHOC Children's 2016 CHNA, substance abuse was named a critical concern for Orange County. For the 2019 CHNA, substance abuse is once again referenced as a major health concern. More specifically, Orange County key informants have emphasized concern for vaping (which includes electronic cigarettes termed "e-cigarettes")—a risky behavior causing respiratory illnesses. Vaping impacts the health and well-being of children and families. Key Informants collectively mentioned that prevention is a challenge because flavored vape juices are trendy and marketable to consumer palates. In addition, lack of access to pediatric specialist; lack of community-based education; the need for more school programs; and additional partnership and collaboration between community assets are all barriers to addressing this risky behavior.

This is a public health crisis, not only in Orange County but nationally, as more cases of vaping induced lung-injuries are becoming prominent. At the release of this report, the CDC is currently investigating 1,000 lung injury cases believed to be induced by vaping. As investigations are underway, key informants believe that more public awareness and prevention campaigns need to happen at the county level. The recommended solution to reducing and limiting vaping throughout Orange County is through improved collaboration between CHOC Children's, public agencies, and other community organizations.

Bullying and Other Stressors in School

Bullying and other stressors in school were identified as another major concern associated with mental health, obesity, and hunger. Key informants have observed an increased number of students with physical symptoms of stress and anxiety. This is due to stressors in school such as schools and families having higher and higher expectations of students. More specifically, bullying—an aggressive behavior—is an added stressor to the school environment. The CDC defines bullying as a form of youth violence that may "inflict harm or distress on the targeted youth including physical, psychological, social or education harm." This is a concern for all of Orange County, especially for Orange, Anaheim, Garden Grove, Santa Ana, Tustin, Buena Park, Irvine, and Villa Park school districts.

Some of the interviewed attributed bullying to these challenges: lack of access to specialists (especially mental health services); lack of community-based education; increased screen time and social media exposure; alcohol

and substance abuse; poor housing; and the need for partnership and collaboration with other organizations and community efforts.

To reduce bullying and other stressors in school, experts have suggested counseling, community support programs, and education around available resources to students and their families. A key resource often utilized to address bullying are the Family Resource Centers located all over Orange County. These suggestions are in line with CDC Violence Prevention strategies and approaches to bullying incidences:

- Promoting family environments that support health development;
- Provide quality education early in life;
- Strengthen youth's skills;
- Connect youth to caring adults and activities;
- Create protective community environments; and
- Intervene to lessen harms and prevent future risk.

Child Safety

The overall concern of child safety is a critical need identified by several of the key informants. One of the key informants noted that child safety related to motor vehicle accidents is a major concern that CHOC Children's should address because of the significant injuries that can happen to children. Suggestions to address child safety from traumatic injuries caused by motor vehicle crashes include the continuation and implementation of community-based prevention programs, such as car safety seat training and the no texting-driving program. These programs, in addition to supporting trauma programs and improving acute trauma care systems, are significant measures to address child safety.

In addition to education of community members and the existence of pediatric trauma specialists, challenges and opportunities to address child safety from motor vehicle accidents include treatment of alcohol and abuse, mental health, and continued organization of trauma system of care among hospitals, providers, fire departments and ambulance companies.

Furthermore, child safety encompasses the need to protect children from child abuse and neglect. The CDC defines Adverse Childhood Experiences (ACE) as a term used to describe all types of abuse, neglect, and other potentially traumatic experiences that occur to people under the age of 18. Studies have shown that as the number of ACEs increases, so does the risk for the following outcomes:

- Injury (i.e. traumatic brain injury);
- Mental health issues (i.e. depression, suicide);
- Maternal health issues (i.e. pregnancy complications, fetal death);
- Infectious disease (i.e. HIV, STDs);
- Chronic diseases (i.e. diabetes);
- Risky behaviors (i.e. substance abuse); and
- Opportunities (i.e. education).

The outcomes of ACE have so far been identified as critical concerns during CHOC Children's 2019 CHNA; however, few key informants have identified ACE as a root-cause of these concerns. By protecting children from

ACE and focusing on providing them positive experiences, then the ACE outcomes (i.e. mental health, chronic diseases, and substance abuse) can also be addressed.

ACE is a critical concern that is just as complex and multidimensional. Barriers to preventing ACE include the lack of family education, which can mean parents' low educational attainment and/or lack of knowledge on the importance of infant mental and brain development for instance. Additional barriers to addressing ACE in Orange County include the lack of access to health care services (especially physician specialists); the stigma of obtaining help; the lack of standard screenings especially for mental health; poverty; and the prevalence of domestic violence.

Key informants noted that ACE is preventable so long as CHOC Children's, agencies, and other community efforts collaboratively work together to identify individuals needs and barriers. Working together is a partnership on intergovernmental transfers to address service gaps and most especially, promote systems improvement. This requires the use of electronic health records; the education of providers, families and children; and increased resources (inclusive of reimbursement and people to run evidence-based programs, and interventions). Key informants also identified current community resources that are currently used to address child safety, such as MOMS of Orange County, school programs, Family Resource Centers, Western Youth, and Be Well. To see full list of resources, see Appendix E.

Oral Health

Oral care was a top concern for Orange County community members in the 2016 CHNA. For key informants in the 2019 CHNA process, a few noted that concern for oral care still exists. Dental disease is the number one most common pathology in pediatrics, and Orange County has a significant need for these services. Particularly, pediatric physicians and their representatives have noted a high need of routine dental care under general anesthesia. Due to high costs and lack of access to pediatric dentists, especially those providing general anesthesia or sedation, families are avoiding dental care altogether. The reasons for avoiding dental care is due to more pressing living needs that families need to address. Should these families need dental care, then the dental work is because of a major dental concern. In other words, families wait until the dental problem becomes a major problem before addressing the issue.

Language barriers and parent carelessness and/or neglect are other reasons why preventive dental care are at low utilization rates. Additionally, some key informants discussed the lack of community-based education (or community learning). For instance, many parents do not understand the importance of proper oral healthcare and often assume baby teeth do not need the same level of care as adult teeth. Another key informant highlighted the lack of pediatric dentists that accept Medi-Cal in Orange County. This observation is supported by The Orange County Local Oral Health Program (OC-LOHP) assessment of primary reasons for non-utilization of dental services, which are primarily cost and access, respectively.

Overall, key informants have agreed that expanding access to pediatric dentists, especially for kids who need general anesthesia or sedation, and increasing oral care education opportunities can help address dental care concerns. Some resources used to address oral include: school-based education, Boys & Girls Club, Healthy Smiles, FQHCs inclusion of dental services, parent oral health advocates, teledentistry, and fluoride applications during wellness visits in CHOC Children's primary care offices. Another suggestion includes grouping procedures together (i.e. dental exam, blood draws) to minimize exposure to anesthesia.

Immunizations (Vaccines) and Infectious Diseases

Up-to-date immunizations protect the health and wellbeing of individuals and communities. Key informants highlighted the importance of pediatric physicians and their representatives in educating and protecting the public from infectious diseases.

Low-rates of immunizations—a sign of poor community health—threaten immunocompromised individuals which is of great concern to key informants working in the Orange County education system. Some challenges that cause low-rates of immunizations include lack of partnership and collaboration with agencies and other community resources. The barriers pertain to lack of access to medical care, high costs, and vaccine misinformation.

Suggestions by key informants include collaboration between CHOC Children's and other community organizations to work together in providing public service announcements or campaigns focused on educating on the importance of having up-to-date immunizations.

Collaboration and Partnership with School Programs

Many of the critical health concerns, identified by key informants, noted the need for school-based involvement in the overall health and well-being of children in Orange County. School-based support programs can help address several identified community concerns, including:

- Chronic absenteeism;
- Mental health (anxiety and depression);
- Obesity;
- Respiratory illnesses (asthma and allergies);
- Substance abuse (vaping); and
- Bullying and stressors.

School-based programs are a means of identifying, educating, and connecting students and their families with community resources to help build a thriving community.

Access to Pediatric Specialists

Another critical health need of the community is the lack of access to pediatric specialists, specifically pediatric dentists and pediatric mental health providers. Key informants define access through reimbursement coverage; the number of providers supplying services; physical location of providers; hours of operating and scheduling; and language barriers. Access to pediatric specialists is a national challenge.

Child Poverty

Child poverty and its consequences was another community health need identified by key informants. Poverty creates barriers to resources that affects health improvement and promotion. Poverty is often associated with problems such as lack of child care and neglect, poor education, and hunger. Key informants believe more should be done to assist families living in poverty within Orange County—a metropolitan area described as affluent.

Some key informants also mentioned that community-based education, poor environmental quality, unaffordable and unstable housing, and lack of partnership and collaboration of community assets are all barriers to addressing poverty within Orange County.

Child Care Affordability

Affordable child care was identified by many key informants as a critical health concern, especially for the low-income and underserved population. The cost of raising a child (inclusive of day care and education) is increasing and is impacting families across all populations in Orange County. Families are prioritizing child care spending over other necessities such as housing, medical insurance, and car maintenance. The cost of child care in California, and particularly Orange County, is more expensive than that in other states. Child care affordability is a concern that exacerbates other community health issues, including mental health services, oral health services, and obesity. To overcome this barrier, key informants suggest identifying additional resources that can alleviate the burden of rising child care costs. Another suggestion is to place more effort in collaborating and partnering with school programs and other community organizations, especially those that help with food access and job employment.

Housing Affordability

As identified by secondary resources and informant key interviews and surveys, it has been noted that housing affordability in Orange County has become a burden to low-income and medically underserved populations. Key informants believe housing prices have led to increased commute times and lower quality of life. Key informants identified housing affordability as a barrier when addressing critical health needs, such as mental health services, obesity, and respiratory illnesses. Additionally, key informants suggest improved collaboration and partnership with local agencies and community organizations could help address this community need.

APPENDIX

APPENDIX A: DATA SOURCES

American Academy of Pediatrics (2019). Retrieved from https://www.aap.org/en-us/Pages/Default.aspx

Attendance Works (2019). Retrieved from https://www.attendanceworks.org/chronic-absence/the-problem/

Austin, G., Polik, J., Hanson, T., & Zheng, C. (2018). *School climate, substance use, and student well-being in California, 2015-17.* Results of the Sixteenth Biennial Statewide Student Survey, Grades 7, 9, and 11. San Francisco: WestEd.

Berkowitz, S., Karter, A., Corbie-Smith, G., Seligman, H., Ackroyd, S., Barnard, L., … Wexler, D. (2018). Food Insecurity, Food "Deserts," and Glycemic Control in Patients With Diabetes: A Longitudinal Analysis. *Diabetes Care*, *41*(6), 1188–1195. https://doi.org/10.2337/dc17-1981

California Department of Education (2019). Retrieved from https://www.cde.ca.gov/ds/

California Department of Public Health (2019). Retrieved from https://www.cdph.ca.gov/

California Employment Development Department Bureau of Labor Statistics (2019). Retrieved from https://www.bls.gov/data/

Centers of Disease Control and Prevention (2019a). *Overweight and Obesity*. Retrieved from https://www.cdc.gov/obesity/index.html

Centers of Disease Control and Prevention (2019b). *Oral Health: Children's Oral Health*. Retrieved from https://www.cdc.gov/oralhealth/basics/childrens-oral-health/index.html

Centers of Disease Control and Prevention (2019c). *Violence Prevention: Adverse Childhood Experiences.* Retrieved from https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/index.html

Centers of Disease Control and Prevention (2019d). *Violence Prevention: Bullying*. Retrieved from https://www.cdc.gov/violenceprevention/youthviolence/bullyingresearch/fastfact.html

Center on the Developing Child at Harvard University (2010). *The Foundations of Lifelong Health Are Built in Early Childhood* [Report]. Retrieved from https://developingchild.harvard.edu/wp-content/uploads/2010/05/Foundations-of-Lifelong-Health.pdf

Esri (2019). CHOC Children's Esri Demographics of Orange County and California: 2019 Estimates based on US Census and American Communities Survey 2013-2017 [Computer Software].

Feeding America (2019). *Feeding America Research* [Dataset]. Retrieved on https://public.tableau.com/profile/feeding.america.research#!/

Health Resources and Services Administration (2019). Retrieved from https://www.hrsa.gov/

Healthy People 2020 (2019). Retrieved from https://www.healthypeople.gov/2020/Leading-Health-Indicators

How Housing Matters (2019). Retrieved from https://howhousingmatters.org/

KidsData.Org (2019). Retrieved from https://www.kidsdata.org/region/365/orange-county/summary#6/demographics

Laura Otterbach, Noereem Z. Mena, Geoffrey Greene, Colleen A. Redding, Annie De Groot, & Alison Tovar. (2018). Community-based childhood obesity prevention intervention for parents improves health behaviors and food parenting practices among Hispanic, low-income parents. *BMC Obesity*, *5*(1), 1–10. https://doi.org/10.1186/s40608-018-0188-2

Legislative Analyst's Office (2015). California's High Housing Costs: Causes and Consequences. Retrieved from https://lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.pdf

Mayo Clinic (2019). *Diabetes*. Retrieved from https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444

Mayo Clinic (2019). *Drug addiction (substance use disorder)*. Retrieved from https://www.mayoclinic.org/diseases-conditions/drug-addiction/symptoms-causes/syc-20365112

National Institute on Alcohol Abuse and Alcoholism (2019). Retrieved from https://www.niaaa.nih.gov/research

Office of Statewide Healthcare Planning and Development (OSHPD). Retrieved from https://oshpd.ca.gov/opendata/

Orange County (OC) Healthier Together (2018). OC Oral Health Strategic Plan 2018-2022 [Report]. Retrieved from http://www.ochealthiertogether.org/content/sites/ochca/Local_Reports/OC_Oral_Health_Strategic_Plan_2018-2022_FINAL.pdf

Orange County Children's Partnership (2019). *The 24th Annual Report on the Conditions of Children in Orange County* [Report].

Orange County Department of Education School District. *California Healthy Kids Survey, 2017-18: Main Report.* San Francisco: WestEd Health & Human Development Program for the California Department of Education.

Orange County Health Care Agency (2017). *Drug and Alcohol Morbidity and Mortality in Orange County* [Report]. Retrieved from https://docs.house.gov/meetings/IF/IF02/20171212/106716/HHRG-115-IF02-20171212-SD005.pdf

Orange County Health Care Agency (2018). *Orange County Local Oral Health Program: Oral Health Strategic Plan 2018-2022* [Report]. Retrieved from http://cms.ocgov.com/civicax/filebank/blobdload.aspx?BlobID=81730

Orange County Healthier Together (2019). 2019-20 Orange County Community Indicators Report. Retrieved from https://www.ocbc.org/wp-content/uploads/2019/09/CommIndicators_Report_091219-WEB.pdf

Shots for School (2019). Retrieved from https://www.shotsforschool.org/

The Center on the Developing Child at Harvard University (2017). *3 Principles to Improve Outcomes for Children and Families*. Retrieved from http://www.developingchild.harvard.edu

United States Census Bureau (2019). *American Community Survey* [Datasets]. Retrieved from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2016/

United States Department of Health and Human Resources (2019). *Be Active.* Retrieved from https://www.hhs.gov/fitness/be-active/index.html

Viner, R., Aswathikutty-Gireesh, A., Stiglic, N., Hudson, L., Goddings, A., Ward, J. (2019). Roles of cyberbullying, sleep, and physical activity in mediating the effects of social media use on mental health and wellbeing among young people in England: a secondary analysis of longitudinal data. *The Lancelet Child and Adolescent Health, 3*(10), 865-696. https://doi.org/10.1016/S2352-4642(19)30186-5

APPENDIX B: COMMUNITY INPUT – LIST OF KEY INFORMANTS REPRESENTING AND/OR SERVING LOW-INCOME, MEDICALLY UNDERSERVED, MINORITY POPULATIONS

Name and Title	Organization	Representing/Serving Population: Low-Income, Medically Underserved, Minority
Jennifer Peach-Guzman, Director of Operations	AltaMed Health Services (FQHC)	Serving low-income, medically underserved, and minority populations
School Nurses	Anaheim Elementary School District	Serving low-income, medically underserved, and minority populations
Stanley Galant, MD, Medical Director of CHOC Breathmobile	CHOC Breathmobile	Serving low-income, medically underserved, and minority populations
Tina Shaps-Olson, LCSW, Social Worker Amber Morlan, Program Coordinator	CHOC Children's Health Alliance	Serving low-income, medically underserved, and minority populations
Charles V. Golden, DO, President of CMG and Medical Director of CHOC Primary Care Network	CHOC Children's Medical Group and Primary Care Network	Serving low-income, medically underserved, and minority populations
Family Advisory Committee (FAC)	CHOC Children's	Representing low-income, medically underserved, and minority populations
Daniel Mackey, MD, Pediatrician	CHOC Children's Primary Care	Serving low-income, medically underserved, and minority populations
James Cappon, MD, Vice President and Chief Quality and Patient Safety Officer	CHOC Children's Quality and Risk Management	Serving low-income, medically underserved, and minority populations
Mike De Laby, RN, EMS Administrator	County of Orange - Health Care Agency Emergency Medical Services	Serving low-income, medically underserved, and minority populations
Joshua Yang, Ph.D., Associate Professor	CSU Fullerton, Department of Public Health	Representing low-income, medically underserved, and minority populations
Ilia Rolon, MPH, Vice President of Programs	First 5 Orange County	Serving low-income, medically underserved, and minority populations
Kelly Schultz, RN, District RN	Fountain Valley School District	Serving low-income, medically underserved, and minority populations
Ynette Johnson, RN, School Nurse	Fullerton Joint Union High School District	Serving low-income, medically underserved, and minority populations
Associate Director of Clinical Operations	Health Smiles Smile Clinic	Serving low-income, medically underserved, and minority populations
Health Services Coordinator and School Nurses	Irvine Unified School District	Serving low-income and minority populations

Pamela Pimentel, RN, Chief Executive Officer	MOMS Orange County	Serving low-income, medically underserved, and minority populations
School Nurses	Newport-Mesa Unified School District	Serving low-income, medically underserved, and minority populations
Katherine Williamson, MD, President	Orange County Chapter - American Academy of Pediatrics	Serving low-income, medically underserved, and minority populations
School Nurses	Orange County Department of Education, Special Education Classes	Serving low-income, medically underserved, and minority populations
Public Heath Projects Manager	Orange County Health Care Agency, Public Health Services	Serving low-income, medically underserved, and minority populations
Michelle Murphy, MSW, Director of Public Affairs	Orange County United Way	Serving low-income, medically underserved, and minority populations
School Nurses	Orange Unified School District	Serving low-income, medically underserved, and minority populations

APPENDIX C: COMMUNITY INPUT – KEY INFORMANT SURVEY

2019 Community Health Needs Assessment
Key Informant Questionnaire

CHOC Children's

CHOC Children's is conducting a Community Health Needs Assessment to help us understand our community's most pressing health issues. We thank you for taking the time to complete this survey.

About Your Organization

Your name/title: _____ **Okay to cite your name?** O Yes O No

Organization/department: _____

Describe the target population(s) your organization predominantly serves:

Age range: _____ **Predominant condition(s) addressed:** _____

Insurance *(Check all that apply)*:
- O Governmental
- O Commercial
- O Uninsured

Group(s) *(Check all that apply)*:
- O Low-income
- O Medically underserved
- O Minority
- O Other *(specify)*: _____

Predominant county area(s):

O All of OC	O Dana Point	O La Palma	O Mission Viejo	O Santa Ana
O Aliso Viejo	O Fountain Valley	O Laguna Beach	O Newport Beach	O Seal Beach
O Anaheim	O Fullerton	O Laguna Hills	O Orange	O Stanton
O Brea	O Garden Grove	O Laguna Niguel	O Placentia	O Tustin
O Buena Park	O Huntington Beach	O Laguna Woods	O Rancho Santa Margarita	O Villa Park
O Costa Mesa	O Irvine	O Lake Forest	O San Clemente	O Westminster
O Cypress	O La Habra	O Los Alamitos	O San Juan Capistrano	O Yorba Linda

Your Orange County Community Health Needs

1. **Consider the children (0-17 years old) in the Orange County community you serve. In your opinion, what are the top three (3) critical health needs/concerns for them?**

Please check three (3) from the list below:

- O Bullying and other stressors in school
- O Cancers
- O Child abuse/neglect
- O Dental problems
- O Diabetes
- O Domestic violence
- O Eating disorders
- O Environmental quality (e.g. air pollution, mold, lead)
- O Firearm-related injuries
- O Food insecurities
- O Heart disease and stroke
- O Homicide
- O Immunizations (vaccines) and infectious diseases
- O Infant death
- O Mental or behavioral health
- O Motor vehicle crash injuries
- O Obesity
- O Physical activity
- O Rape/sexual assault
- O Respiratory/lung disease (e.g. asthma, cystic fibrosis)
- O Sexual health (e.g. STDs)
- O Suicide prevention
- O Teenage pregnancy
- O Other *(specify)*: _____

Page 1 of 3

2019 Community Health Needs Assessment
Key Informant Questionnaire

CHOC Children's

2. **Based on your selections to question 1, please briefly explain why you consider these three to be high-priority needs/concerns?**

Issue #1:

Issue #2:

Issue #3:

3. **Based on your experience, what are the barriers to addressing these three critical health issues?**

Please check the top three (3) factors creating barriers for each issue:

Issue #1	Issue #2	Issue #3	Factors creating barriers
O	O	O	Access to and/or cost of child care
O	O	O	Access to pediatric specialist (e.g. Specialist types, scheduling)
O	O	O	Autism Spectrum Disorders (ASD)
O	O	O	Common language
O	O	O	Community-based education (or community learning)
O	O	O	Crime and community violence
O	O	O	Domestic abuse
O	O	O	Environmental quality (e.g. air pollution, mold, lead, water)
O	O	O	Housing
O	O	O	Hunger or access to healthy food
O	O	O	Legal problems
O	O	O	Partnering/collaborating with other agencies
O	O	O	Pediatric dental services
O	O	O	Pediatric mental health services
O	O	O	Pediatric obesity
O	O	O	School programs
O	O	O	Social media or screen time
O	O	O	Special Educational Needs (SEN)
O	O	O	Traffic safety and transportation services
O	O	O	Treatment of alcohol and drug abuse
O	O	O	Other *(specify)* _____

2019 Community Health Needs Assessment
Key Informant Questionnaire

CHOC Children's

4. **Based on your experience, please briefly describe the programs/services/support your organization and other community partners offer to address these needs/issues. Any other efforts in the community would also be of interest.**

Programs, Services, or Support provided by	Issue #1	Issue #2	Issue #3
Your organization / department			
Other organizations in Orange County			
Other efforts in the community			

5. **Over the next three years (2019-2022), what do you think are ways that CHOC Children's and your organization could partner to address these issues?**

CHOC Children's 2019 Community Health Needs Assessment

CHOC Children's is conducting a Community Health Needs Assessment to help us understand our community's most pressing issues. We thank you for taking the time to complete this survey.

* 1. What is your gender?

- ○ Male
- ○ Female
- ○ Other
- ○ Prefer not to specify

* 2. What is your racial or ethnic identity? Check all that apply

- ☐ African American/Black
- ☐ American Indian/Alaska Native
- ☐ Asian
- ☐ Hispanic/Latino
- ☐ Middle Eastern
- ☐ Native Hawaiian/Pacific Islander
- ☐ White/Caucasian
- ☐ Other

* 3. What is your marital status?

- ○ Married/Co-habitating
- ○ Never married/Single
- ○ Widowed
- ○ Divorced
- ○ Separated

* 4. What is your age group?

- ◯ Under 18
- ◯ 18-25
- ◯ 26-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55-64
- ◯ 65+

* 5. In what ZIP code is your home located? (enter 5-digit ZIP code)

* 6. How long have you lived in Orange County?

- ◯ Less than 1 year
- ◯ 1-2 years
- ◯ 3-5 years
- ◯ 6-10 years
- ◯ 11+ years

* 7. How many people (including yourself) currently live in your household?

- ◯ 1-2 people
- ◯ 3-5 people
- ◯ 6-8 people
- ◯ 9+ people

* 8. Including yourself, how many people in your household are

	1 person	2 people	3 or more people
0-17 years old	○	○	○
18-25 years old	○	○	○
26-34 years old	○	○	○
35-65 years old	○	○	○
66 years and older	○	○	○

* 9. What is your total household income?

- ○ Less than $29,000
- ○ $30,000 to $49,999
- ○ $50,000 to $74,999
- ○ $75,000 to $99,999
- ○ $100,000 to $149,999
- ○ $150,000 or More

* 10. What kind of health insurance do you and/or your children have? Check all that apply

- ☐ Medi-Cal (Medicaid)
- ☐ Medicare
- ☐ Through an employer's health plan
- ☐ Purchased privately
- ☐ My child(ren) have no insurance
- ☐ I have no insurance

* 11. During the past 12 months, where did you usually take your child/children for routine medical care such as check-ups?

- ○ Doctor's office
- ○ An emergency room in a hospital
- ○ An emergency room not in a hospital
- ○ Urgent care clinic
- ○ Retail clinic (i.e. Walgreens, CVS)
- ○ School-based health center
- ○ Virtual doctor visit (telemedicine, telehealth, other online communication)
- ○ My children do not have usual place for medical care
- ○ My children did not need medical care in the last 12 months

* 12. Imagine a vibrant, strong and healthy community. What do you think are the three (3) most important factors for a "Healthy Community"?

(The 3 factors that most improves the quality of life in a community.)

- ☐ Access to health care (e.g. family doctor, dentist)
- ☐ Affordable housing
- ☐ Arts and cultural events
- ☐ Clean environment (e.g. water, air)
- ☐ Emergency preparedness
- ☐ Excellent race/ethnic relations
- ☐ Good jobs and healthy economy
- ☐ Good schools
- ☐ Healthy behaviors and lifestyles
- ☐ Low adult death and disease rates
- ☐ Low crime / safe neighborhoods
- ☐ Low infant deaths
- ☐ Low level of child abuse
- ☐ Parks and recreational activities
- ☐ Religious or spiritual values
- ☐ Strong family life
- ☐ Transportation
- ☐ Other (please specify)

* 13. In your community in Orange County, what do you think are the three (3) most important "health problems" that affect children and young adults?

(The 3 health problems with the greatest impact on overall health of children and young adults.)

- [ ] Bullying and other stressors in school
- [ ] Cancers
- [ ] Child abuse / neglect
- [ ] Dental Problems
- [ ] Diabetes
- [ ] Domestic Violence
- [ ] Drowning
- [ ] Eating disorders
- [ ] Environmental quality (e.g. mold, lead, air pollution)
- [ ] Firearm-related injuries
- [ ] Heart disease and stroke
- [ ] Homicide
- [ ] Immunizations (vaccines) and infectious diseases
- [ ] Infant Death
- [ ] Mental or behavioral health
- [ ] Motor vehicle crash injuries
- [ ] Obesity
- [ ] Physical activity
- [ ] Rape / sexual assault
- [ ] Respiratory / lung disease (e.g. asthma, cystic fibrosis)
- [ ] Sexual health (e.g. STDs)
- [ ] Suicide prevention
- [ ] Teenage pregnancy
- [ ] Other (please specify)

* 14. In your community in Orange County, what do you think are the three (3) most common and serious "risky behaviors" of children and young adults?

(The 3 risky-behaviors with the greatest impact on overall health of children and young adults.)

- [ ] Alcohol abuse
- [ ] Being overweight
- [ ] Dropping out of school
- [ ] Drug abuse
- [ ] Lack of exercise/physical activity
- [ ] Lack of maternity care
- [ ] Not getting "shots" to prevent disease
- [ ] Not going to the doctors and/or dentist
- [ ] Not using birth control
- [ ] Not using seat belts / child safety seats
- [ ] Poor eating habits
- [ ] Racism
- [ ] Terrorist activities
- [ ] Unsafe sex
- [ ] Unsecured firearms
- [ ] Other (please specify)

* 15. How would you rate the overall health of your Orange County community?

- ◯ Very Good
- ◯ Good
- ◯ Fair
- ◯ Poor
- ◯ Very Poor

* 16. In general, how would you rate your own personal health?

- ◯ Very Good
- ◯ Good
- ◯ Fair
- ◯ Poor
- ◯ Very Poor

* 17. In general, how would you rate your children's health?

- ◯ Very Good
- ◯ Good
- ◯ Fair
- ◯ Poor
- ◯ Very Poor

* 18. Think about other critical needs or concerns affecting children's health in your community in Orange County.

Please rank each concern on a scale of "Not at all critical" to "Very critical."

	Not at all critical	Not really critical	Neutral	Somewhat Critical	Very Critical
Access to healthcare	○	○	○	○	○
Access to Pediatric Specialist (i.e. Specialist types, scheduling)	○	○	○	○	○
Autism Spectrum Disorders	○	○	○	○	○
Community-based Education (or community learning)	○	○	○	○	○
Cost of raising a child	○	○	○	○	○
Crime and community violence	○	○	○	○	○
Domestic abuse	○	○	○	○	○
Environmental quality (i.e. air pollution, mold, lead, water)	○	○	○	○	○
Housing	○	○	○	○	○
Hunger or access to healthy food	○	○	○	○	○
Language barriers	○	○	○	○	○
Legal problems	○	○	○	○	○
Pediatric Dental Services	○	○	○	○	○
Pediatric Mental Health services	○	○	○	○	○
Pediatric Obesity	○	○	○	○	○
School programs	○	○	○	○	○
Social Media or screen time	○	○	○	○	○
Special Educational Needs (SEN)	○	○	○	○	○
Traffic safety and transportation services	○	○	○	○	○
Treatment of alcohol and drug abuse	○	○	○	○	○

19. If you have any other feedback or comments about your Orange County community health needs or concerns, please leave a comment below:

Done

APPENDIX E: RESOURCES TO ADDRESS NEEDS

The list of community assets aims to capture community efforts, programs, organizations and other facilities in the community that was mentioned by key informants and community members. The list is not comprehensive as it does not outline all of Orange County's community assets. It does, however, provide opportunities to enhance collaboration as well as further identification of how communities can optimize use of community assets to improve quality of community life.

Mental health

"Speak Up We Care" in Irvine Unified School District
Be Well OC
CalOptima Behavioral Health
Care Solace
Child Guidance Center
CHOC Children's Thompson Autism Center
Crisis Assessment Team (CAT)
Crisis Text Line ("Home" to 741741)
Didi Hirsch Suicide Crisis Hotline
Family Resource Centers
MOMS of Orange County
National Alliance on Mental Illness (NAMI)
National Suicide Prevention Lifeline
Orange County Crisis Assessment Team
Orange County Health Care Agency (OCHCA)
Orange County Mental Health Plan Access
Outreach Concern
Regional Center of Orange County
Saddleback Church
Saddleback College Student Health Center
System of Care Taskforce for Mental Health
Western Youth

Obesity

Boys & Girls Club
CalFresh Program
Center for Healthy Living
El Camino Health Center
Orange County Health Care Agency
Regional Center of Orange County
School Districts
Team KiPOW (CHOC/UCI school-based education)
Weight Watchers

Diabetes

Diabetes Collaborative – OC Healthier Together
Family Resource Centers
Orange County Health Care Agency
PADRE Foundation

Food Insecurity and Nutrition

"No Kid Hungry" Program
2-1-1 OC
CalFresh Program
Meals on Wheels
Waste Not OC Coalition
Weight Watchers

Respiratory Illness

American Lung Association
CHOC Children's Breathmobile Program
Orange County Health Care Agency

Substance Abuse

ACT Home Visiting Substance Use (OCHA)
Chapman House
Mariposa
Matrix Institute on Addictions
MOMS of Orange County
Phoenix House Santa Ana
Teen Challenge
Twin Town Treatment Center
SaferxOC

Immunization

Central City Community Health Center (FQHCs)
Immunization Assistance Program: OC Health Care Agency

Bullying and other stressors in school

"Speak Up We Care" in Irvine Unified School District
BRIDGES Program
Family Resource Centers
Orange County Sheriff's Department of California
StopBullying.Gov

Child Safety

2-1-1 OC
ACES/Resilience
Be Well OC
Children's Bureau
City Police Departments
Family Resource Centers
MOMS of Orange County
Orange County Child Passenger Safety Task Force
Orange County Child Protective Services
Safe Kids Orange County (CA)
The Child Abuse Prevention Center
The Raise Foundation

Oral Health

Boys & Girls Club
Friends of Family Health Center
Healthy Kids of Orange County
Healthy Smiles for Kids (HSK)
Orange County Health Care Agency
Orange County Oral Health Collaborative
Regional Center of Orange County
Share Our Selves Community Health Center
UCI Dental Truck

Access to health care

2-1-1 OC
AltaMed
Black Infant Health Program
Boys & Girls Club
CalOptima
Central City Community Health Center (FQHCs)
CHOC Health Alliance
CHOC Patient Care Coordinators and Social Workers
Family Assistance Ministries
Family Resource Center
Orange County Health Care Agency
Orange County Health Improvement Partnership
Orange County Links
Planned Parenthood

Poverty

Assistance League of Anaheim
Central City Community Health Center (FQHCs)

Crime

2-1-1 OC
City Police Departments
Orange County Re-Entry Partnership

Housing

2-1-1 OC
Assistance League of Anaheim
Families Forward
Illumination Foundation
Jamboree Housing
Returning Home Foundation

APPENDIX F: IRS CHECKLIST

Section §1.501(r)(3) of the Internal Revenue Service code describes the requirements of the CHNA.

FEDERAL REQUIREMENTS §1.501(r)-3 CHECKLIST

FEDERAL REQUIREMENTS §1.501(r)-3	REGULATION SECTION	REPORT REFERENCE
A Activities Since Previous CHNA(s)		
Describes the written comments received on hospital's most recently conducted CHNA and most recently adopted implementation strategy	(b)(5)(C)	Section 2
Describes an evaluation of the impact of any actions that were taken, since the hospital facility finished conducting its immediately preceding CHNA, to address the significant health needs identified in the hospital facility's prior CHNA(s).	(b)(6)(F)	Section 1 & 2
B Process & Methods		
Background Information		
Identifies any parties with whom the facility collaborated in preparing the CHNA(s).	(b)(6)(F)(ii)	Section 1
Identifies any third parties contracted to assist in conducting a CHNA.	(b)(6)(F)(ii)	Section 1
Defines the community it serves, which:		Section 2
• Must consider all patients without regard to whether (or how much) they or their insurers pay for care or whether they are eligible for assistance.	(b)(i)	Section 1, 2, 6
• May take into account all relevant circumstances including the geographic area served by the hospital, target population(s), and principal functions.	(b)(3)	Section 1 & 2
• May not exclude medically underserved, low-income, or minority populations who live in the geographic areas from which the hospital draws its patients.	(b)(6)(i)(A)	Section 1 & 2
Describes how the community was determined	(b)(6)(i)(A)	Section 2
Describes demographics, how community was determined, and other descriptors of the hospital service area.	(b)(6)(i)(A)	Section 2-6
Health Needs Data Collection		
Describes data and other information used in the assessment:	(b)(6)(ii)	Section 2-6 Appendix A
• Cites external source material (rather than describe the method of collecting the data)	(b)(6)(F)(ii)	Appendix A
• Describes methods of collecting and analyzing the data and information	(b)(6)(ii)	Section 2, 7, 8
CHNA describes how it took into account input from persons who represent the broad interests of the community it serves in order to identify and prioritize health needs and identify resources potentially available to address those health needs.	(b)(1)(iii) (b)(5)(i) (b)(6)(F)(iii)	Section 2, 7, 8 Appendix E
Describes the medically underserved, low-income, or minority populations being represented by organizations or individuals that provide input.	(b)(6)(F)(iii)	Section 2, 7, 8 Appendix B
• At least one state, local, tribal, or regional governmental public health department (or equivalent department or agency) or a State Office of Rural Health	(b)(5)(i)(A)	Section 8 Appendix B
• Members of the following populations, or individuals serving or representing the interests of populations listed below. (Report includes the names of any organizations - names or other identifiers not required.)	(b)(5)(i)(B)	Section 2, 7, 8 Appendix B

○ Medically underserved populations	(b)(5)(i)(B)	Section 2, 7, 8 Appendix B
○ Low-income populations	(b)(5)(i)(B)	Section 2, 7, 8 Appendix B
○ Minority populations	(b)(5)(i)(B)	Section 2, 7, 8 Appendix B
Additional sources (optional) – (e.g. healthcare consumers, advocates, nonprofit and community-based organizations, elected officials, school districts, healthcare providers and community health centers).	(b)(5)(ii)	Section 8 Appendix B
Describes how such input was provided (e.g., through focus groups, interviews or surveys).	(b)(6)(F)(iii)	Section 1, 2, 7, 8 Appendix B
Describes over what time period such input was provided and between what approximate dates.	(b)(6)(F)(iii)	Section 1, 2, 7, 8
Summarizes the nature and extent of the organizations' input.	(b)(6)(F)(iii)	Section 1, 2, 7, 8
C CHNA Needs Description & Prioritization		
Health needs of a community include requisites for the improvement or maintenance of health status both in the community at large and in particular parts of the community (such as particular neighborhoods or populations experiencing health disparities).	(b)(4)	Section 3, 4, 5
Prioritized description of significant health needs identified.	(b)(6)(i)(D)	Section 1, 7, 8
Description of process and criteria used to identify certain health needs as significant and prioritizing those significant health needs.	(b)(6)(i)(D)	Section 1 & 2
Description of the resources potentially available to address the significant health needs (such as organizations, facilities, and programs in the community, including those of the hospital facility.	(b)(4) (b)(6)(E)	Section 1, 6, 8 Appendix E
D Finalizing the CHNA		
CHNA is conducted in such taxable year or in either of the two taxable years immediately preceding such taxable year	(a)(1)	Section 1
CHNA is a written report that is adopted for the hospital facility by an authorized body of the hospital facility (authorized body defined in §1.501(r)-1(b)(4)).	(b)(iv)	Section 1
Final, complete, and current CHNA report has been made widely available to the public until the subsequent two CHNAs are made widely available to the public. "Widely available on a web site" is defined in §1.501(r)-1(b)(29).	(b)(7)(i)(A)	Date of posting
• May Not be a copy marked "draft"	(b)(7)(ii)	
• Posted conspicuously on website (either the hospital facility's website or a conspicuously located link to a web site established by another entity).	(b)(7)(i)(A)	
• Instructions for accessing CHNA report are clear.	(b)(7)(i)(A)	
• Individuals with Internet access can access and print reports without special software, without payment of a fee, and without creating an account.	(b)(7)(i)(A)	
• Individuals requesting a copy of the report(s) are provided the URL.	(b)(7)(i)(A)	
• Makes a paper copy available for public inspection upon request and without charge at the hospital facility.	(b)(7)(i)(B)	