IDENTIFYING PRIORITY HEALTH NEEDS

LAKE COUNTY

COMMUNITY HEALTH NEEDS ASSESSMENT

Prepared for the Lake County Collaborative of Health and Community-Based Organizations

Researched and Written by
BARBARA AVED ASSOCIATES

June 2016

Background

St. Helena Hospital Clear Lake

Collaborating to achieve whole-person health in our communities

St. Helena Hospital Clear Lake invites you to partner with us to help improve the health and wellbeing of our community. Whole-person health—opitimal wellbeing in mind, body and spirit—reflects our heritage and guides our future. St. Helena Hospital Clear Lake is part of Adventist Health, a faith-based, nonprofit health system serving more than 75 communities in California, Hawaii, Oregon and Washington. Community has always been at the center of Adventist Health's mission—to share God's love by providing physical, mental and spiritual healing.

The Community Health Needs Assessment is one way we put our faith-based mission into action. Every three years, we conduct this assessment with our community. The process involves input and representation from all: community organizations, providers, educators, businesses, parents, and the often marginalized—low-income, minority, elderly and other underserved populations.

We use the Community Health Needs Assessment to achieve these goals:

- Learn about the community's most pressing health needs
- Understand the health behaviors, risk factors and social determinants that impact our community's health
- Identify community resources and prioritize needs
- Collaborate with community partners to address identified community needs.

Partnering with our communities for better health

While conducting the Community Health Needs Assessment (CHNA) we solicited feedback and input from a broad range of stakeholders. Contributors to the process included these partners:

- Barbara Aved Associates
- Sutter Lakeside Hospital
- Lake County Public Health Department
- Lake County behavioral Health
- Partnership Health Plan of California
- Tribal Health
- Lake Family Resource Center

Data Sources

The assessement process drew from two primary data sources:the most recently-available demographic, socioeconomic and health indicator data commonly examined in community health needs assessments; and data from a community engagement process that facilitated participation by a broad representation of local professionals, Lake County residents and other stakeholders. In addition, to validate data and ensure a broad representation of the community, St.Helena Hospital Clear Lake partnered with Barbara Aved Associates to conduct a widely distributed community health survey, key informant interviews and focus groups. The community input solicited opinions about health concerns and suggestions for improvement, and validated and enriched the statistical data.

Prioritization Process

COLLABORATIVE PROCESS

To engage community partners and maximize the efforts of this community health assessment, invitations were issued to individuals, organizations, and Tribal representatives to serve as the project's Advisory Committee (a list of members is included in Attachment 1). In addition to providing overall guidance and helpful insights, the members supported the community engagement strategies, helped to increase awareness and mobilize the community, and facilitated participation in community input activities.

DATA COLLECTION

Community needs assessments involve gathering, analyzing and applying data and other information for strategic purposes. These methods provide the necessary input to inform decision makers and funders about the challenges they face in improving community health, and the priority areas where support is most needed. The information is also useful for community organizations by having comprehensive, local data located in one document. Both quantitative and qualitative methods—described below —were used to collect the information for this assessment.

SECONDARY DATA: PUBLICLY-AVAILABLE STATISTICS

Existing data was collected from all applicable existing data sources including government agencies (e.g., California Department of Health Care Services, California Department of Finance, Office of Statewide Health Planning and Development, California Health Information Survey and other public and private institutions). These data included demographic, economic and health status indicators, and service capacity/ availability. Trend data, when readily available, was also included in this report. While data at the national and state level are generally available for community health-related indicators, local data—from counties and cities—are less accessible and sometimes less reliable. For example, small sample sizes can result in statistical "instability," and well-meaning data collection methods without appropriate "rigor" may limit the value of the findings. Because data from publicly-available sources typically lag by at least 2 years—because it takes time for reported data to be received, reviewed, approved, analyzed, and prepared for presentation—data may not always be as current as needed. Also, some data may only be reported as 3-year averages, not annually.

DOCUMENT REVIEW

A document review was undertaken that collected relevant information about the community, health status, where health services are obtained, other related services, and gaps in services. This information was found in documents and records of facilities from local clinics and state government, reports from needs assessments conducted related to health, and reports about specific health programs or services.

PRIMARY DATA: COMMUNITY INPUT

Input from the broad community was considered and taken into account when identifying and prioritizing the significant health needs of Lake County that are addressed in this assessment. This rich source of data was obtained through key informant interviews, focus groups and a community health survey.

Community Survey

A survey was developed in English and Spanish that solicited people's opinions about most-important health needs, barriers to access, and suggestions for community health improvements (Attachment 5). Certain questions that serve as markers for access to services were also included. The survey was distributed in hard copy by members of the CHNA Steering Committee to locations where the groups of interest would best be reached, such as at branches of public libraries, laundromats, churches, nail salons, and family resource centers throughout the county, as well as promoted through efforts such as at the 2-day Valley Fire "Rebuild Expo" in Middletown and over the air on KPFZ's "Senior Moments" show. The survey was also available by online (English only) and notices about the electronic version were posted on the County's and various organizations' websites and in newsletters. All of the electronic and hard-copy survey data were cleaned, coded, and entered into an Excel spreadsheet and analyzed using SPSS Version 20.0.

Community Focus Groups

Three communities—Clearlake, Lakeport and Kelseyville—ensured geographic representation at the 6 community focus groups that were conducted. Key community-based organizations and social clubs were identified by the Collaborative and invited to host a focus group. In each case, the focus groups were co-scheduled during a time the participants were already meeting there for other purposes (e.g., young mothers attending a Mother-Wise parenting meeting) to facilitate access and promote attendance. Although the participants constituted a convenience sample, there was the expectation that in the aggregate the groups would be diverse and include the populations of highest interest.

A common set of structured key questions was used for all groups (Attachment 2). The questions were generally open-ended; prompting with information or data was limited to reduce the potential for bias or leading of participants to any conclusions. Participants were not asked to "vote" or otherwise rank the items they identified as needs, problems or solutions. The focus group data were recorded on a flip chart or notebook by the facilitator during the meetings then transferred to written summary formats where the notes were then coded for analysis. A $20 Safeway gift card was offered in most groups in appreciation for participation. The agencies and organizations that sponsored the community meetings helped to publicize the sessions and promote attendance.

Key Informant Interviews

Telephone interviews using a structured set of questions (with additional, personalized questions to obtain more in-depth information) were conducted with 12 of the 16 invited individuals who agreed to participate in a key informant interview (Attachment 3). The interviews provided an informed perspective from those who work directly with the public and/or determine some of the policies that affect the community's health. These individuals were able to offer information about local resources and gaps in services, high-priority health needs, and suggestions for positive change. The interviews also focused the needs assessment on particular issues of concern where individuals with expertise could confirm or dispute patterns in the data and identify data and other studies the Collaborative might not otherwise be aware.

LIMITATIONS OF THE PUBLISHED DATA

There are several ways to present data just as there are multiple ways to identify health needs: by age group; by issue or problem; by ethnic group; by systems (hospitals, clinics). This assessment examined the published community health indicator data commonly collected in community needs assessments (referred to as "secondary data"), added to it, and highlighted populations and issues of interest where the data already existed. Where data were available by more than one variable (for instance, age and racial/ethnic group) they are generally presented. Having baseline data from the prior assessment allowed us to add certain trend data in the current report.

Using secondary data requires collecting information from many sources. Data availability varies among different data sources; new data are continually being released. Any report of this type will soon have data that are not the most up-to-date. (For example, data from CHIS, the California Health Information Survey, which is a rich data source for community health needs assessments, is generally not released until about 2 years after it is collected). Also, reporting periods can vary by calendar year, frequency and fiscal year; consistency varies, especially over time and among agencies and organizations; and data are not always collected in the format that is best suited to the purposes of the report.

This assessment relied on data that could be collected and analyzed to determine if and to what degree a problem or need existed. In some cases, data did not exist that directly applied to a certain need or condition; in other cases, no indicators were readily available to describe a potential need. The community input process (referred to as "primary data") provided some opportunity to identify such needs and ensured that they were considered in the priority-setting process. The availability (or lack) of services can substantially influence reporting. Some data was not collected, such as the availability of services from private medical groups, and therefore could not be counted in the capacity assessment.

In some cases, statistics and information that others compiled have been included in this report. However, it was not always possible to authenticate all of that data. In some cases, expert opinion was included in the analysis regarding the state or condition of a certain issue. And, while recommendations to address unmet needs were identified by participants in the community input process, there was no attempt by the Collaborative to evaluate these suggestions for appropriateness or endorse them relative to best practices and evidence-based effectiveness.

Finally, no one data set in this report really tells the whole story about Lake County's unmet or under-met health needs; all of the data collected by this process—the statistics, feedback from the community questionnaire, focus group input and key informants' perspectives—*collectively* paint the picture. It is therefore suggested that readers consider the entirety of the findings when drawing conclusions or making policy changes and funding decisions.

Presentation of the Data in This Report

The goal in producing this report is to present information in a format that is easily understood and helpful for multiple audiences. While some research reports present the results of data analysis in statistical tables showing confidence intervals (C.I.), this report does not include that information for simplicity sake. Readers are encouraged to go back to the original source for what might appear to be a "dramatic" statistic should they wish to check the C.I.s. Various other reports and assessments of Lake County may contain similar data because this data is publicly available and may be used by other groups for similar purposes.

Caveats on the Data Analysis

Interpretation of health data, both now and in future assessments, needs to consider that Lake County is more than ever a dynamic environment in ways that may impact community health. Interpretation of data should also consider a variety of factors that may account for findings. For instance, increased rates of Hepatitis C, diabetes, cancer and other conditions may reflect an increase in access to health care services and new screening recommendations resulting in the diagnosis of previously undetected conditions. *Death rates* from a disease may be indicative of limited access to advanced treatment options rather than of risk factors that caused the disease in the first place. Or, patients may choose to move to Lake County for end-of-life treatment following receipt of a serious diagnosis elsewhere. *Incidence rates* of disease (a new diagnosis of the condition) signal the presence of risk factors underlying the disease, but would reflect influences of Lake County's health environment only in long-term residents. And, importantly, while it does not directly relate to health, the impact of the 2015 Valley Fire suggests how some of the county's demographics may change over the next few years.

Population shifts in and out of the county will influence and potentially skew data, particularly when absolute numbers are small. Readers of this assessment should be cautious and consider changes in local demographics and in the healthcare delivery system as well as other factors that may influence data as it is reported. This will be particularly important in the coming years as the community recovers from the devastating 2015 wildfires.

Top priorities identified in partnership with our communities

St. Helena Hospital Clear Lake Top Priority Health Needs For 2016-2019

Prioritized Need	Health Indicator
Mental Health	While risk and protective factors vary, individuals, families and communities are impacted by mental disorders in endless ways—health status, income, family stability, suicide risk, to name the more important ones. People have different ways of coping with mental and emotional distress—some healthy (exercise, worship), some not (drug use)—and different extents of support systems. Social and economic determinants of mental health demand public health and population-based strategies to prevent and manage common mental disorders in the community. Suggested strategies for Lake County could include: ➢ Primary prevention such as teaching emotion-regulation skills to teens (which could be expanded through School Hubs). Primary prevention examples in the context of physical health include maintaining a healthy diet and exercise regimen (where various community food harvests, pantries, farm-to-school and other nutrition projects can help) and avoiding smoking (tobacco cessation efforts). ➢ Early intervention counseling (such as post-traumatic stress associated with the wildfires) to foster coping skills and minimize the mental health impact, as well as one-to-

	one counseling and support group services that are open in the evenings and reach out to vulnerable populations such as seniors living alone, single parents and the LGBT community.. ➢ Substance use/addiction services (tobacco cessation, residential drug treatment, AA groups) to reduce the long-term negative consequences for mood and emotional health. ➢ Promoting volunteerism (transporting seniors, literacy programs for young children, fishing excursions for disadvantaged youth) as being useful to others and being valued for what a person can do can help build self-esteem. ➢ Home visits to those who are chronically ill or socially isolated. ➢ Caregiver respite to maintain the health and well-being of family care providers. ➢ Public education through social media and other means to continue to reduce stigma.
Substance Use Disorders	Experts indicate that an optimal mix of prevention interventions, as well as treatment resources, are required to address substance use issues in communities, because they are among the most difficult social problems to prevent or reduce. Suggested strategies for Lake County could include: ➢ Primary prevention approach examples include creating environments that make it easier to act in healthy ways (after-school programs that appeal to all kinds of youth where transportation is provided, free community concerts in the park), social marketing with appropriately tailored key messages, and school-based programs that aim to prevent alcohol, tobacco, and marijuana use and violence by targeting the major social and psychological factors that promote the initiation of substance use and other risky behaviors and build resiliency. ➢ Alternatives to substance abuse that are attractive, fun and affordable such as crafting, healthy food community cooking contests and ethnic food fairs, and bike and swimming races that are benefical to improving emotional well being.

	➢ Continuation and expansion of the Opioid Coalition (Safe Rx Lake County). ➢ Public policies that result in fewer places for young people to purchase alcohol and stricter community monitoring and enforcement (such as neighborhood watch programs that partner with law enforcement). ➢ Supportive interventions to address disparities in smoking rates, such as for those with poor mental health and adolescents, and reducing tobacco exposure to secondhand smoke where community members live, work, and play. ➢ Affordable and accessible gym memberships and other physical activity opportunities such as safe senior walking and hiking opportunities. Physical activities that help decrease pain can help reduce opioid use/misuse, for instance.
Access to Programs and Services	This priority area addresses a range of access concerns from inadequacies in infrastructure to lack of community awareness. It was clear from the community input to the CHNA that so many people in Lake County were unaware of the many health, educational, and social services and programs that are already available (though not always affordable or convenient). Suggested strategies for Lake County could include: ➢ Information distributed through up-to-date, user-friendly resource guides (English/Spanish), social media, flyers and other print media (at supermarkets, senior centers, hair salons, schools, places of worship) to inform residents at all income levels of services and programs. ➢ Transportation assistance (shuttle services, vehicle rides, bus passes, taxi vouchers), including wheelchair-accessible transportation, to in-county as well as out-of-county locations for dental and medical services as well as to social services and programs. ➢ Expansion of workforce capacity through recruitment and retention of medical, dental, and therapist/counselor professionals to address specialty and geographic gaps, providing incentives to attract candidates whose attitudes and practice styles align with the culture of Lake County. ➢ Community awareness that informs residents about the availability of various types of health insurance coverage

	(and other available programs), and enrollment of eligible individuals using health system navigators. ➢ Community cooking demonstrations and healthy recipes that promote and maintain a healthy diet tailored to low-income individuals and families, seniors living alone, people with chronic health conditions and others. ➢ Policy and system improvements such as integration of primary health care with behavioral health, oral health, social services, specialty care, and public health. ➢ Meaningful community leader input and engagement and closer alignment of goals between Public Health and Behavioral Health, the hospitals and sectors outside of these organizations such as transportation, business and education.
Housing and Homelessness	The vast majority of homeless individuals and families fall into homelessness after a housing or personal crisis. These households may require only short-term assistance to find permanent housing quickly and without conditions. Others fall into homelessness after release from institutions, including jail and the foster care system. Still others come to homelessness from mental health programs and other medical care facilities. Early intervention to prevent homelessness is a critical component in treating mental illness before it can cause serious results like unemployment and chronic homelessness. Suggested strategies for Lake County could include: ➢ Year-round sheltering that includes families with children. ➢ Social programs that connect vulnerable populations with emergency services, temporary cash assistance, and case management, many of which already exist in Lake County. By and large, homeless individuals can access mainstream programs, including Temporary Assistance to Needy Families (TANF), Supplemental Security Income (SSI), Medi-Cal and other existing federal assistance programs. ➢ Financial and other support or assistance to achieve housing stability and individual well-being. This can also minimize the length of stay in shelters and reduce repeat homeless episodes. ➢ Housing locator services that include incentives to landlords to rent to homeless households, creative uses of housing vouchers and subsidies to help homeless individuals and families afford their rental unit, and links to resources to help clients maintain their housing.

- Low-demand housing that does not mandate sobriety or treatment. It is well recognized that many people living on the streets exhibit mental illness, substance addiction, and other negative behavior patterns.

Making a difference: Results from our 2013 CHNA

Adventist Health wants to ensure that our efforts are making the necessary changes in the communities we serve. In 2013 we conducted a CHNA and the identified needs were:

Lake County Health Partners' Response to the Prior CHNA Priorities

Collaborative relationships/ coordination of services

The 2013 CHNA became the common impetus for strategic action and collective impact in Lake County. Many collaborative initiatives were instituted since that time and remain ongoing, including:

- ✓ A broad, cross sector strategic planning process facilitated through the Health Leadership Network that resulted in development of a Wellness Roadmap designed to work across current collaborative efforts to increase collective impact in making an upward shift in the county's poor health ranking. St. Helena Hospital Clear Lake provides the fiscal sponsorship and administrative oversight for this initiative.

- ✓ Hope Rising is built upon the foundation of the Wellness Roadmap. This "movement" (a result of Lake County being named 1 of 5 Way to Wellville communities in the U.S.) is widely embraced as the vehicle for establishing common goals, implementing specific actions, and advocating for change leading to improvement. St. Helena Hospital Clear Lake is the backbone agency for this work, providing facilitation leadership and resources for the collective impact effort.

- ✓ Healthy Clearlake Collaborative, a constant place of sharing ideas for leveraging services and ensuring systems are in place to sustain them, includes a broad group of leaders including Board of Supervisors, physicians, schools, city and county leaders. St. Helena Hospital Clear Lake is the convener for this collaborative effort.

    - The Hero Project—helping parents support their children to strengthen families—has impacted 56% of Lake County's children, with 1,748 people and organizations now involved.

    - The Hub—a Community Schools partnership between educators, community partners and service providers; coordinators in Upper and Lower Lake provide coordinate one-stop-shop educational, health and social services support for children and families.

Healthy choices/healthy behaviors

- ✓ The Community Wellness Projects served approximately 1,800 people last year. It raised community awareness of health benefits of eating well by promoting farmers markets, hosting cooking and nutrition classes, coordinating with schools to get more local produce into student meals, offering farmers market vouchers for volunteer time in community gardens, stocking low-cost grains and legumes through a bulk grain storage and distribution project, and increasing food stamp purchase options at farmers markets. One full-time position at North Coast Opportunities was added to build a network of community and school gardens.

- ✓ The Clearlake Food Pantry increased provision of food to low-income residents during weekly food distributions.

- ✓ The Food Hub, coordinated with Public Health, operated its on-line market place and delivery service that enabled Lake and Mendocino County schools, grocery stores, restaurants, and retail establishments a way to order fresh produce and other locally-produced products direct from Lake and Mendocino farmers and producers.

- ✓ Partnership in Community Health, to support Hope Rising's goals, began a pilot project of healthy cooking classes at Tribal Health using a "menus of change" curriculum, and implemented Wellness RX prescriptions for healthy behaviors at the Clearlake Family Heath Center/St. Helena Hospital Clear Lake.

- ✓ The Lake County Hunger Task Force provided food banks and emergency food pantries focused on fresh produce throughout the county and provided children in high-need school districts with backpacks filled with fresh produce for the weekend.

- ✓ Lake County Family Resource Center *Be Fresh* raised public awareness of healthier eating choices. When the program does demonstrations at the Grocery Outlet in Lakeport, evidence shows the sale of fresh produce goes up $300 per day.

- ✓ Public Health focused on nutrition education of school children and coordinates with a Farm-to-School program, delivers core nutrition messages, and helps families make healthy choices within a limited budget and trained 220 teachers to teach food literacy nutrition education to reach approximately 4,000 Pre-K-8th students each month reinforced with Harvest of the Month local food taste testing; and installed water filling stations in schools; 2 currently installed at Cobb Elementary and Middletown Middle/High School.

- ✓ St. Helena Hospital Clear Lake is the fiscal sponsor for Climb to the Peak of Health, a collaborative effort of over 20 non-profits aimed at improving health outcomes. Highlights from 2014: enrolling over 2000 people in an online challenge to increase physical activity for 14 weeks, hosting a Field Day Fitness Expo attended by over 200 community members; mailers to over 15,000 raising awareness about smoking cessation resources and resources for parents to reduce stress at home; and the implementation of a screening protocol to identify children with high Adverse Childhood Event scores and connect them with treatment.

Mental health and well being

- St. Helena Hospital Clear Lake, in identifying mental health as critical need area:

  - ✓ Created a new social work position through an initiative with Partnership Health, a huge asset to its medical team. This MSW also serves as a warm hand-off between primary care and the client as well as linking clients up to needed social services.

  - ✓ Added additional full-time positions for a psychologist, MSWs and LCSWs at Live Well, a program of treatment and support to enable clients to increase mobility, manage pain and improve quality of life.

  - ✓ Added tele-psychiatry to expand services

Prevention and treatment of substance abuse

- Both hospitals, Public Health and others have collaborated to address the opiate crisis and manage pain safely—creating Safe Rx Lake County. Trends since 2013: 90% decline in initial prescription rates; 53% decline in prescription rates; 70% decline in users on escalating dose of opioids. St. Helena Hospital Clear Lake is the fiscal sponsor and facilitator of this coalition and responsible for administrative oversight.

- St. Helena Hospital Clear Lake offers an integrated approach through the Live Well program with specialty services that include psychiatrist and addictionologist, nutritionist, personal exercise trainer, chiropractic, quality of life groups and behavioral health services.

- Tobacco Control is actively engaged in reduction of tobacco and e-cigarette use, especially among children. The impacts of these efforts on health statistics are likely to be long-term and may not be evident for at least several years and possibly longer.

- Recent legislation has enabled the commercialization of medical marijuana cultivation and distribution. This may impact both the availability of marijuana in the community and how consumers incorporate medical marijuana into their personal healthcare regimens. This process will unfold over several years and its impact evaluated.

Health access

- In late 2013, Partnership HealthPlan of California took over the majority of Medi-Cal services provided in Lake County. This change enrolled more eligible clients, identified primary care providers for enrollees and instituted managed care that included strict controls on the prescribing of controlled substances. It expanded access to outpatient behavioral health and substance abuse services and provided coverage for an expanded range of benefits including chiropractic services for chronic pain patients.

- St. Helena Hospital Clear Lake is working toward hiring 8 specialists this year who in addition to providing direct services, including in its Family Health Center, will be engaged in all of the Hospital's wellness initiatives. It also began operating a designated bus service to help patients get to appointments.

- Public Health established MOUs with Partnership HealthPlan on areas such as communicable diseases, Child Health & Disability Prevention Program and immunizations, strengthening access throughout the county.

- Lake Transit/Area Planning Council:

  - ✓ Obtained federal funding to establish a Mobility Management and Trip Brokerage program to coordinate and provide non-emergency medical transport (NEMT) services to vulnerable populations in Lake County.

  - ✓ Designated a Mobility Programs Coordinator to develop and implement a NEMT system.

Table of Contents

EXECUTIVE SUMMARY

"People in poor health don't have a lot of money and they move to Lake County because it's more affordable." – Focus Group Attendee

"We're not unique [in Lake County]. The surrounding counties deal with the same needs and the same lack of resources." –Key Informant Interviewee

Introduction

A Community Health Needs Assessment builds the foundation for all community health planning, and provides appropriate information on which policymakers, provider groups, and community advocates can base improvement efforts; it can also inform funders about directing grant dollars and other community investments most appropriately.

This Community Health Needs Assessment (CHNA) is a follow-up to the assessments completed for Lake County in 2010 and 2013. A Collaborative that included the two Lake County hospitals, St. Helena Clear Lake and Sutter Lakeside, joined by Public Health and other local organizations, retained Barbara Aved Associates (BAA) again to examine relevant community health indicators, identify the highest unmet needs and prioritize areas to improve community health. The assessment meets the provisions in the Patient Protection and Affordable Care Act (ACA) for CHNAs and guides the hospitals in updating their Community Benefits Plans to meet SB 697 requirements.

Two primary data sources were used in the process: the most recently-available demographic, socioeconomic and health indicator data commonly examined in community health needs assessments; and, data from a community engagement process that facilitated participation by a broad representation of local professionals, Lake County residents and other stakeholders. The community input—using a widely distributed survey, focus groups and key informant interviews—solicited opinions about health concerns and suggestions for improvement, and validated and enriched the statistical data.

The *2016 Lake County Community Health Needs Assessment* presents the community with an overview of the state of health-related needs and trends from which to continue to gauge progress. It also provides documentation for decision-making to direct support towards the highest-priority health needs in the community. While some improvements have occurred and are described, the big problems are still the big problems. The burden of mental distress and mental illness, for example, continues to be a top concern. For some Lake County residents the dial has turned in a positive direction for a handful of community health indicators; for others it has gone slightly backwards despite improvement efforts.

Highlights of Key Findings

Strategies Implemented Since the 2013 CHNA

- Hope Rising built upon the foundation of the Wellness Roadmap, developed by the Health Leadership Network. It is widely embraced as the collaborative vehicle for establishing common goals, implementing specific actions, and advocating for change leading to improvement.
- The Hub—a Community Schools partnership between educators, community partners and service providers—provides coordinated one-stop-shop educational, health and social services support for children and families.
- Sutter Lakeside Hospital expanded the capacity of the local food banks by increasing donations to approximately 1,500 families.
- New full-time positions for a psychologist and therapists/counselors at St. Helena Hospital Clear Lake's *Live Well* to enable clients to increase mobility, manage pain and improve quality of life.
- North Coast Opportunities' Community Wellness Projects promoted farmers' markets and school gardens, hosted cooking and nutrition classes, coordinated with schools to get more local produce into student meals, and increased food stamp purchase options at farmers' markets. The project added one full-time position that served approximately 1,800 people.
- Sutter Lakeside and St. Helena Hospital Clear Lake, along with Public Health and others have collaborated to address the opiate crisis and manage pain safely—creating Safe Rx Lake County. Trends since 2013 include 90% decline in initial prescription rates; 53% decline in prescription rates; and 70% decline in users on escalating dose of opioids.
- Based on the recommendations of the 2015 Coordinated Public Transit Human Services Transportation Plan, a Mobility Programs Coordinator has been designated by Lake Transit Authority to develop and implement a non-emergency medical transportation system.

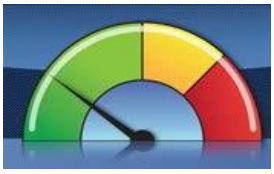
Demographics

- The number of Lake County residents (64,744) has changed little in the last decade, though various trends among age and racial/ethnic groups have implications for delivering health-related services.
- Approximately 30% of all Lake County residents live in the cities of Clearlake and Lakeport while the remainder lives in the balance of the county, which is unincorporated.
- Almost one in five residents is age 65 and above—about twice the proportion of older residents than in California as a whole. Although small in absolute numbers, the proportion of people age 75-84 is projected to double and for people 85 and over to almost triple in the coming decades.
- About half (47.5%) of Lake County residents age 16 and older who work spend less than 20 minutes traveling to work; 37% spend a half-hour or more driving to work. Most commute by driving alone in a car, truck or van. Three-quarters work within the county.

- Of the county's 15,441 Medicare beneficiaries, 1,129 (7.3%) are "electricity-dependent." Severe weather and disasters that cause power outages can be life threatening for individuals who rely upon electricity-dependent medical and assistive equipment.

Socioeconomic Factors

- Poverty rates increased slightly in Lake County from 2013: 23.3% vs. 21.0% prior.
- The Self-Sufficiency Standard in 2014, $59,800, was lower than the California Standard, but 28.6% of the county's households earned even less; nevertheless, 28.6% was a lower proportion than in the prior CHNA at 39.7%.
- Almost twice as many (40.6%) older couples in the Lake/Mendocino region live between the poverty level and the Elder Economic Security Standard Index than statewide (20.7%).
- In March 2016, Lake County's civilian unemployment rate was 7.2% (down from 11.9% in March 2013) compared to 5.6% statewide. The rate ranged within the county from 1.8% in Nice to 14.0% in Lower Lake.
- 46.1% of the population was reported to be "food insecure" in 2014, slightly higher than in the last CHNA; 73% (up from 61%) of students in the county were receiving free-reduced price lunch.
- More people in Lake County, 85.4%, compared to California at 81.3%, have completed high school or higher.
- The 2013-14 dropout rate for students enrolled in grades 9-12 remained the same as it was in the last CHNA, 13.5%.
- In 2014, 86.6% of Lake County children ages 0-17 were covered by some form of health insurance somewhat lower than 94.6% statewide.
- Although only 3% of survey respondents reported delays in healthcare due to transportation, 4 out of 12 key informants identified the need for better transportation opportunities as a top priority, noting the importance not only for access to medical services but also for social and recreational activities important to overall health.



Key Health Factors

Communities commonly measure their health against statewide averages and national objectives such as Healthy People 2020. Community health indicators include demographic and socioeconomic factors, which play out in diverse ways; death and disease rates; conditions related to births; oral health; mental health; safety; substance abuse; and health prevention activities.

Indicators where Lake County compares favorably or unfavorably or similarly to state and national benchmarks are shown in the chart on the following page. *It should be noted that even areas where county levels of health are similar to state and national averages may still warrant more attention.*

How Does Lake County Compare on Common Community Health Status Indicators?

Indicator	Lake County in 2016 Compared to	
	California	National Health Objective (Healthy People 2020)
⇧ = *More favorable* (better than state average/exceeds national benchmark). ⇩ = *Less favorable* (worse than state average/ does not meet national benchmark). ⇔ = *Similar* (same or very similar to the state average/meets or very close to national benchmark).		
Self-Rated Health Status		
Total, % reporting excellent/very good/good	⇔	⇩
Seniors 65+, % reporting excellent/very good/good	⇩	⇩
Morbidity (Disease and Illness)		
AIDS incidence	⇧	⇧
Chlamydia incidence	⇧	N/A
Prevalence of heart disease	⇩	⇩
Prevalence of diabetes	⇩	⇩
Prevalence of adult obesity	⇔	⇩
Asthma	⇔	⇔
Mortality (Death)		
All cancers	⇩	⇩
Lung cancer	⇩	⇩
Colorectal (colon) cancer	⇩	⇩
Female breast cancer	⇔	⇔
Coronary heart disease	⇩	⇩
Diabetes	⇔	N/A
Chronic liver disease and cirrhosis	⇩	⇩
Suicide	⇩	⇩
Drug-induced deaths	⇩	⇩
Maternal Health Factors		
Low infant birth weight	⇔	⇧
Adequate prenatal care	⇩	⇩
Birth to teen mothers	⇩	⇩
Tobacco, Alcohol and Drug-Related		
Adult arrests for drug-related offenses	⇩	N/A
Alcohol-involved motor vehicle accident fatalities	⇩	N/A
Adults who currently smoke	⇩	⇩
Teens ever use of e-cigarettes	⇩	N/A
Perinatal substance use diagnosis at delivery	⇩	N/A
Protective/Preventive Factors		
Children who visited a dentist in the last year	⇩	⇔
Children with complete immunizations	⇔	⇩
Breastfeeding initiation	⇔	⇧
Colorectal screening	⇩	⇩
Seniors with a flu shot in the last year	⇔	⇔
Total		
Note: Measures are for the overall population; differences may exist for age, race/ethnic and other groups. Small sample sizes make some indicators statistically unreliable.	⇧=2 ⇩=19 ⇔=9	⇧=3 ⇩=17 ⇔=4 N/A=6

N/A = not available

Input from the Community

The information below describes what the community identified as the most important unmet health needs in Lake County and suggested for improvement. The findings are consistent with recent needs assessments, studies, and surveys conducted by others.

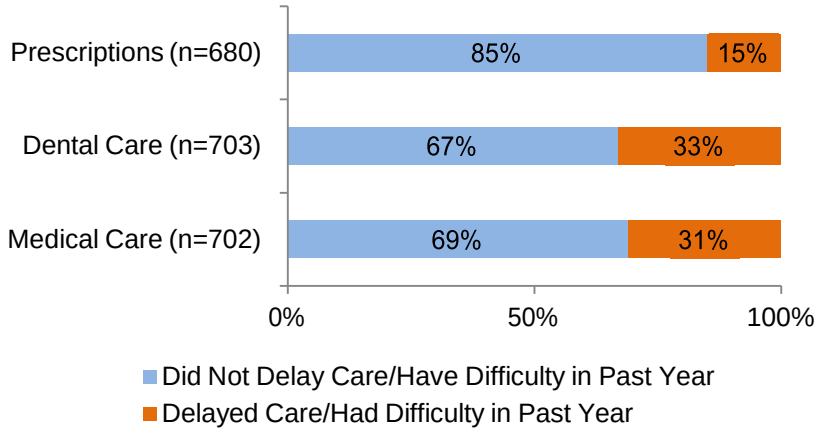
Unmet Health Needs:

The most significant unmet health needs and problems for people in Lake County, according to the different groups asked, in general order of mention, are shown in the chart below. Similar needs identified by each group are similarly colored.

Community Health Survey	Community Focus Groups	Key Informant Interviews
The need for or related to.....		
Alcohol and drug related (including prescription meds)	Affordable **mental health** services (for depression, anxiety, coping)	**Alcohol and drug** related (including prescription meds)
Affordable **mental health** services (for depression, anxiety, coping)	**Alcohol and drug** related (including prescription meds)	Affordable **mental health** services (for depression, anxiety, coping)
Homelessness/housing	**Homelessness**/housing	**Prevention education** to reduce chronic disease
Prevention education to reduce chronic disease	Affordable, accessible **medical services,** including specialists	Affordable, accessible **medical services,** including specialists
Hunger/nutrition	Affordable, accessible **dental services**, particularly Denti-Cal	**Transportation** assistance

About one-third of the people who responded to the Community Health Survey reported they or a family member were unable to obtain or were delayed seeking medical or dental services in the past year (31% and 33%, respectively). The ability to fill a prescription was less of a problem; 15% reported some sort of barrier to getting the medications they needed.

Respondents Indicating Difficulty Accessing or Delayed Necessary Care in Past Year, Community Health Survey



Suggested Strategies and Solutions

The community made many recommendations about where additional support was needed to improve health in Lake County. The most frequently suggested strategies and solutions—which generally tied to the needs they identified—are listed below. Similar suggestions across the groups are similarly colored.

Community Health Survey	Community Focus Groups	Key Informant Interviews
More of or improvement in……		
Affordable, accessible **medical services,** including specialists	Preventive education concerning **food/nutrition**	**Mental/emotional health** counseling (for depression, anxiety, coping)
Prevention/treatment for **addiction/substance abuse**	**Preventive education for youth** (drugs, nutrition, exercise)	Prevention/treatment for **addiction/substance abuse**
More **recreational opportunities**, more parks	**After-school and summer activities** for children and youth, especially free/accessible	Creation of **living wage jobs** by becoming more business friendly
Mental/emotional health counseling (for depression, anxiety, coping)	**Mental/emotional health** counseling (for depression, anxiety, coping)	**Recruitment/retention** of health professionals
Improve quality and availability of **food/better nutrition**	**Collaboration/cooperation** within service system	Affordable **housing**, including to help with recruitment

Conclusions and Recommended Priorities

After evaluating all of the data collected from the needs assessment process, certain key findings emerged, including:

Positives

- Relatively high community awareness about the value of prevention
- Extent of collaboration among key partners and stakeholders concerned about health
- Children with complete immunizations
- Rates of breastfeeding
- Rates of sexually-transmitted diseases
- Proportion of seniors with flu shots

Challenges

- Chronic, multigenerational poverty (low wages, high unemployment)
- Hopelessness/dispiritedness among some that affects motivation

- Higher-than-statewide averages for most causes of death
- The degree of substance use/abuse and their effects
- The percent of adults who smoke
- Children on Medi-Cal who made a dental visit within the last year
- Births to teen moms
- Prevalence of diabetes

Recommended Priorities

The Collaborative agreed that an important opportunity exists in Lake County for all health partners—regardless of their own organization's mission and priorities—to focus on the priority areas listed below over the next several years. The group recognized the overlap among the priorities, and agreed that some of the same strategies—some of which are currently in place, some that need to be developed or further expanded—can be implemented that address multiple areas. The discussion that begins on page 162 provides a fuller description of the 4 priorities and offers examples of specific strategies.

- Mental Health
- Substance Use Disorders
- Access to Programs and Services
- Housing and Homelessness

INTRODUCTION

"People who live here enjoy living here and love this community. This positivity leads to good things." – Key Informant Interview

"It feels like we have to work harder now to maintain the level of health status of the community." – Key Informant Interview

Every individual and every organization in a community has a stake in health and wellness. Poor health is costly to individuals trying to hold down a job, employers who pay for sickness in high rates of absenteeism or higher health insurance costs, and entire societies, which suffer economic losses when citizens are ill. As a result, all individuals and institutions benefit by addressing the social, environmental, and behavioral determinants of health.[1]

Life expectancy and causes of death have traditionally been used as key indicators of population health. While these indicators provide important information about the health status of populations, they do not offer any information about the quality of the physical, mental, and social domains of life—or quality of life. Social and economic variables that have been shown to affect health include income, education, employment and even literacy, language and culture. Poorer people, [2] and people with fewer than 12 years of education,[3] live shorter lives than the rich, for instance. Health-related behavior involving the use of tobacco, alcohol, and drugs, obesity, and gender play an important part in determining health. Equally important to health status is a positive sense of life that includes the presence of positive emotions in daily activities, participation in society, satisfying relationships, and overall life satisfaction.[4] These attributes are commonly referred to as *well-being* and are associated with numerous benefits related to health, work, family, and economics.[5] For example, people with high levels of well-being are more productive at work and are more likely to contribute to their communities.[6]

The U.S. Centers for Disease Control and Prevention, which for the past three decades has provided 10-year national objectives for improving the health of all Americans, established two overarching health goals for the year 2020: (1) increase quality and years of healthy life; and (2) eliminate health disparities.[7] To achieve these goals, a comprehensive set of objectives and indicators were identified, known as *Healthy People 2020*.
The Leading Health Indicators use a life stages perspective and are composed of 26 indicators organized under the 12 topics shown in the box below. This approach recognizes that specific risk factors and determinants of health vary across the life span. Health and disease result from the

[1] Kottke TE, Pronk NP. Taking on the Social Determinants of Health: A Framework for Action. *Minnesota Medicine*, February 2009.
[2] Wilkinson RG, Marmot MG (eds.). Social Determinants of Health: The Solid Facts, 2nd Edition. International Center for Health and Society. World Health Organization, 2003.
[3] Olshansky SJ, et al. Differences In Life Expectancy Due to Race and Educational Differences are Widening, and Many May not Catch up. Health Affairs, August 2012;31(8):1803-1813.
[4] Health-Related Quality of Life and Well-Being. Healthy People 2020. https://www.healthypeople.gov/sites/default/files/HRQoLWBFullReport.pdf
[5] Diener E, Lucas R, Schimmack U, Helliwell J. Well-Being for public policy. New York: Oxford University Press; 2009.
[6] Tov W, Diener E. The well-being of nations: linking together trust, cooperation, and democracy. In: Sullivan BA, Snyder M, Sullivan JL, editors. Cooperation: the psychology of effective human interaction. Malden (MA): Blackwell Publishing; 2008.
[7] http://www.healthypeople.gov/2020/LHI/default.aspx

accumulation (over time) of the effects of risk factors and determinants, and intervening at specific points in the life course can help reduce risk factors and promote health. These indicators, selected on the basis of their ability to motivate action, the availability of data to measure progress, and their importance as health issues for the public, frame the Lake County Community Health Needs Assessment.

Leading Health Indicators from *Healthy People 2020*

1. Tobacco Use
2. Substance Abuse
3. Responsible Sexual Behavior
4. Mental Health
5. Injury and Violence
6. Environmental Quality
7. Social Determinants
8. Nutrition, Physical Activity, and Obesity
9. Clinical Preventive Services
10. Chronic Disease
12. Oral Health
13. Access to Health Care Services

U.S. Centers for Disease Control and Prevention, Healthy People 2020

One of the best ways to gain a better understanding about health needs, disparities and available resources is to conduct a comprehensive needs assessment. A community health needs assessment provides the foundation for all community health planning, and provides appropriate information on which institutions, policymakers, provider groups, and community advocates can base improvement efforts; it can also inform funders about directing grant dollars and other community investments most appropriately. In addition to collecting and analyzing data, one of the important aspects of the community health assessment is utilizing a process to engage the community in obtaining their views about what they believe contributes to or challenges health and well-being and soliciting suggestions for improving community health.

This report presents the results of a comprehensive Lake County countywide community health needs assessment process that spanned approximately 10 months. The goals of the assessment were to help document and understand the following:

- The unique characteristics of the community (defined as countywide) that contribute to or threaten health;
- The kinds of health issues and needs (physical, mental, social) and barriers that members of the community are experiencing;
- The resources that are available to address the identified needs;
- The highest-ranked health issues and needs that should be addressed by community improvement planning efforts.

BACKGROUND

Beginning in 2013, hospital facilities are required by the Affordable Care Act to conduct community health needs assessments (CHNA) every 3 years and to develop and implement improvement strategies to address unmet needs identified through the CHNA.[8] The Lake County hospitals, joined by Lake County Public Health, Behavioral Health and other local stakeholder organizations aiming to improve community health, worked with the health consulting firm Barbara Aved Associates (BAA) to carry out this *2016 Lake County Community Health Needs Assessment.*

Consistent with the federal regulations, the CHNA report describes the community, assesses its health needs, and takes into account input from persons who represented the broad interests of the community, including those with special knowledge of and expertise in public health. Many of the same Collaborative members participated with BAA in developing the 2010 and 2013 assessments which involved a similar scope and process. (A list of the current Collaborative members and their affiliations is included in Attachment 1.)

The prior and current CHNAs also serve as a guide to the local hospitals in developing their Community Benefits Plans to meet SB 697 requirements.[9] Evaluating changes in population health outcomes from one CHNA to the next provides some of the information needed for an outcome-based assessment of hospitals' community-benefit activities, as well as the improvement activities of their partners—individually or collaboratively.[10]

Uses for the Needs Assessment

The 2016 Lake County Community Health Needs Assessment is intended to be useful to stakeholders involved in addressing the health needs of county residents by:

- Reporting on progress that has been made since the last needs assessment process;
- Providing documentation for decision-making by policymakers;
- Presenting the community with an overview of the state of health-related needs and benchmarks from which to gauge progress;
- Directing funding and other support towards the highest-priority health needs in the community.

Study Team

The BAA consultant team included Barbara M. Aved, RN, PhD, MBA; Mechele Small Haggard, MBA; Beth Shipley, MPH; and Michael Funakoshi.

Acknowledgements

The authors wish to thank the people of Lake County who took the time and interest to complete our surveys and participate in the focus groups and interviews, sharing perceptions and views about solutions that made the statistical data more meaningful. We appreciate the guidance and useful suggestions of the Collaborative members who facilitated the CHNA process and contributed to the utility of this document.

---

[8] https://www.federalregister.gov/articles/2013/04/05/2013-07959/community-health-needs-assessments-for-charitable-hospitals#h-27

[9] Under SB 697 legislation, California non-profit hospitals are required to conduct community needs assessments every 3 years, and based on the results develop and implement a Community Benefits Plan.

[10] Rubin DB, Singh SR, Jacobson PD. Evaluating Hospitals' Provision of Community Benefit: An Argument for an Outcome-Based Approach to Nonprofit Hospital Tax Exemption. *Amer J Pub Health* April 2013:103(4);612-616.

PROCESS (METHODS)

"Politics don't need to be a barrier to addressing our ills."
– Key Informant Interview

"We all want to keep our rural way of life, but at some point we're going to have to open access to business if we're going to create jobs."
– Key Informant Interview

COLLABORATIVE PROCESS

To engage community partners and maximize the efforts of this community health assessment, invitations were issued to individuals, organizations, and Tribal representatives to serve as the project's Advisory Committee (a list of members is included in Attachment 1). In addition to providing overall guidance and helpful insights, the members supported the community engagement strategies, helped to increase awareness and mobilize the community, and facilitated participation in community input activities.

DATA COLLECTION

Community needs assessments involve gathering, analyzing and *applying* data and other information for strategic purposes. These methods provide the necessary input to inform decision makers and funders about the challenges they face in improving community health, and the priority areas where support is most needed. The information is also useful for community organizations by having comprehensive, local data located in one document. Both quantitative and qualitative methods—described below[11]—were used to collect the information for this assessment.

SECONDARY DATA: PUBLICLY-AVAILABLE STATISTICS

Existing data were collected from all applicable existing data sources including government agencies (e.g., California Department of Health Care Services, California Department of Finance, Office of Statewide Health Planning and Development, California Health Information Survey and other public and private institutions. These data included demographic, economic and health status indicators, and service capacity/ availability. Where trend data were readily available, they are presented in this report.

While data at the national and state level are generally available for community health-related indicators, local data—from counties and cities—are less accessible and sometimes less reliable. For example, small sample sizes can result in statistical "instability," and well-meaning data collection methods without appropriate "rigor" may limit the value of the findings. Because data from publicly-available sources typically lag by at least 2 years—because it takes time for reported data to be

[11] *Quantitative* data are numeric information such as statistics (e.g., the number of vehicular crashes, the percentage of low birth weight babies born). *Qualitative* data provide information such as people's attitudes and opinions that can help shed additional light on the issues being studied. *Secondary* data are the statistics and other data already published or reported. An example of this would be rates of childhood obesity. New data gathered by a researcher to investigate and help respond to a problem are called *primary* data. An example of this would be the percentage of focus group participants who ranked obesity as a top health problem.

received, reviewed, approved, analyzed, and prepared for presentation—data may not always be as current as needed. And, some data may only be reported as 3-year averages, not annually.

DOCUMENT REVIEW

A document review was undertaken that collected relevant information about the community, health status, where health services are obtained, other related services, and gaps in services. This information was found in documents and records of facilities such as data from local clinics and state government, reports from needs assessments conducted related to health, and reports about specific health programs or services.

PRIMARY DATA: COMMUNITY INPUT

Input from the broad community was considered and taken into account when identifying and prioritizing the significant health needs of Lake County that are addressed in this assessment. This rich source of data was obtained through key informant interviews, focus groups and a community health survey.

Community Survey

A survey was developed in English and Spanish that solicited people's opinions about most important health needs, barriers to access, and suggestions for community health improvements (Attachment 5). Certain questions that serve as markers for access to services were also included. The survey was distributed in hard copy by members of the Collaborative to locations where the groups of interest would best be reached, such as at branches of public libraries, laundromats, churches, nail salons, and family resource centers throughout the county, as well as promoted through efforts such as at the 2-day Valley Fire "Rebuild Expo" in Middletown and over the air on KPFZ's "Senior Moments" show. The survey was also available online (English only) and notices about the electronic version were posted on the County's and various organizations' websites and in newsletters. All of the electronic and hard-copy survey data were cleaned, coded, and entered into an Excel spreadsheet and analyzed using SPSS Version 20.0.

Community Focus Groups

Three communities—Clearlake, Lakeport and Kelseyville—ensured geographic representation at the 6 community focus groups that were conducted. Key community-based organizations and social clubs were identified by the Collaborative and invited to host a focus group. In each case, the focus groups were co-scheduled during a time the participants were already meeting there for other purposes (e.g., young mothers attending a Mother-Wise parenting meeting) to facilitate access and promote attendance. Although the participants constituted a convenience sample, there was the expectation that in the aggregate the groups would be diverse and include the populations of highest interest.

A common set of structured key questions was used for all groups (Attachment 2). The questions were generally open-ended; prompting with information or data was limited to reduce the potential for bias or leading of participants to any conclusions. Participants were not asked to "vote" or otherwise rank the items they identified as needs, problems or solutions. The focus group data were recorded on a flip chart or notebook by the facilitator during the meetings then transferred to written summary formats where the notes were then coded for analysis. A $20 Safeway gift card was offered in most groups in appreciation for participation. The agencies and organizations that sponsored the community meetings helped to publicize the sessions and promote attendance.

Key Informant Interviews

Telephone interviews using a structured set of questions (with additional, personalized questions to obtain more in-depth information) were conducted with 12 of the 16 invited individuals who agreed to participate in a key informant interview (Attachment 3). The interviews provided an informed perspective from those who work directly with the public and/or determine some of the policies that affect the community's health. These individuals were able to offer information about local resources and gaps in services, high-priority health needs, and suggestions for positive change. The interviews also focused the needs assessment on particular issues of concern where individuals with certain expertise could confirm or dispute patterns in the data and identify data and other studies the Collaborative might not otherwise be aware of.

LIMITATIONS OF THE PUBLISHED DATA

There are several ways to present data just as there are multiple ways to identify health needs: by age group; by issue or problem; by ethnic group; by systems (hospitals, clinics). This assessment examined the published community health indicator data commonly collected in community needs assessments (referred to as "secondary data"), added to it, and highlighted populations and issues of interest where the data already existed. Where data were available by more than one variable (for instance, age and racial/ethnic group) they are generally presented. Having baseline data from the prior assessment allowed us to add certain trend data in the current report.

Using secondary data requires collecting information from many sources. Data availability varies among different data sources; new data are continually being released. Any report of this type will soon have certain data that are not the most up-to-date. (For example, data from CHIS, the California Health Information Survey, which is a rich data source for community health needs assessments, is generally not released until about 2 years after it is collected). Also, reporting periods can vary by calendar year, frequency and fiscal year; consistency varies, especially over time and among agencies and organizations; and data are not always collected in the format that is best suited to the purposes of the report.

This assessment relied on data that could be collected and analyzed to determine if and to what degree a problem or need existed. In some cases, data did not exist that directly applied to a certain need or condition; in other cases, no indicators were readily available to describe a potential need. The community input process (referred to as "primary data") provided some opportunity to identify such needs and ensured that they were considered in the priority-setting process. The availability (or lack) of services can substantially influence reporting. Some data were not collected, such as the availability of services from private medical groups, and therefore could not be counted in the capacity assessment.

In some cases, statistics and information that others compiled have been included in this report. However, it was not always possible to authenticate all of that data. In some cases, expert opinion was included in the analysis regarding the state or condition of a certain issue. And, while recommendations to address unmet needs were identified by participants in the community input process, there was no attempt by the Collaborative to evaluate these suggestions for appropriateness or endorse them relative to best practices and evidence-based effectiveness.

Finally, no one data set in this report really tells the whole story about Lake County's unmet or under-met health needs; all of the data collected by this process—the statistics, feedback from the community questionnaire, focus group input and key informants' perspectives—*collectively* paint the picture. It is therefore suggested that readers consider the entirety of the findings when drawing conclusions or making policy changes and funding decisions.

Presentation of the Data in This Report

The goal in producing this report is to present information in a format that is easily understood and helpful for multiple audiences. While some research reports present the results of data analysis in statistical tables showing confidence intervals (C.I.), this report does not include that information for simplicity sake.[12] Readers are encouraged to go back to the original source for what might appear to be a "dramatic" statistic should they wish to check the C.I.s. Various other reports and assessments of Lake County may contain similar data because some of the data are publicly available and may be used by other groups for similar purposes.

Caveats on the Data Analysis

Interpretation of health data, both now and in future assessments, needs to consider that Lake County is more than ever a dynamic environment in ways that may impact community health. Interpretation of data should also consider a variety of factors that may account for findings. For instance, increased rates of Hepatitis C, diabetes, cancer and other conditions may reflect an increase in access to health care services and new screening recommendations resulting in the diagnosis of previously undetected conditions. *Death rates* from a disease may be indicative of limited access to advanced treatment options rather than of risk factors that caused the disease in the first place. Or, patients may choose to move to Lake County for end-of-life treatment following receipt of a serious diagnosis elsewhere. *Incidence rates* of disease (a new diagnosis of the condition) signal the presence of risk factors underlying the disease, but would reflect influences of Lake County's health environment only in long-term residents. And, importantly, while it does not directly relate to health, the impact of the 2015 Valley Fire suggests how some of the county's demographics may change over the next few years.[13]

Population shifts in and out of the county will influence and potentially skew data, particularly when absolute numbers are small. Readers of this assessment should be cautious and consider changes in local demographics and in the healthcare delivery system as well as other factors that may influence data as it is reported. This will be particularly important in the coming years as the community recovers from the devastating 2015 wildfires.

PRIORITY SETTING PROCESS

After the assessment data were compiled and analyzed, the Collaborative reviewed the draft report and engaged in a discussion that led to recommended priorities for funding. The process included determining criteria for selecting priorities; listing key issues and common themes; identifying findings that were unexpected and surprising and assumptions that were supported by the data; addressing the challenges and barriers; and determining opportunities with long-term benefits for improving community health in Lake County.

[12] A confidence interval is a range around a measurement that conveys how precise the measurement is. This is an example from the 2014 California Health Interview Survey (CHIS): "Thirteen thousand, or 21% (16.7 - 25.4), of people in Lake County reported their health status as excellent." The number range in parentheses is called the confidence interval (C.I.). As with any statistical estimate, there is a degree of uncertainty, and the C.I. shows the range where the *real* value may lie. So, for 95% C.I., you can assume with 95% confidence that the *real* value is between the lower and upper C.I. range. The narrower the range, the more confident you can be in reporting the estimates.

[13] Valley Fire Survivor Survey: Summary of Responses. March 2016. Data provided by the Federal Emergency Management Agency and compared against data assembled by the Lake County Department of Community Development.

RESPONSE TO THE LAST NEEDS ASSSESSMENT

"Give people in Lake County reasons to get out of the mental hole."
– Focus Group Participant

"We have lots of meetings but it takes a conscientious effort to make the changes."– Key Informant Interview

Along with Public Health and other community partners, Lake County hospitals are pivotal for having a collaborative role in engaging the community and implementing community health improvement strategies. Drawing from the implementation strategies Sutter Lakeside and St. Helena Clear Lake Hospitals developed in response to the identified priorities in the immediately preceding CHNA to address significant health needs is summary of accomplishments they and other Lake County organizations have undertaken (Table 1.) In many cases these activities were not new because the problems were not new; the grave need for more mental health support, for instance, continues to be a significant issue. The resources committed and the progress made by the partners since the 2013 CHNA continues to move the county in a positive direction despite such unforeseen events as the horrific wildfires of 2015.

In the summer of 2015, as the current CHNA was being rolled out, Lake County experienced the devastation of several momentous wildfires, including the Rocky-Jerusalem and Valley Fires. Nearly one-third of county residents experienced evacuations during the Valley Fire, 4 deaths occurred, and nearly 2,000 structures burned including approximately 1,300 residential structures. The long-term effects of these traumatic events on the health and well-being of Lake County are still being assessed and remain to be seen.

Table 1. Lake County Health Partners' Response to the Prior CHNA Priorities

Priority	Achievement
Collaborative relationships/ coordination of services	▪ The 2013 CHNA became the common impetus for strategic action and collective impact in Lake County. Many collaborative initiatives were instituted since that time and remain ongoing, including: ✓ A broad, cross sector strategic planning process facilitated through the Health Leadership Network that resulted in development of a Wellness Roadmap designed to work across current collaborative efforts to increase collective impact in making an upward shift in the county's poor health ranking. ✓ Hope Rising is built upon the foundation of the Wellness Roadmap. This "movement" (a result of Lake County being named 1 of 5 Way to Wellville communities in the U.S.) is widely embraced as the vehicle for establishing common goals, implementing specific actions, and advocating for change leading to improvement. ✓ Healthy Clearlake Collaborative, a constant place of sharing ideas for leveraging services and ensuring systems are in place to sustain them, includes a broad group of leaders including Board of Supervisors, physicians, schools. Tangible results include:

Table continues on next page

(Continued)

Priority	Achievement
Collaborative relationships/ coordination of services (cont.)	• The Hero Project—helping parents support their children to strengthen families—has impacted 56% of Lake County's children, with 1,748 people and organizations now involved. • The Hub—a Community Schools partnership between educators, community partners and service providers; coordinators in Upper and Lower Lake provide coordinate one-stop-shop educational, health and social services support for children and families.
Healthy choices/healthy behaviors	North Coast Opportunities concerned about health, obesity, diabetes and access to healthy foods led to: ✓ The Community Wellness Projects served approximately 1,800 people last year. It raised community awareness of health benefits of eating well by promoting farmers' markets, hosting cooking and nutrition classes, coordinating with schools to get more local produce into student meals, offering farmers' market vouchers for volunteer time in community gardens, stocking low-cost grains and legumes through a bulk grain storage and distribution project, and increasing food stamp purchase options at farmers' markets. One full-time position was added to build a network of community and school gardens. ✓ The Clearlake Food Pantry increased provision of food to low-income residents during weekly food distributions. ✓ The Food Hub, coordinated with Public Health, operated its on-line market place and delivery service that enabled Lake and Mendocino County schools, grocery stores, restaurants, and retail establishments a way to order fresh produce and other locally-produced products direct from Lake and Mendocino farmers and producers. ✓ Partnership in Community Health, to support Hope Rising's goals, began a pilot project of healthy cooking classes at Tribal Health using a "menus of change" curriculum. ▪ The Lake County Hunger Task Force: ✓ Provided food banks and emergency food pantries focused on fresh produce throughout the county. ✓ Provided children in high-need school districts with backpacks filled with fresh produce for the weekend; Sutter Lakeside helps fund this. ▪ Sutter Lakeside Hospital: ✓ Expanded the capacity of the local food banks by donating 1,030 pounds of food in 2015. ✓ Fed 45 needy families through its direct donation to the Lake County Hunger Task Force.

Table continues on next page

(Continued)

Priority	Achievement
Healthy choices/healthy behaviors (cont.)	▪ Lake County Family Resource Center *Be Fresh* raised public awareness of healthier eating choices. When the program does demonstrations at the Grocery Outlet in Lakeport, evidence shows the sale of fresh produce goes up $300 per day. ▪ Public Health's designed the SNAP-Ed (formerly Food Stamp) program to: ✓ Focus on nutrition education of school children and coordinates with a Farm-to-School program, delivers core nutrition messages, and helps families make healthy choices within a limited budget. ✓ Train 220 teachers to teach food literacy nutrition education to reach approximately 4,000 Pre-K-8th grade students each month, reinforced with Harvest of the Month local food taste testing. ✓ Reinforce Harvest of the Month classroom education in the cafeteria at each school site. The food service directors integrate the Harvest of the Month into meals and offer it on the salad bar. ✓ Install water filling stations in schools; 2 currently installed at Cobb Elementary and Middletown Middle/High School. ▪ St. Helena Hospital Clear Lake is the fiscal sponsor for Climb to the Peak of Health, a collaborative effort of over 20 non-profits aimed at improving health outcomes. Highlights from 2014: enrolling over 2000 people in an online challenge to increase physical activity for 14 weeks, hosting a Field Day Fitness Expo attended by over 200 community members; mailers to over 15,000 raising awareness about smoking cessation resources and resources for parents to reduce stress at home; and the implementation of a screening protocol to identify children with high Adverse Childhood Event scores and connect them with treatment.
Mental health and well being	▪ St. Helena Hospital Clear Lake, in identifying mental health as critical need area: ✓ Created a new position through an initiative with Partnership Health, a huge asset to its medical team. This MSW also serves as a warm hand-off between primary care and the client as well as linking clients up to needed social services. ✓ Added additional full-time positions for a psychologist, Master's level social workers (MSWs) and licensed clinical social workers (LCSWs) at Live Well, a program of treatment and support to enable clients to increase mobility, manage pain and improve quality of life. ✓ Added tele-psychiatry 1 day/week ▪ Public Health added a Special Needs Child Parent Peer project with County Mental Health and First Five, identifying and filling in some of the gaps in community mental health support for this population. ▪ Sutter Lakeside Hospital: ✓ Conducted over 50 pet therapy visits in 2015; an estimated 2,000 patients, visitors and staff interacted with its therapy animals. ✓ Maintains its long-term goal of implementing tele-psychiatry support for patients in the emergency department (ED)

Table continues on next page

(Continued)

Priority	Achievement
Prevention and treatment of substance abuse	▪ Both hospitals, Public Health and others have collaborated to address the opiate crisis and manage pain safely—creating Safe Rx Lake County. Trends since 2013: 90% decline in initial prescription rates; 53% decline in prescription rates; 70% decline in users on escalating dose of opioids.[14] ▪ Sutter Lakeside Hospital implemented a Rational Care for Pain project in its ED. Mid-level providers in the ED work with the patient and their primary provider on documenting the pain plan including ED pain management. The impact is fewer drug-seeking visits to the ED and better coordinated care of patients on prolonged pain medication. ▪ St. Helena Hospital Clear Lake offers an integrated approach through the Live Well program with specialty services that include psychiatrist and addictionologist, nutritionist, personal exercise trainer, chiropractic, quality of life groups and behavioral health services. ▪ Tobacco Control is actively engaged in reduction of tobacco and e-cigarette use, especially among children. The impacts of these efforts on health statistics are likely to be long-term and may not be evident for at least several years and possibly considerably longer. ▪ Recent legislation has enabled the commercialization of medical marijuana cultivation and distribution. This may impact both the availability of marijuana in the community and how consumers incorporate medical marijuana into their personal healthcare regimens. This process will unfold over several years and its impact evaluated.
Health access	▪ In late 2013, Partnership HealthPlan of California took over the majority of Medi-Cal services provided in Lake County. This change enrolled more eligible clients, identified primary care providers for enrollees and instituted managed care that included strict controls on the prescribing of controlled substances. It expanded access to outpatient behavioral health and substance abuse services and provided coverage for an expanded range of benefits including chiropractic services for chronic pain patients. ▪ St. Helena Hospital Clear Lake is working toward hiring 8 specialists this year who in addition to providing direct services, including its Family Health Center, will be engaged in all of the Hospital's wellness initiatives. It also began operating a designated bus service to help patients get to appointments. ▪ Public Health established memorandums of understanding with Partnership HealthPlan on areas such as communicable diseases, Child Health & Disability Prevention Program and immunizations, strengthening access throughout the county. ▪ Sutter Lakeside Hospital: ✓ Partners with City Fitness to sponsor a limited number of free gym memberships for Lake County residents who qualify on financial need. ✓ Donated its Mobile Health Unit to another county when the CHNA community input showed transportation needs to be a relatively low priority. Free transportation is now offered in the form of bus tokens and taxi vouchers based on an easy-to-complete financial need application.

Table continues on next page

[14] Data source: Partnership HealthPlan, April 2016.

(Continued)

Priority	Achievement
Health access (cont.)	✓ Opened a new Community Clinic adjacent to the hospital in 2014, and recruited an OB-GYN, D.O., and 2 PAs. This Family Medicine Clinic qualified to be part of the state loan forgiveness program (NHSC) to better attract providers. ▪ Lake Transit/Area Planning Council: ✓ Obtained federal funding to establish a Mobility Management and Trip Brokerage program to coordinate and provide non-emergency medical transport (NEMT) services to vulnerable populations in Lake County. ✓ Designated a Mobility Programs Coordinator to develop and implement a NEMT system.
Community Input	▪ Sutter Lakeside Hospital utilized its website to solicit written comments from the public on the 2013 CHNA and its most recently adopted implementation plan but did not receive any comments. However, input from the broader community was considered and taken into account when identifying and prioritizing the significant health needs of the community for the 2016 CHNA through the community input methods described in this report. ▪ St. Helena Hospital Clear Lake similarly adopted a community benefits implementation plan that took into account the significant findings and priorities in response to the 2013 CHNA.

ASSESSMENT RESULTS

"There is a 'who cares' attitude about healthy habits. Talking to people about nutrition or smoking cessation is met with that attitude."
— Focus Group Participant

Section I. Demographic and Socioeconomic Characteristics

There are large health disparities among certain groups and across socioeconomic lines. Research shows that race and ethnicity, for example, matter in complicated ways. To address these disparities, approaches are needed—identified and planned for thorough comprehensive needs assessments—that include a focus on the "upstream" causes, such as income inequity, poor housing, racism, and lack of social cohesion.[15]

COUNTY PROFILE

Lake County is located in Northern California just two hours by car from the San Francisco Bay Area, the Sacramento Valley, or the Pacific Coast. The county's economy is based largely on tourism and recreation, due to the accessibility and popularity of its several lakes and accompanying recreational areas. It is predominantly rural, about 100 miles long by about 50 miles wide, and includes the largest natural lake entirely within California borders. Lake County is mostly agricultural, with tourist facilities and some light industry. Major crops include pears, walnuts and, increasingly, wine grapes. Dotted with vineyards and wineries, orchards and farm stands, and small towns, the county is home to Clear Lake, California's largest natural freshwater lake, known as "The Bass Capital of the West," and Mt. Konocti, which towers over Clear Lake.

[15] Brownson RC, et al. Evidence-Based Public Health. 2003. New York: Oxford University Press.

Within Lake County there are two incorporated cities, the county seat of Lakeport and the City of Clearlake, the largest city, and the communities of Blue Lakes, Clearlake Oaks, Cobb, Finley, Glenhaven, Hidden Valley Lake, Kelseyville, Loch Lomond, Lower Lake, Lucerne, Nice, Middletown, Spring Valley, Anderson Springs, Upper Lake, and Witter Springs as displayed on the map below.

Lake County is bordered by Mendocino and Sonoma Counties on the west; Glenn, Colusa and Yolo Counties on the east; and Napa County on the south. The two main transportation corridors through the county are State Routes 29 and 20. State Route 29 connects Napa County with Lakeport and State Route 20 traverses California and provides connections to Highway 101 and Interstate 5.

According to California labor market data about county-to-county commute patterns (which have not been updated since 2000), the total workers that live and work in Lake County is 15,566 persons: the total workers commuting in was 1,046; and 4,320 total workers commuted out. About 67% of people who live in Lake County also work within the county.[16] While the population size of Lake County was estimated as 64,918 residents in January 2015,[17] the population can swell with daytime work commuters and seasonal tourists.

Population Data

Demographic trends help to project potential needs for health care and other services for children, adults, and the elderly.

[16] U.S. Census Bureau, 2000. http://www.calmis.ca.gov/file/commute-maps/lakecommute.pdf
[17] State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Census Benchmark*.

Net migration (including net intrastate, interstate and international moves) of 640 people accounted for the growth in Lake County's population between 2013 and 2014 (Table 2). The growth was offset by a natural decrease (deaths minus births) of 105 people for a total increase of 535.[18] Births continued to decline countywide as well as statewide while deaths increased over the fiscal year.

Table 2. Lake County Population Estimates and Components of Change, 2013 to 2014

	Total Population		Change 2013-2014		Components of Change					
	Revised July 1, 2013	Revised July 1, 2014	#	%	Births	Deaths	Natural Increase	Net Migration	Net Immigration	Net Domestic Migration
Lake County	64,209	64,744	535	0.83	746	851	-105	640	51	589

Source: California Department of Finance.

Approximately 30% of all Lake County residents live in the cities of Clearlake and Lakeport while the remainder lives in unincorporated areas. The population of Lake County has increased modestly overall since the 2000 Census, with most of the growth occurring outside of the two cities (Table 3).

Table 3. Population Estimates of Lake County Cities

Area	4/1/2010	1/1/2011	1/1/2012	1/1/2013	1/1/2014	1/1/2015
Clearlake	15,250	15,186	15,104	15,087	15,036	14,977
Lakeport	4,753	4,711	4,673	4,664	4,728	4,699
Balance of County	44,662	44,486	44,527	44,753	44,995	45,242
Unincorporated	20,003	19,897	19,777	19,751	19,764	19,676
County Total	64,665	64,383	64,304	64,504	64,759	64,918

Source: State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Census Benchmark*. Sacramento, California, May 2015.

City/county population estimates with annual percent change between January 2014 and January 2015 show slight growth for the county overall (Table 4 on the next page). The two cities, however, saw a slight decline in population between the two time periods.

[18] State of California, Department of Finance, *California County Population Estimates and Components of Change by Year, July 1, 2010-2014*. Sacramento, California, December 2014. http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/view.php

Table 4. Population Estimates with Annual Percent Change

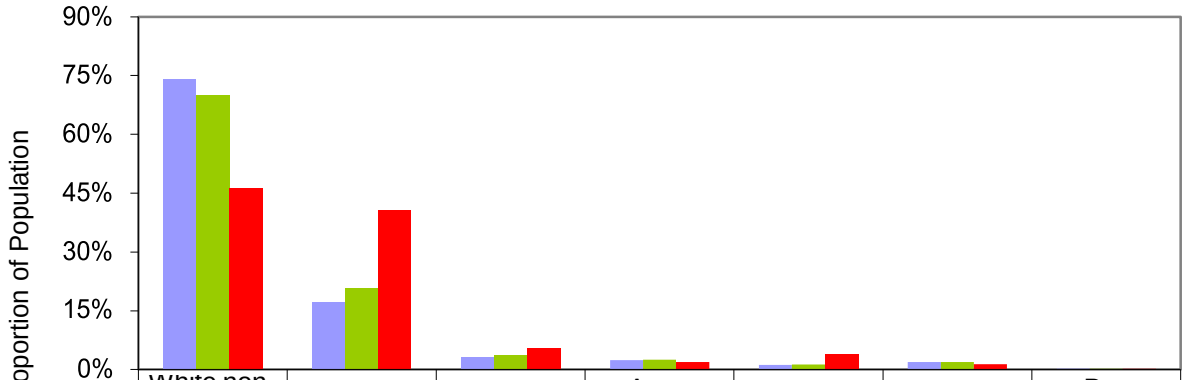
Area	Total Population		Percent Change
	1/1/2014	1/1/2015	
Lake	64,759	64,918	0.2
Clearlake	15,036	14,977	-0.4
Lakeport	4,728	4,699	-0.6
Balance of County	44,995	45,242	0.5

Source: State of California, Department of Finance, *E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2014 and 2015.* Sacramento, California, May 2015.

Population by Age and Race/Ethnicity

In 2010 three-quarters of Lake County's population identified themselves as non-Hispanic White, 17.2% as Hispanic, 3.1% as multi-race, 2.4% as American Indian, 1.9% Black, 1.1% Asian and 0.2% as Native Hawaiian/Pacific Islander (Figure 1); less diverse than the state as a whole.

Figure 1. Population Percent by Race/Ethnicity (2010, 2020, 2060 Projected)



	White non-Hispanic	Hispanic	Multi-race	Amer Indian	Asian	Black	Pac Islander
2010	74.1%	17.2%	3.1%	2.4%	1.1%	1.9%	0.2%
2020	69.9%	20.7%	3.6%	2.5%	1.2%	1.9%	0.2%
2060	46.4%	40.8%	5.6%	1.9%	4.0%	1.3%	0.1%

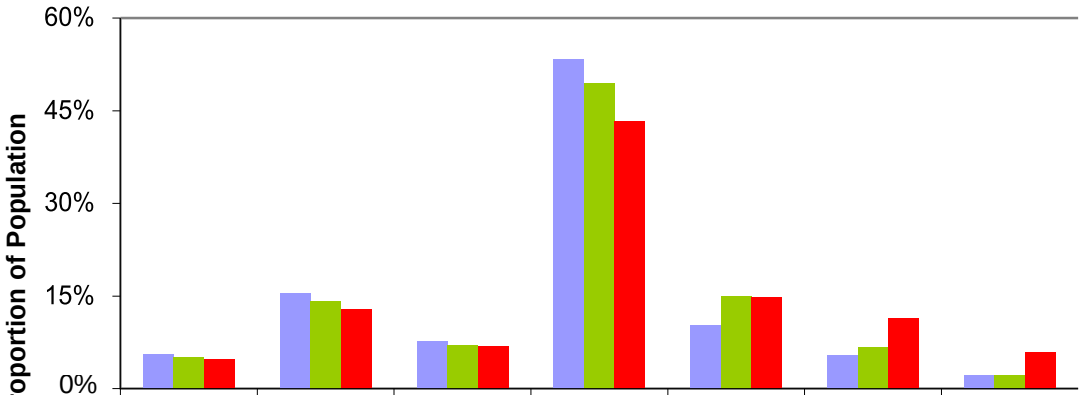
Source: State of California, Department of Finance, *P-1 State and County Population Projections Race/Ethnicity.* Sacramento, California, December 2014.

Lake County's population is projected to become increasingly culturally diverse in coming years with significant growth among Hispanics, Asians and multi-race individuals. The Hispanic population is projected to more than double, Asians to increase four-fold, and persons identifying as multi-race to almost double from 2010 to 2060. Conversely, the proportion of non-Hispanic Whites, African Americans, and American Indians will decline. The shift in Lake County population groups has implications for designing and delivering needed services in ways that are culturally and linguistically appropriate.

Lake County's senior population is projected to grow at a disproportionate rate, while its proportion of young and working age people declines (Figure 2). The working age population (age 25-64) is

expected to shrink by 10% by 2060. In 2010, 17.8% of the county's population was 65 or older compared to 11.5% statewide. It is predicted to nearly double and comprise almost one-third of the county's population by 2060. California's senior population is also expected to double, but to only comprise about one-quarter of the total population. In Lake County, the proportion of people age 75-84 is projected to double, and for people 85 and over to almost triple. The anticipated significant growth in this age group will put a larger burden on the health care system and local economy, which may not have sufficient community services or tax base to support it.

Figure 2. Population Percent Change by Age (2050 Projected)



	Preschool Age (0-4 years)	School Age (5-17 years)	College Age (18-24 years)	Working Age (25-64 years)	Young Retirees (65-74 years)	Mature Retirees (75-84 years)	Seniors (85 or more years)
2010	5.6%	15.5%	7.8%	53.4%	10.2%	5.4%	2.2%
2020	5.1%	14.3%	7.0%	49.5%	15.0%	6.7%	2.3%
2060	4.7%	12.9%	6.8%	43.3%	14.8%	11.4%	6.0%

Source: State of California, Department of Finance, *P-1 State and County Population Projections by Major Age Groups.* Sacramento, California, December 2014.

Immigration

An average of 83 people immigrated legally to Lake County each year over the past 30 years (the number ranged from 65 to 122 from 2000 to 2013) for a total of 2,499 people since 1984.[19]

Other Population Characteristics

Mobility and Transport

Mobility refers to peoples' ability to access services and activities considered essential, such as healthcare services, food shopping, education and employment opportunities, and a certain amount of social and recreational activities.[20] Public transportation provides basic mobility and accessibility, particularly for physically and economically disadvantaged people such as individuals with disabilities and lower-income seniors. Research suggests that improving public transit and active transportation, bicycling, and walking can be one of the most cost effective ways to achieve public health objectives, and community health improvements.

[19] State of California, Department of Finance, Legal Immigration to California by County — 1984-2013, December 2014. http://www.dof.ca.gov/research/demographic/reports_papers/index.php

[20] Litman T.*Transportation Cost and Benefit Analysis*, Victoria Transit Policy Institute. 2008 www.vtpi.org/tca.

Lake Transit operates 10 routes within Lake County, two of which provide regional service to Ukiah in Mendocino County (with transit connections to Sonoma County) and Calistoga and Deer Park in Napa County (with connections to Napa transit). Local routes serve the cities of Clearlake and Lakeport. Dial-A-Ride service is available in Clearlake, Lower Lake and Lakeport, with reservation priority given to persons with disabilities in accordance with ADA requirements. Two routes operate only on weekdays; no service is provided on Sundays and observed public holidays.[21]

Transportation choices available to a community play an important role on the community's health through active living, air quality, and safety. Choices for commuting to work can include walking, biking, public transit, single occupancy vehicles, or carpooling. People who live or work in communities with effective and efficient public transportation tend to drive significantly less and rely more on alternative modes (walking, cycling and public transit) than they would in more automobile-oriented areas.[22] The most damaging to the health of communities is individuals commuting in single occupant vehicles alone. In most counties, this is the primary form of transportation to work.[23]

Driving alone to work and long commute-driving alone are part of the measures that make up the Physical Environment ranking in the *County Health Rankings and Roadmaps, 2015.*[24] The proportion of the Lake County population driving alone, 74%—an estimated 16,098 workers—was similar to the statewide average (73%) in 2009-2013. The county had a slightly lower proportion of individuals with long commutes-driving alone during this period than the state (34% vs. 37%).[25]

As Table 5 shows, about half (47.5%) of Lake County residents age 16 and older who work spend less than 20 minutes traveling to work; 37% spend a half-hour or more driving to work. The mean travel time to work is 27.4 minutes.

Table 5. Transport Time to Work and Availability of Vehicles, Lake County

Travel Time to Work (est.)	
Less than 10 minutes	20.8%
10 to 14 minutes	14.7%
15 to 19 minutes	12.0%
20 to 24 minutes	12.1%
25 to 29 minutes	3.4%
30 to 34 minutes	11.2%
35 to 44 minutes	6.0%
45 to 59 minutes	6.9%
Mean travel time to work (min.)	27.4
Vehicle Availability	
No vehicle available	1.8%
1 vehicle available	20.1%
2 vehicles available	41.7%
3+ vehicles available	36.4%

Source: 2009-2013 American Community Survey 5-Year Estimates.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

[21] Personal communication with Karl Parker, Mobility Programs Coordinator Paratransit Services, June 9, 2016.
[22] Litman T. *Evaluating Public Transportation Health Benefits*. Victoria Transport Policy Institute. The American Public Transportation Association
[23] *County Health Rankings and Roadmaps, 2015.* http://www.countyhealthrankings.org/rankings/data
[24] http://www.countyhealthrankings.org/rankings/data
[25] *Ibid.*

About 5.1% of Lake County residents age 16 and older who work outside of home use public transportation, walk, bicycle, or use a motorcycle or other means of going to work (Table 6).

Table 6. Means of Transportation to Work and Places of Work, Lake County

Means of Transport	
Car, truck, or van	83.9%
Drove alone	74.2%
Carpooled	9.7%
In 2-person carpool	7.4%
In 3-person carpool	1.5%
In 4-or-more person carpool	0.9%
Workers per car, truck, or van	1.07
Public transportation (excluding taxicab)	0.9%
Walked	3.4%
Bicycle	0.1%
Taxicab, motorcycle, or other means	0.7%
Worked at home	11.0
Place of Work	
Worked in state of residence	99.7%
Worked in county of residence	77.8%
Worked outside county of residence	21.9%
Worked outside state of residence	0.3%
Living in a place	76.6%
Worked in place of residence	24.9%
Worked outside place of residence	51.7%
Not living in a place	23.4%

Source: 2009-2013 American Community Survey 5-Year Estimates.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

Access to parks and safe sidewalks, trails, and paths for walking and cycling is associated with physical activity in adults.[26] Of people with safe places to walk within 10 minutes of home, 43% achieve physical activity targets, compared with just 27% of less walkable area residents.[27] In addition to its exceptional fresh water lake, Lake County's parks and trails provide an opportunity to preserve the county's unique natural and historical resources, while simultaneously providing residents and visitors with access to see and appreciate these resources. The health value of physical activity afforded by access to parks and trails and other activity-friendly environments is well documented. The Centers for Disease found that creating and improving access to places for physical activity can result in a 25% increase in the number of people who exercise at least three times a week.[28] One of CDC's strategies to prevent obesity and associated health risks, for example, includes providing parks within 1/2 mile of residents and increasing miles of pedestrian and bicycle infrastructure. These are more urban-oriented strategies, and in Lake County there are many rural roads where people walk.[29]

[26] Booth ML, Owen N, Bauman A, et al. Social-cognitive and perceived environment influences associated with physical activity in older Australians. *Prev Med* 2000;31:15–22.
[27] Health Benefits of Active Transportation in New York City. *NYC Vital Signs Special Report*, New York City Department of Health, May 2011;10(3). www.nyc.gov/html/doh/downloads/pdf/survey/survey-2011active-transport.pdf.
[28] *Creating or Improving Access to Places for Physical Activity is Strongly Recommended to Increase Physical Activity*. The Task Force on Community Preventive Services. http://www.thecommunityguide.org/pa/default.htm
[29] Keener, D., Goodman, K., Lowry, A., Zaro, S., & Kettel Khan, L. (2009). *Recommended community strategies and measurements to prevent obesity in the United States: Implementation and measurement guide.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

County to County Commuting Estimates

Figures 3 and 4 show the 2006-2010 county-to-county commute patterns for the total number of workers (17,622) who lived and worked in Lake County.[30]

Figure 3. Workers Commuting to Lake County from Other Counties

Source: California Employment Development Department.

Figure 4. Workers Commuting from Lake County to Other Counties

Source: California Employment Development Department.

[30] Labor Market Information Division, California Employment Development Department. American Community Survey, U.S. Census Bureau, Report released January 2013. http://www.labormarketinfo.edd.ca.gov/file/commute-maps/lake2010.pdf

Faith-Based Characteristics

There is evidence that practicing a faith (or spirituality or religion) often enhances health.[31] Studies suggest that many patients believe spirituality plays an important role in their lives, and that there is a positive correlation between spirituality or religious commitment and health outcomes.[32] Moreover, faith-based institutions increasingly recognize their role as neighborhood organizations that are able to reach people of all ages, races, and economic backgrounds and can strongly influence people's values and personal life choices. Places of worship also present additional opportunities to improve the health of higher-risk populations by collaborating in and promoting local health programs and breaking down barriers of mistrust. Table 7 below displays the breakdown of populations affiliated with a formal religious congregation in Lake County that while not updated over the last decade may still be relatively current.

Table 7. Breakdown of Lake County Populations Affiliated With A Religious Congregation

Name	Catholic Church	LDS (Mormon) Church	Southern Baptist Convention	Assemblies of God	United Methodist Church
Members	11,140 (59.0%)	1,569 (8.3%)	1,165 (6.2%)	1,005 (5.3%)	840 (4.4%)
Congregations	6 (9.8%)	4 (6.6%)	7 (11.5%)	4 (6.6%)	7 (11.5%)
Name	Seventh-Day Adventist Church	Evangelical Free Church of America	American Baptist Church USA	Vineyard USA	Other
Members	602 (3.2%)	380 (2.0%)	324 (1.7%)	318 (1.7%)	1,537 (8.1%)
Congregations	4 (6.6%)	2 (3.3%)	2 (3.3%)	2 (3.3%)	23 (37.7%)

Source: Jones, Dale E., et al. 2002. Congregations and Membership in the United States 2000. Nashville, TN: Glenmary Research Center. (Note: "Other" not described.) Accessed at http://www.city-data.com/county/Lake_County-CA.html#ixzz2Pu3fE6NX

"Electricity Dependent" Recipients

Assessing community health needs and using the information to make healthcare available for special needs populations sometimes requires examining non-traditional data sources for planning strategies that address needs. To support evacuation or shelter-in-place planning, for example, some hospitals and public health agencies use severe weather tracking services to identify areas and populations that may be impacted and at risk for power outages. Severe weather and disasters that cause power outages can be life threatening for individuals who rely upon electricity-dependent medical and assistive equipment, such as ventilators and wheel chairs.

Lake County encompasses 15,441 Medicare beneficiaries of which 1,129 (7.3%) are reported as "electricity-dependent" recipients. Current information (November 2015) from the U.S. Health & Human Services Administration's Public Health Emergency website[33] for the zip codes in Lake County is shown in Table 8 below.

[31] Piante TG, Sherman AC (eds.). Faith and health: psychological perspectives. New York: Gilford Press, 2001.
[32] Anandarajah G, Hight E. Spirituality and Medical Practice: Using the HOPE Questions as a Practical Tool for Spiritual Assessment. *Am Fam Physician.* 2001 Jan 1;63(1):81-89.
[33] http://www.zipmap.net/California/Lake_County.htm. Information provided courtesy of Betsey Cawn, Senior Support Services - Upper Lake, CA / Outreach & Advocacy Program Director, *The Essential Public Information Center*, November 23, 2015.

Table 8. "Electricity-Dependent" Medicare Beneficiaries, by Zip Code, Lake County

City/Community, Zip Code	Total Medicare Beneficiaries	Percent Electricity-Dependent	
		Number	Percent
Clearlake (City of), 95422	3,308	343	10.4%
Clearlake Oaks, 95423	1,225	91	7.4%
Hidden Valley Lake, 95467	663	53	8.0%
Kelseyville, 95451	2,576	145	5.6%
Lakeport, 95453	2,860	180	6.3%
Lower Lake, 95457	962	76	7.9%
Lucerne, 95458	810	70	8.6%
Middletown, 95461	1,242	57	4.6%
Nice, 95464	633	57	9.0%
Upper Lake, 95485	529	34	6.4%
Other, 95493 and 95443	273	23	8.4%

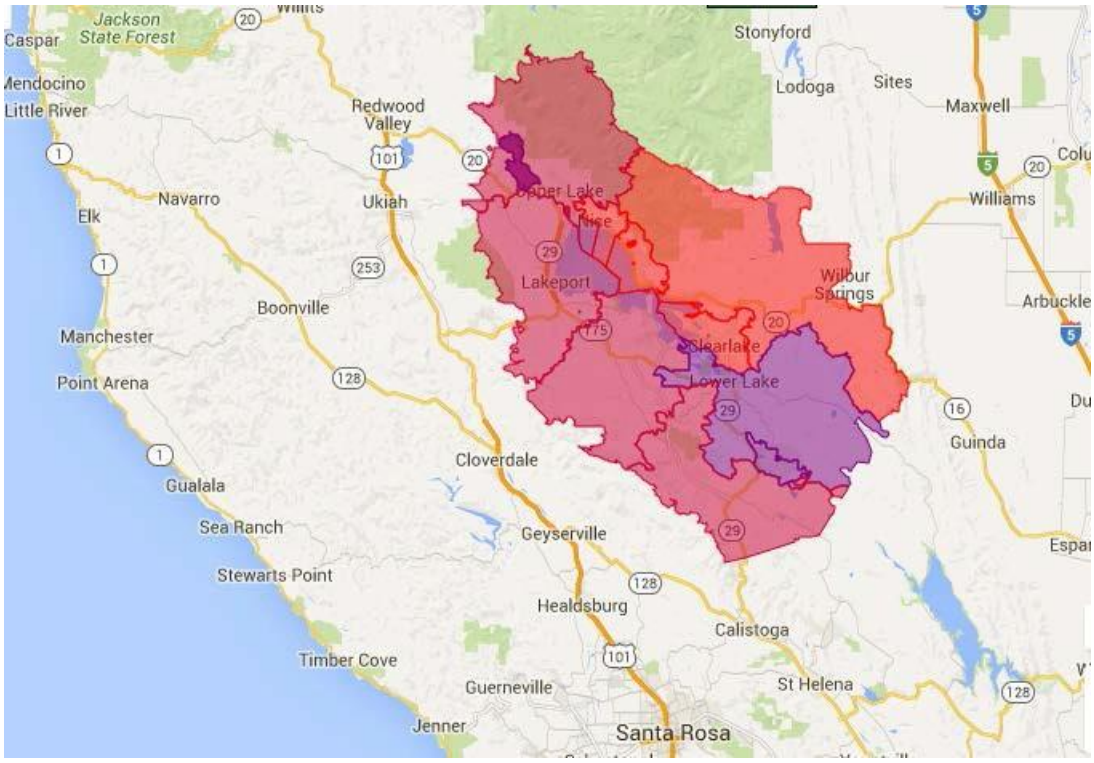
SOCIOECONOMIC FACTORS

Socioeconomic characteristics include measures that have been shown to affect health status, such as income, education and employment and the proportion of the population represented by various levels of these variables. Epidemiological studies have confirmed the relationship between income, education and occupation on the one hand and health outcomes on the other. There is considerable evidence, for instance, that individuals with higher incomes have better health.[34] Some of the ways in which poverty contributes to poor health are immediately obvious: deprivation leading to poor nutrition may lead to susceptibility to infection and chronic disease, and crowded housing may increase disease transmission; higher incidences of teen pregnancy are associated with poverty along with a myriad of other adverse health outcomes.

Community Needs Index (CNI)

A Community Need Index (CNI) developed by Dignity Health and Truven Health is used by community hospitals in gathering socioeconomic factors in the community to help pinpoint specific areas that have greater need than others. Hospitals use these indices in their community benefits planning. The CNI provides a score for every populated zip code on a scale of 1.0 to 5.0 with a score of 5.0 representing a zip code with the most need. The CNI score is an average of 5 different barrier scores (insurance status, education, housing, cultural and income) using 2014 source data. Lake County's CNI scores ranged from 2.8 in Witter Springs to 4.8 in Clearlake (Table 9 on the next page with map below, Figure 5). The County's overall median community need index score is 3.7, with no zip codes in the "lowest" or "second lowest" zones, i.e. the good scores noted in deep blue colors in the legend.

Figure 5. Community Needs Index Map for Lake County



Source: Dignity Health/Truven Health Analytics.

[34] Wilkinson RG, Marmot MG (eds.). Social Determinants of Health: The Solid Facts, 2nd Edition. International Center for Health and Society. World Health Organization, 2003.

Table 9. Lake County CNI Scores by City

Zip Code	CNI Score	Population	City	County	State
95422	4.8	15628	Clearlake	Lake	California
95423	4.2	3906	Clearlake Oaks	Lake	California
95443	4.4	84	Glenhaven	Lake	California
95451	3.6	12668	Kelseyville	Lake	California
95453	3.6	10646	Lakeport	Lake	California
95457	3.2	2711	Lower Lake	Lake	California
95458	4.4	2883	Lucerne	Lake	California
95461	3.4	3830	Middletown	Lake	California
95464	4.2	2655	Nice	Lake	California
95467	3	6042	Hidden Valley Lake	Lake	California
95485	3.8	2567	Upper Lake	Lake	California
95493	2.8	188	Witter Springs	Lake	California

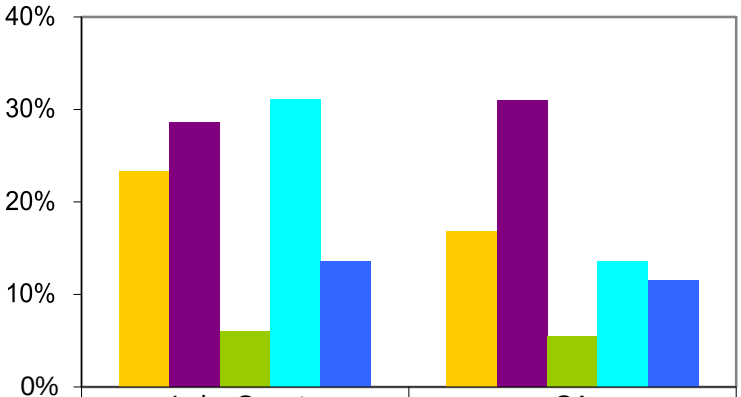
Lowest Need **Highest Need**

1 - 1.7 Lowest | 1.8 - 2.5 2nd Lowest | 2.6 - 3.3 Mid | 3.4 - 4.1 2nd Highest | 4.2 - 5 Highest

Source: Dignity Health and Truven Health, 2014.
Note: Distinct colors may be difficult to view in some cases as computer and printer quality varies in the capacity to show true colors.

The following graph (Figure 6) displays some important poverty-related factors more fully described in the next few pages. Of the 5 indicators shown, poverty and uninsured rates increased slightly from the time of the 2013 needs assessment: 23.3% poverty vs. 21.0% prior; 31.1% uninsured vs. 26.7% prior. The percentage below self-sufficient, 28.6%, however, was lower than in the prior assessment at 39.7%.

Figure 6. Selected Poverty-Related Data, Lake County and California



	Lake County	CA
Poverty	23.3%	16.8%
Below Self-Sufficiency	28.6%	31.0%
Unemployed	6.0%	5.5%
Uninsured	31.1%	13.6%
HS Dropouts	13.5%	11.5%

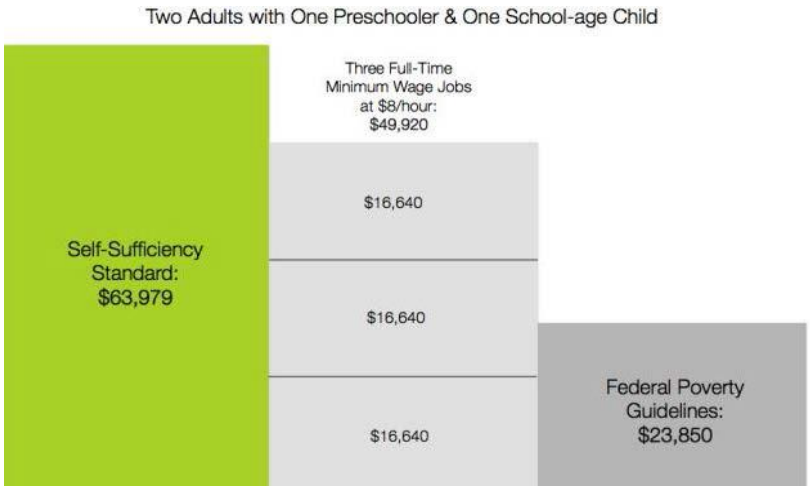
Source for Poverty: U.S. Census Bureau. Small Area Income & Poverty Estimates. 2013
Source for Self-Sufficiency: Insight Center for Community Economic Development, 2014 (CA result is 2011)
Source for Unemployed: California Employment Development Department, September 2015
Source for Uninsured: California Health Interview Survey, 2014
Source for HS Dropouts: California Department of Education at Ed-Data, 2013-2014

Economic Well-Being

The Self-Sufficiency Standard calculates the income needed by working families to meet their basic needs. The standard is defined as the minimum income a household must earn in order to adequately meet the basic needs of the family without being obligated to use public or private assistance. Figure 7 shows that, in 2014, to meet their most basic expenses, a family of four living in California would need to work more than three full-time, minimum wage jobs. The estimated standard for a family of two adults, one preschooler, and one school-age child was an annual income of $64,000 (or both adults earning $16.44 hourly).[35]

The Self-Sufficiency Standard in Lake County in 2014, $59,800, was lower than the California Standard, but 28.6% of the county's households earned even less.[36]

Figure 7. Average 2014Family Economic Self-Sufficiency Standard, California

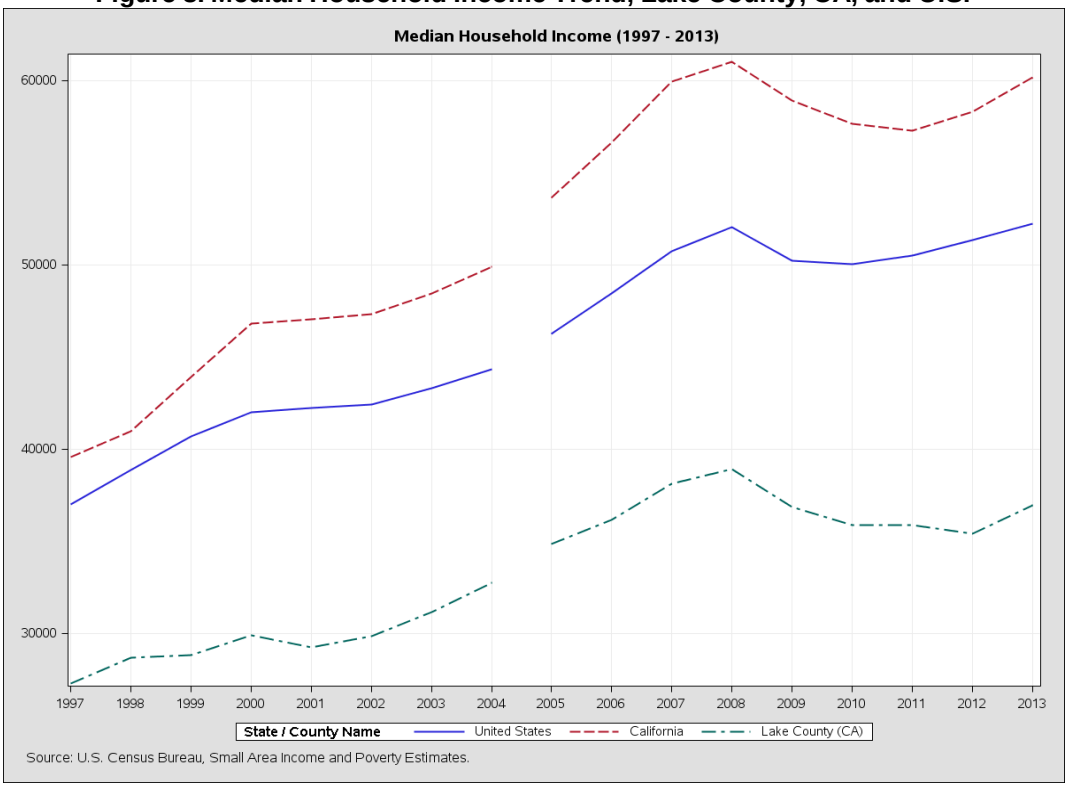


Source: Insight Center for Community Economic Development

According to the U.S. Census Bureau, the 2009-2013, 5-year average median household income in Lake County was $36,973--only 61% of the statewide average of $60,185.[37] Figure 8 on the next page shows the trend in the county's household income from 1997 to 2013 compared to the state and the U.S. It has been consistently lower than both.

[35] The Family Economic Self-Sufficiency Standard for California. Insight Center for Community Economic Development. http://www.insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california/
[36] *Ibid*.
[37] U.S. Census Bureau, *Small Area Income and Poverty Estimates*. http://www.census.gov/did/www/saipe/data/interactive/#

Figure 8. Median Household Income Trend, Lake County, CA, and U.S.



Source: U.S. Census Bureau. Small Area Income & Poverty Estimates

Other Measures of Poverty

"Persons living below the poverty level," as federally defined, is a common measure of poverty although there are some limits to this method for accurately gauging poverty. Lake County has a higher proportion of people living below the poverty level than California as a whole: 23.3% compared to 16.8% (Table 10). In 2013, over one-third (33.7%) of Lake County children ages 0-17 were estimated to live in families with incomes under the federal poverty level (FPL), suggesting that the painful, lingering effects of the recession have been especially hard on families and children.[38]

Table 10. Percentage Living Below the Poverty Level, 2013

Age Group	Lake County	California
All ages	23.3%	16.8%
Children under age 5	NA	24.8%
All children age 5-17	30.0%	22.5%
All children under age 18	33.7%	23.5%
Persons age 65 and older*	10.6%*	10.4%*

Source: U.S. Census Bureau. Small Area Income & Poverty Estimates. Estimates for California Counties;
*American Fact Finder. U.S. Census Bureau. 2011-2013, 3-year average.

[38] Ibid.

Seniors and Poverty

Nearly one in five adults over 65 in California qualify as the "hidden poor." They live above the FPL but cannot afford basic needs and are often ineligible for government assistance.[39] The Elder Economic Security Standard™ Index (Elder Index) measures how much income is needed for a retired adult age 65 and older to adequately meet his or her basic needs including housing, food, out-of-pocket medical expenses, transportation, and other necessary spending. [40] It documents that the federal poverty guideline covers less than half of the basic costs experienced by adults age 65 and older in the state, and demonstrates that elders require an income of at least 200% of the FPL to age in place with dignity and autonomy.[41] The highest rates of the hidden poor among seniors are among renters, Latinos, women, those raising grandchildren, and those in the oldest age groups.

Table 11 below compares the basic cost of living as quantified by the Elder Index to two common sources of income for seniors. The gap between elders' basic living expenses and their social security (which many seniors rely on exclusively to cover their basic costs) and SSI income (in red text) illustrates the degree of economic instability that many Lake County elders experience. Older adults in the county need almost twice the social security and SSI payment levels to make ends meet.

Table 11. California Elder Economic Security Standard Index, Lake County, 2011

	Elder Index Per Year					
	Elder Person			Elder Couple		
Income needed to meet basic needs	Owner w/o mortgage	Owner w/ mortgage	Renter, 1 bedroom	Owner w/o mortgage	Owner w/ mortgage	Renter, 1 bedroom
	$18,755	$32,375	$22,268	$29,358	$42,978	$32,871
	Annual Comparison Amounts					
SSI payment maximum, CA 2011	$9,965	$9,965	$9,965	$16,886	$16,886	$16,886
SSI income gap	-$8,790	-$22,410	-$12,304	-$12,471	-$26,092	-$15,985
Median Social Security payment, 2011	$13,241	$13,241	$13,241	$20,920	$20,920	$20,920
Social security income gap	-$5,514	-$19,134	-$9,027	-$8,438	-$22,058	-$11,951

*Median elder retirement income includes Social Security, pensions, and all other non-earned income for seniors 65+. The Elder Standard Index assumes that elders are retired. Source: Insight/Center for Community Economic Development.

In Lake/Mendocino Counties (combined for greater reliability), 19% of single elders live below the poverty level, and 41% (compared to California's 31%) qualify as the "hidden poor", living between the poverty level and the Elder Economic Security Standard Index (Figure 9).[42]

Figure 10 shows that almost twice as many (40.6%) older couples in the region live between the poverty level and the Elder Index than statewide (20.7%).

[39] Padilla-Frausto DI, Wallace SP. *Policy Brief: The Hidden Poor: Over Three-Quarters of a Million Older Californians Overlooked by Official Poverty Line*, Los Angeles: UCLA Center for Health Policy Research, August 2015.
[40] Insight/Center for Community Economic Development. http://www.insightcced.org/communities/cfess/eesiDetail.html?ref=
[41] Wallace SP, Molina LC. *Federal Poverty Guideline Underestimates Costs of Living for Older Persons in California*, Los Angeles: UCLA Center for Health Policy Research, 2008.
[42] *Supra*, note 6.

Figure 9. Percentage of Single Elders with Incomes Below the Elder Index, Lake/Mendocino Counties and California, 2011

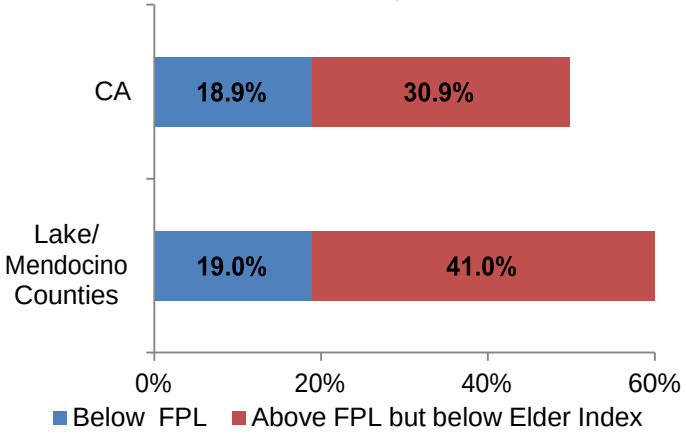
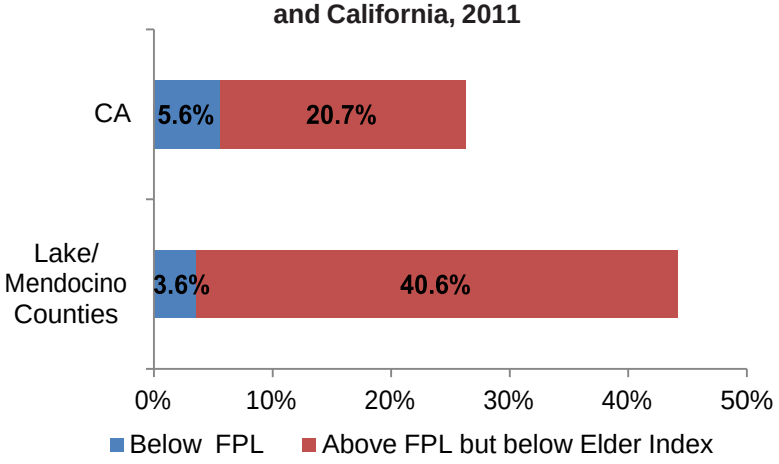


Figure10. Percentage of Older Couples with Incomes Below the Elder Index, Lake/Mendocino Counties and California, 2011



Food Security

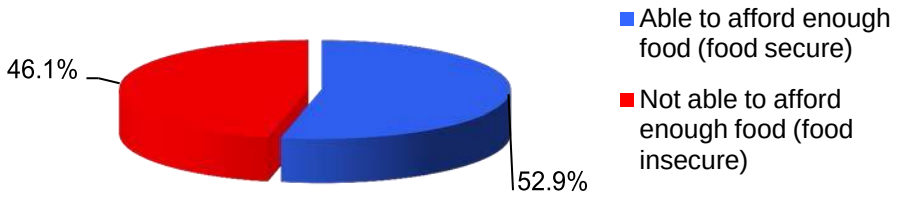
At least two factors influence the affordability of food and the dietary choices of families – the cost of food and family income. The inability to afford food is a major factor in food insecurity. American Community Survey data from 2006-2010 show that the proportion of income needed for an average market basket of nutritious food in Lake County is one to one-and-a-half times higher than the state average.[43] Not being able to afford enough food and dependence on public assistance for adequate nutrition are other important socioeconomic indicators of community health. Limited resources for purchasing food has a direct impact on health, for example increasing the risk of developing chronic diseases such as diabetes.[44]

Based on the results of the 2014 California Health Information Survey (CHIS) in Lake County, in which adults with income less than 200% of the FPL were asked about the ability to afford enough

[43] http://www.cdph.ca.gov/programs/Documents/Food_Affordability_Narrative_Examples4-14-13rev7-16-14.pdf
[44] *The Inextricable Connection Between Food Insecurity and Diabetes*. California Pan-Ethnic Health Network. 2010.

food, just over half (52.9%) of respondents were considered "food secure" (Figure 11). The proportion fell from 67.5% in 2009 and was lower than the statewide average of 61.6% reporting food security.

Figure 11. Food Security of Adults <200% of FPL, 2014

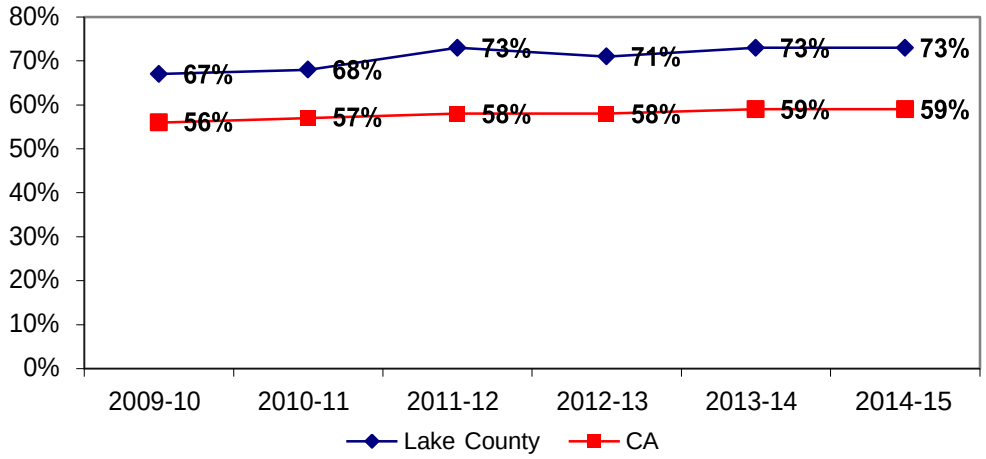


Source: 2014 California Health Interview Survey

Access to Healthy Foods and the Food Environment Index are part of the measures that make up the Health Behaviors ranking in the *County Health Rankings and Roadmaps, 2015.*[45] Obesity, chronic disease and poor nutrition are health effects of limited access to Healthy Foods. The Food Environment Index considers factors such as presence and locations of food stores and markets, and healthful, affordable foods in stores and markets, or in both. The proportion of the Lake County population with limited access to healthy foods was higher (8%, an estimated 5,001 individuals) than the statewide average (3%) in 2014. The county also scored lower than the state (6.0 vs. 7.5, where 0 is worst, 10 is best) on the Food Environment Index.

Another indicator of low-income status is the number of school children eligible for free or reduced-cost school meals.[46] The percentage of eligible children has grown both statewide and in Lake County over the past decade. However, the gap between the county and the state has grown wider. Since 2006-07, the county's percent eligible has risen by 15 percentage points to 73% in 2014-15, compared to an increase of 8 percentage points statewide (Figure 12).

Figure 12. Percent of Students Receiving Free-Reduced Price Lunch, Lake County and California, 2009-10 - 2014-15



Source: California Department of Education.

45 http://www.countyhealthrankings.org/rankings/data

46 Eligibility for free or reduced-price meals is set at 185% of the federal poverty level.

Table 12 shows Lake County free or reduced-cost school meals data for 2011-12 and 2014-15 and the percentage point change by school district. Middletown Unified is the only district with a lower eligibility rate than statewide, however, the proportion of students eligible in that district rose from 27% in 2011-12 to 51% in 2014-15.

Table 12. Percent of Students Receiving Free-Reduced Price Lunch by School District

Lake County School District	2011-12	2014-15	% change
Kelseyville Unified	57%	75%	18%
Konocti Unified	88%	85%	-3%
Lake County Office of Education	93%	100%	7%
Lakeport Unified	42%	60%	18%
Lucerne Elementary	77%	93%	16%
Middletown Unified	27%	51%	24%
Upper Lake Union Elementary	58%	87%	29%
Upper Lake Union High	76%	94%	18%
Lake County Total	61%	73%	12%
California State Total	55%	59%	4%

Source: California Department of Education.

Employment

Work for most people is at the core for providing financial security, personal identity, and an opportunity to make a meaningful contribution to community life. Although it is difficult to quantify the impact of work alone on personal identity, self-esteem and social contact and recognition, the ability to have employment—and the workplace environment—can have a significant impact on an individual's well-being. Lake County's economy is based largely on tourism and recreation due to the accessibility and popularity of several lakes and recreational areas. According to September 2015 labor market data, 94% (28,320 of 30,140) of Lake County's labor force was employed, comparable to statewide (94.5%) and lower than the U.S.[47]

Unemployment

While California's unemployment rate remains higher than the country as a whole, it has improved substantially since the great recession.[48,49] In March 2016, Lake County's civilian unemployment rate was 7.2% (down from 15.9% in March 2010) compared to 5.6% statewide. The rate ranged within the county from 1.8% in Nice to 14.0% in Lower Lake.[50]

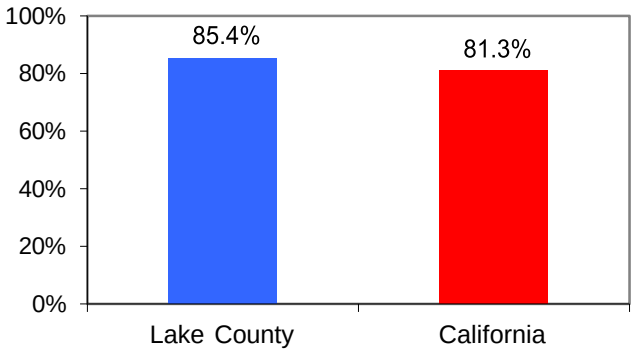
Educational Attainment

In addition to having an impact on health and longevity, educational levels obtained by community residents can also affect the local economy. In general, higher levels of education equate to the ability to earn higher wages, experience less unemployment and enjoy increased job stability. The indicator typically used to measure educational attainment is "persons aged 25 and older with less than a high school education".

[47] Labor Market Information. California Employment Development Department. http://www.labormarketinfo.edd.ca.gov/.
[48] United States Department of Labor. Bureau of Labor Statistics. http://www.bls.gov/cps/cpsaat01.htm
[49] Labor Market Information for the State of California. Employment Development Department. http://www.labormarketinfo.edd.ca.gov/county/california.html#URLF
[50] Labor Market Information. California Employment Development Department. http://www.labormarketinfo.edd.ca.gov/county/lake.html#URLF

In the 2009-2013, 5-year estimate for Lake County, 85.4% of people aged 25+ had a high school degree or higher (Figure 13). While more favorable than 81.3% statewide, the proportion declined from 86.3% in 2006-10.[51] The high school cohort graduation rate for 2013-14 was slightly lower in Lake County than statewide: 80.4% versus 81%.[52]

Figure 13. Percent of Residents Age 25+ With a High School Education or Higher



Source: American Community Survey, 2009-13.

Low educational attainment—particularly dropping out of school—increases the risk of school-age pregnancy. In fact, high levels of school engagement have been found to be associated with postponing pregnancy.[53] In 2011, 20% of Lake County births were to mothers with no high school degree, compared to 22.1% statewide.[54]

Research has also shown that young people who drop out of high school are more likely to use drugs/alcohol, be involved in criminal activity, and become teen parents. High school dropouts also have higher unemployment rates and are more likely to receive public assistance. Lake County's overall high school cohort dropout rate, 13.5%, in 2013-14 was higher than the statewide rate of 11.5% (Table 13). Though the absolute numbers are small, the dropout rates among Native American and Asian students were higher than the overall county rate (with the exception of the 2013-2014 school year, for Asian students).[55]

Table 13. Cohort Dropouts and Rates for Students Enrolled in Grades 9-12, Lake County

Ethnic Group	Total Dropout	Cohort Dropout Rate	Total Dropout	Cohort Dropout Rate
	2010-11		2013-14	
American Indian/Native American	*	36.4%	*	35.7%
Pacific Islander	*	0.0%	*	100%
African American	*	5.0%	*	13.6%
Multi-Race	*	0.0%	*	27.3%
White	64	13.4%	47	11.2%
Hispanic	17	11.2%	23	13.3%
Asian	*	28.6%	*	0.0%
County Total	94	13.5%	92	13.5%
State Total	74,101	14.7%	56,756	11.5%

Source: California Department of Education, DataQuest.
* Ten or fewer students

[51] U. S. Census Bureau, American Community Survey, 5-Year Estimates. http://factfinder2.census.gov
[52] California Department of Education. DataQuest. http://dq.cde.ca.gov/dataquest/dataquest.asp
[53] The influence of high school dropout and school disengagement on the risk of school-age pregnancy. *Journal of Research on Adolescence 8(2):187-220, 1998.*
[54] Improved Perinatal Outcome Data Reports, Lake County Profile, 2011. http://ipodr.org/033/vs/socioeconomics.html#nohs

[55] *Supra*, note 19.

Because of Lake County's relatively small student subpopulations, there is considerable variation in some enrollment and dropout data, which makes it important to use caution when interpreting trends and comparisons across populations. Additionally, there is some disagreement over whether dropout rates accurately represent the number of students who leave high school without finishing, because there is no standardized method to track students who stop attending school.

English Language Learners

Of Lake County's total 2013-14 K-12 enrollment of 9,016, 12% were reported to be English-Learners--up from 7.4% in 2010-11—and about half of the state average. Spanish speakers account for 98% of the English Learners. [56]

Health Insurance Coverage after the Affordable Care Act

In 2014, under the federal Patient Protection and Affordable Care Act (ACA), California expanded Medi-Cal eligibility to citizens and legal resident adults with a household income below 133% of the federal poverty level, including adults without children (with a 5% "income disregard," effectively 138%). The state also implemented Covered California--its ACA exchange--to administer federal subsidies for families with income between 139% and 400% of the FPL.

Since January 1, 2014, more than 5 million state residents have obtained health insurance either through Covered California or Medi-Cal. Prior to the ACA, an estimated 6.3 million Californians were uninsured. It is projected that the number will drop to 3-4 million in 2015, and to 2-3 million by 2019.[57]

Almost one in five (19.2%) California adults (age 19-64) were enrolled in Medi-Cal in 2014, compared to 12.9% in 2013.[58] Total Medi-Cal enrollment is predicted to reach 12.4 million in 2015-16, translating to almost one-third of California's population. [59] As of March 2015, 1.4 million residents had coverage through Covered California.[60]

As a result of Medi-Cal expansion, the rate of uninsured adults fell more than three percentage points to 17.4%, lower, for the first time, than the rate of adult Medi-Cal enrollment.[61] The overall uninsured rate for the nonelderly, including children, fell to 13.6%. Medi-Cal coverage increased to 26.5%, and over half (50.9%) continued to have employer-based coverage.[62]

The Remaining Uninsured

Despite coverage expansions, many Californians remain uninsured, either because they are not eligible for or not enrolled in public or private health coverage. The number and characteristics of these remaining uninsured are relevant to counties' indigent care programs. It is estimated that the uninsured this year in the state will include about 1.5 million undocumented individuals (who are only eligible for emergency Medi-Cal) and 1.3 to 1.8 million people eligible for Medi-Cal or Covered California subsidies but not enrolled.[63]

---

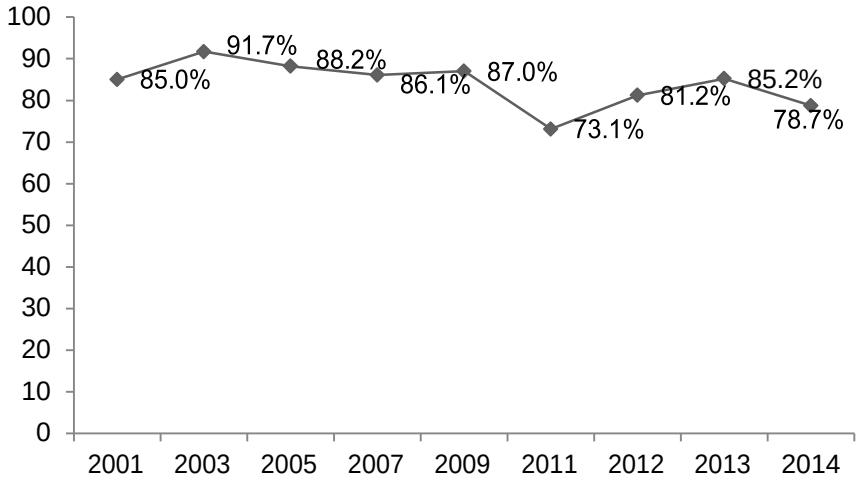
[56] California Department of Education at Ed-Data. http://www.ed-data.k12.ca.us/Pages/Home.aspx
[57] Kelch, Deborah Reidy. *Locally Sourced: The Crucial Role of Counties in the Health of Californians*. California Health Care Foundation, October 2015.
[58] Charles, SA. *Adult Medi-Cal Enrollment Surges, Uninsured Rate Plummets in 2014*. Los Angeles, CA: UCLA Center for Health Policy Research, August 2015.
[59] *Supra*, Note 23.
[60] *Supra*, Note 24.
[61] *Ibid*.
[62] *Ibid*.
[63] *Supra*, Note 23.

The ACA requires most people to have either public or private health coverage or to pay a federal tax penalty. Reasons for exemption from the individual mandate provision include religion, incarceration, immigration status, and financial hardship. Federal law generally defines financial hardship as having income below tax filing levels and facing insurance premiums higher than 8% of household income. Some who are not exempt may choose to pay the federal penalty and not get coverage. Others may not be able to afford their share of premiums, copayments and/or deductibles even if they are receiving premium subsidies. Lastly, because enrollment in Covered California is only possible during specific enrollment periods, some will be uninsured at times if they miss enrollment deadlines.

Health Insurance Coverage in Lake County

According to the 2014 California Health Interview Survey (CHIS), 78.7% of Lake County residents of all ages reported having some form of health insurance (including public coverage), compared to 88.1% statewide. Figure 14 shows the trend of those reporting they had current coverage between 2001 and 2014. For adults age 18-64, only 68.9% reported having current coverage, down from 79.7% in 2009.[64]

Figure 14. Trend in % Reporting Having Current Health Insurance Coverage, Lake County, 2001-2014



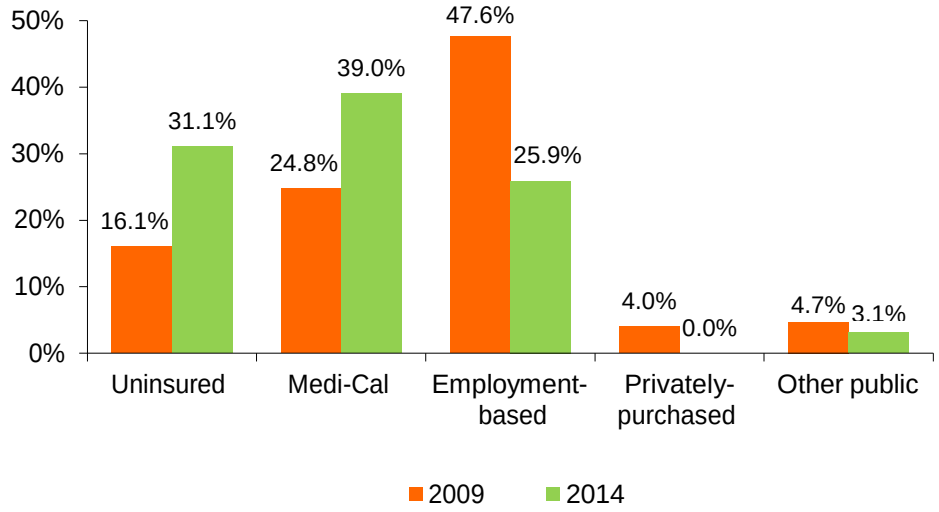
Source: California Health Interview Survey, UCLA Center for Health Policy Research

Nearly 40% of the 2014 CHIS non-senior adult population with insurance reported being covered by Medi-Cal (Figure 15), up from 24.8% in 2009 (and a low of 16.4% in 2011). Between the launch of the Covered California website in October 2013 and February 2014, 1,747 Lake County applicants were determined likely eligible for Medi-Cal.[65]

Reported employment-based insurance fell by almost half, from 47.6% in 2009 to 25.9% in 2014. Despite the ACA, nearly 1 in 3 adults reported being uninsured, almost double the percent in 2009.

[64] 2014 California Health Interview Survey, UCLA Center for Health Policy Research.
[65] California Department of Health Care Services. Enrollment by County: Medi-Cal Applicants via CoveredCa.com. http://www.dhcs.ca.gov/dataandstats/Pages/Enroll_CovCA_App3.aspx

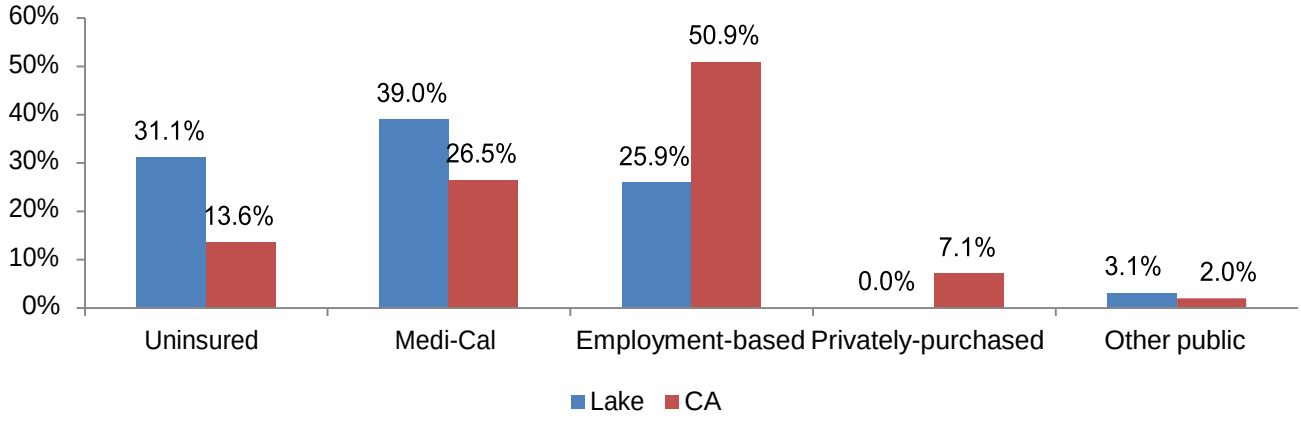
Figure 15. Type of Insurance Coverage of Persons Age 18-64, Lake County 2009 & 2014



Source: California Health Interview Survey.

Compared to the state as a whole in 2014, adults age 18-64 in Lake County had over double the percentage of uninsured (31.1% vs. 13.6%) and a substantially higher percentage covered by Medi-Cal (39% vs. 26.5%, Figure 16). Its rate of employment-based coverage was close to half of the state rate (25.9% vs. 50.9%), and it appeared to have next to no privately purchased insurance compared to 7.1% for the state.

Figure 16. Type of Insurance Coverage Lake County Compared to CA, Ages 18-64, 2014



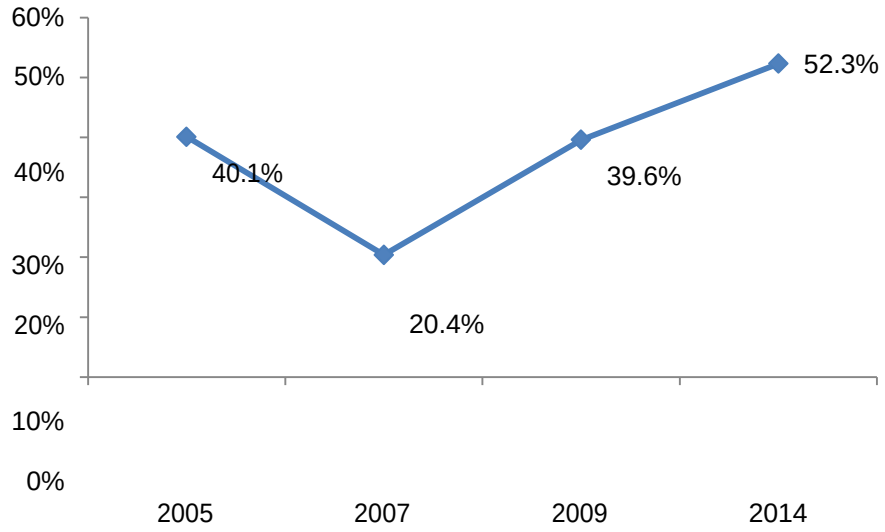
Source: California Health Interview Survey.
Note: Lake County results for "privately purchased "and "other public" are statistically unstable.

In 2014, 86.6% of Lake County children ages 0-17 were covered by some form of health insurance compared to 94.6% statewide.[66] According to CHIS, Medi-Cal covered 52.3% of children age 0-20 in the county that year, compared to 41.8% statewide.[67] The following rates for uninsured and employment-based coverage in the county were statistically unstable but reported by CHIS as: 22% uninsured vs. 6.4% statewide; 19.8% employment-based vs. 44.9% statewide.

[66] U.S. Census Bureau, American Community Survey, September 2015.
[67] *Supra*, Note 30.

Figure 17 shows the trend in Medi-Cal coverage for children age 0-20 in Lake County. From a low of 20.4% in 2007, coverage has more than doubled to 52.3% in 2014.

Figure 17. Children Age 0-20 covered by Medi-Cal, Lake County



Source: 2005, 2007, 2009, 2014 California Health Interview Survey.

Having coverage for care, however, does not guarantee *access* to care if there is an inadequate number of providers in the service area and/or providers are not willing to accept all forms of coverage such as Medi-Cal (and Denti-Cal) and Medicare; or if beneficiaries find it difficult to come up with the required copayments and coinsurance needed to get health care.

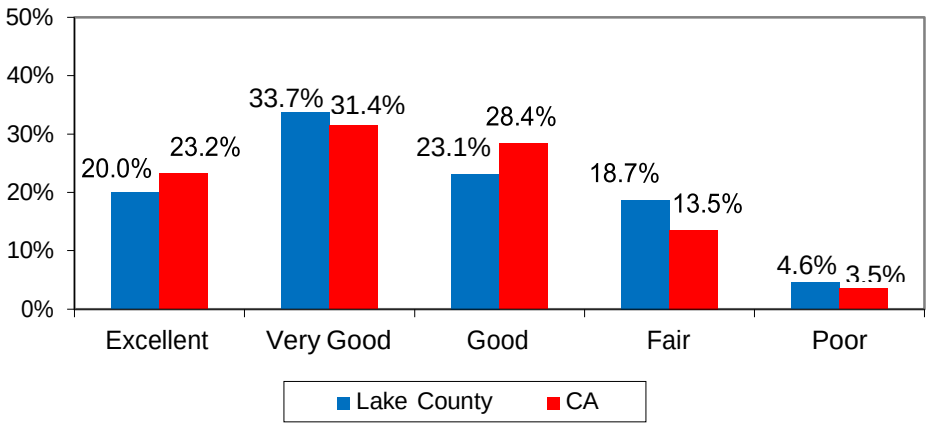
Section II. Selected Health Status Indicators

Health and well-being are influenced by many factors. Health status indicators include the traditional vital statistics, such as birth and death rates, as well as factors like safety and mental health, and health behaviors. Communities commonly measure their health against statewide averages and national standards or objectives, most commonly Healthy People 2020, a federal health promotion and disease prevention agenda for improving the health of the nation's population.

SELF-RATED HEALTH STATUS

In population studies, self-rated health is generally regarded by researchers as a valid, commonly accepted measure of health status.[68] Understanding the relationships of self-rated health to other factors can help health care professionals prioritize health promotion and disease prevention interventions to the needs of the population.[69] Overall, 1 of 5 (20%, slightly down from 21% in 2009) Lake County respondents to the 2014 California Health Information Survey (CHIS) rated their health status as "excellent," a somewhat lower proportion than the 23.2% of statewide respondents who viewed themselves at favorably (Figure 18). However, a slightly higher percentage of county residents than other Californians rated themselves as "very good" (33.7% and 31.4%, respectively). Close to one-quarter (23.3%) of county residents reported "fair" and "poor" health status compared to the statewide average of 17%.

Figure 18. Self-Rated Health Status, Lake County and California, 2014

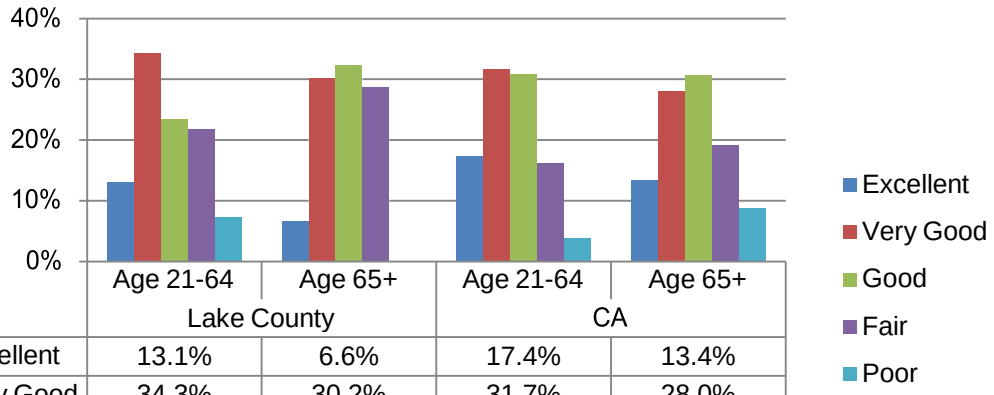


Source: California Health Information Survey

[68] Franks P, Gold MR, Fiscella K. Sociodemographics, self-rated health, and mortality in the US. *Soc Sci Med*. 2003;56:2505–2514.
[69] Idler, EL., Benyamini, Y. (1997). Self-rated health and mortality: A review of twenty-seven community studies. *J Health Soc Behav,* 38, 21-37.

As a group, only *half* the proportion of Lake County seniors (age 65+) rated their health status as "excellent" in the CHIS than seniors statewide, 6.6% and 13.4%, respectively. (The difference between non-senior adults for this rating was less marked.) About as many county seniors as California seniors, on average, viewed themselves as being in "fair" or "poor" health (Figure 19).

Figure 19. Self-Rated Health Status, Lake County and California



	Lake County		CA	
	Age 21-64	Age 65+	Age 21-64	Age 65+
Excellent	13.1%	6.6%	17.4%	13.4%
Very Good	34.3%	30.2%	31.7%	28.0%
Good	23.5%	32.3%	30.9%	30.7%
Fair	21.8%	28.7%	16.2%	19.1%
Poor	7.3%	0.0%	3.8%	8.8%

Source: California Health Interview Survey, 2014
Some figures are considered statistically "unstable" due to small sample size.

MORBIDITY (DISEASE CONDITIONS AND ILLNESS)

Morbidities include conditions and illnesses such as infectious and communicable diseases and other disorders that can cause pain, dysfunction or death. (Note: while injuries are included in the broader sense of morbidity, unintentional and intentional injuries are addressed elsewhere in this report in the Safety Issues section.) These conditions affect people emotionally and financially as well as physically, and can alter one's perspective about quality of life. The term "disease burden," which will be discussed later in this section, refers to the impact of a health condition that can be measured by financial cost, mortality, morbidity, or other indicators.

Available *County Rankings* reflect the overall health of counties in California, and provide a snapshot of how healthy residents are by comparing their overall health and the factors that influence their health with other counties in the state. Population health measures in the *Rankings* for health outcomes and health factors are included based on scientific relevance, importance, and availability of data at the county level.[70] The *Rankings* are based on a model of population health that emphasizes the many factors that, if improved, can help make communities healthier places to live, learn, work and play.

Summary rankings for Health Outcomes continue to place Lake County in 2016 as 57th (of 57 California counties included in the analysis[71])--the worst in the state. For length of life, the ranking is

[70] *County Health Rankings and Roadmaps.* University of Wisconsin Population Health Institute. http://preview.countyhealthrankings.org/app/california/2016/rankings/lake/county/factors/overall/snapshot
[71] California has *58* counties, however Alpine County was not included in the state ranking due to its small size.

also 57th, and for the measures of quality of life the ranking is 40st (Table 14). *Quality of life* is a combination of self-report fair or poor health; poor physical health days; poor mental health days; and the percent of births with low birth weight. The county's ranking on quality of life fell 2 places since 2012.

Table 14. Health Outcomes Summary Rankings of California Counties: Lake County

Health Outcomes (Overall in 2016: 56/57)			
Length of Life		**Quality of Life**	
2012 Rank	2016 Rank	2012 Rank	2016 Rank
57	57	38	40

Source: *County Health Rankings and Roadmaps, 2016.*
Ranking is out of 57 counties.

Summary rankings for Health Factors for Lake County range quite a bit (Table 15), but the good news is that overall it rose from 56th to 50th (worse) place. The county ranked poorly among counties in the category of health behaviors, 50th in social/economic factors, and 44th for clinical care in 2016. *Health behaviors* include things like smoking and exercise; *clinical care* includes measures of access to medical care; *social and economic* factors include education, employment, and community safety. On the physical environment, the county ranked 20th in 2012 but fell to 30th place in 2016. *Physical environment* is a combination of environmental quality and the "built environment" (human-created or arranged physical objects and places people interact most directly with such as structures and landscapes).

Table 15. Health Factors Summary Rankings of California Counties: Lake County, 2012 & 2015

Health Factors (Overall in 2016: 50/57)							
Health Behaviors		**Clinical Care**		**Social/Economic Factors**		**Physical Environment**	
2012 Rank	2016 Rank	2012 Rank	2016 Rank	2012 Rank	2016 Rank	2012 Rank	2016 Rank
57	50	45	44	49	47	30	30

Source: *County Health Rankings and Roadmaps, 2016.*
Ranking is out of 57 counties.

Table 16 below displays the incidence or cases of communicable diseases commonly reported for morbidity indicators in community health assessments. The case rates shown in the table are per 100,000 population and show current and previous reporting periods.

Lake County ranks 54th out of 58 counties for its rate of gonorrhea in females. The rate is higher than the statewide rate and the national Healthy People 2020 target. The county's rate of Chlamydia has been rising--up from 163.1 in 2006-2008 to 259.3 in 2012-2014. Nonetheless its Chlamydia rate is lower than the state as a whole. Rates for AIDS and tuberculosis, while considered statistically unreliable, also appear to be more favorable than statewide.

Table 16. Lake County Morbidity by Cause, 3-Year Average

Health Status Indicator	2009-2011				2011-2013				Healthy People 2020 Target
	County Rank Order	Cases (Avg) Lake County	Crude Case Rate		County Rank Order	Cases (Avg) Lake County	Crude Case Rate		
			Lake County	CA			Lake County	CA	
AIDS Incidence (Age 13+)	34	2.0	3.6*	9.7	36	2.0	3.6*	7.3	12.4
Chlamydia incidence	24	163.0	252.8	417.6	19	168.0	259.3	447.0	[a]
Gonorrhea incidence females[b]	51	19.3	191.7	125.9	54	30.0	292.3	172.1	251.9
Tuberculosis incidence	20	1.0	1.6*	6.4	24	1.3	2.1*	5.7	1.0

Source: County Health Status Profiles 2015. California Department of Public Health
* Rate or percent unreliable; fewer than 20 cases or relative standard error greater than or equal to 23%.
[a] Prevalence data were not available in all California counties to evaluate Healthy People 2020 target of 6.3-11.5% (depending on setting) testing positive in the population 15-24 years of age.
[b] Age 15-44

Lake County's crude case rate of AIDS is unstable due to the small number of events. Based on unstable rates, the county ranked 20th of 58 counties in 2011-2013.[72] Between March 1983 and December 2013, the county had a cumulative total of 160 HIV (AIDS) cases (Table 17). Of those, 98 (61%) are now deceased. There have been 20 HIV (non-AIDS) cases reported for Lake County between April 2006 and December 2014.[73]

Table 17. Cumulative HIV/AIDS Cases Reported for Lake County as of December 23, 2013

HIV (Non-AIDS)				HIV (AIDS)			
Total Cases	Living Cases	Deceased		Total Cases	Living Cases	Deceased	
		Number	%			Number	%
20	18	1	5	160	62	98	61

Source: California Department of Public Health, Office of AIDS. HIV/AIDS Surveillance Section, data as of December 23, 2014.
HIV (AIDS) reporting began in March 1983. HIV (non-AIDS) reporting by name began in April 2006. Counts include cases for which the first report was in California. Excluded are cases diagnosed, but not yet reported as of December 23, 2014, which may understate the numbers of diagnoses and deaths in the most recent years. CDPH no longer releases data that are less than 1 year old. The surveillance report below includes data for cases diagnosed up to December 31, 2013, as determined on January 1, 2015. This is the most currently available HIV/AIDS surveillance data approved for release.

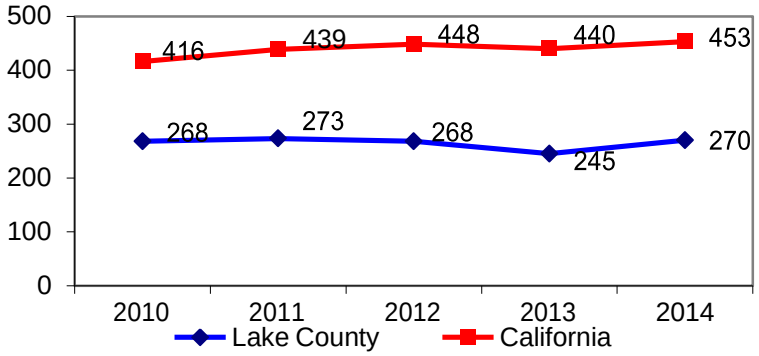
Chlamydia, a bacterial disease, often has no symptoms, and people who are infected may unknowingly pass the disease to sexual partners. While treatable, Chlamydia can lead to infertility, and like gonorrhea and syphilis, can have long-lasting consequences for women. Newborns can also

[72] County Health Status Profiles 2015. California Department of Public Health. http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx
[73] California Department of Public Health. Office of AIDS. HIV/AIDS Semiannual Statistics. http://www.cdph.ca.gov/data/statistics/Documents/HIVSurveillanceReport2013dxBy2014yrenddata.pdf

contract it from their infected mothers at the time of birth. Prior untreated Chlamydia infection is one of the most common causes of infertility.[74]

Lake County's case rate of Chlamydia is lower than the statewide rate but, like the California average, has been rising for many years. The county's rate in 2014 was 270 per 1,000 population; it was 157 in 2004 (Figure 20).[75]

Figure 20. Chlamydia Case Rate per 1,000 Population, 2010-2014



Source: California Department of Public Health, STD Control Branch

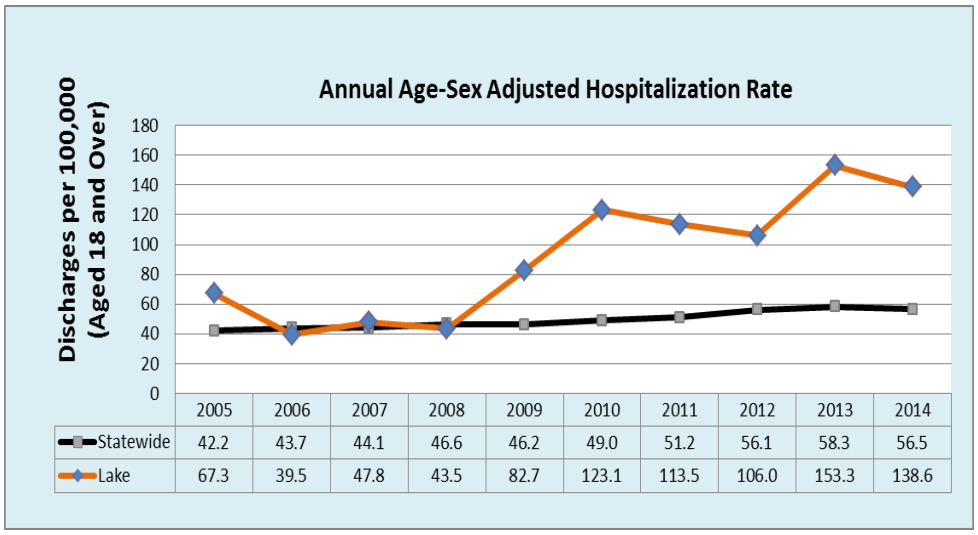
Lake County's case rate (per 100,000 population) for tuberculosis is relatively low compared to California. Because the number of cases each year is so small, it is difficult to detect trends over time. Rates and rate changes cannot be calculated where number of cases is less than 5. In the 10-year period 2005-2014, 11 cases of TB were reported for Lake County.[76] Like California and the rest of the nation, the county has seen an overall decrease in cases since the mid 1990's, though the decline has leveled off in recent years.[77]

Prevention Quality Indicators

Prevention Quality Indicators (PQIs) identify hospital admissions (age 18 and over) that evidence suggests may have been avoided through access to high-quality outpatient care. The PQIs are also called "ambulatory care-sensitive conditions" or "preventable hospitalizations." These measures assess the quality of the healthcare system as a whole, especially ambulatory care, in preventing hospitalizations due to potentially-avoidable medical complications. The PQIs can be used not only to monitor access but also morbidity for acute conditions and chronic diseases including diabetes, asthma, hypertension, and heart failure. Of the 10-year trend for the 10 PQIs shown on the following pages (Figures 21 - 33), all Lake County hospitalization rates in each year, except for Hypertension and Urinary Tract Infections, are generally higher (worse) than statewide rates.[78]

[74] Haggerty CL, et al. Risk of sequelae after Chlamydia trachomatis, genital infection in women. *J Infect Dis* 2010;201:134-155.
[75] http://www.cdph.ca.gov/data/statistics/Documents/STD-Data-Chlamydia-Provisional-Tables.pdf
[76] https://www.cdph.ca.gov/programs/tb/Documents/TBCB-CA-TB-Data-Tables-2014.pdf
[77] County Health Status Profiles 2012. California Department of Public Health. http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx
[78] Office of Statewide Health Planning and Development, Patient Discharge Data, 2005-2014. AHRQ PQIs, 2012 U.S. Census. http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pqi_overview.html?utm_source=streamsend&utm_medium=email&utm_content=24868681&utm_campaign=2005-2014%20AHRQ%20PQIs

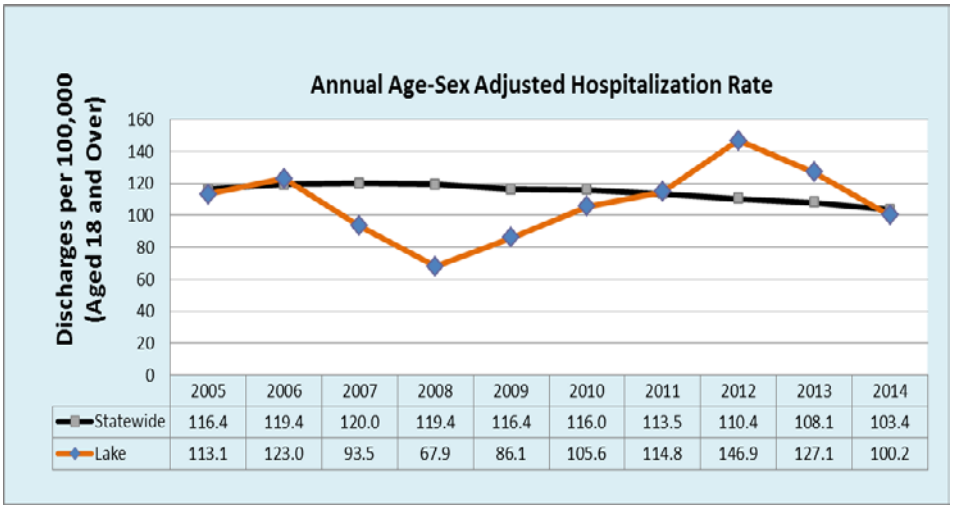
Figure 21. Diabetes Short-term Complications (PQI #1)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	42.2	43.7	44.1	46.6	46.2	49.0	51.2	56.1	58.3	56.5
Lake	67.3	39.5	47.8	43.5	82.7	123.1	113.5	106.0	153.3	138.6

Source: OSHPD, Patient Discharge Data, 2005-2014

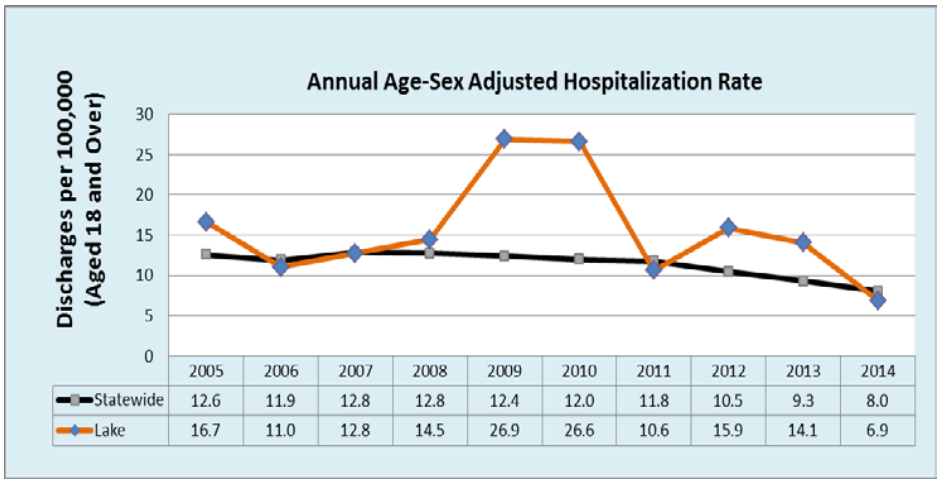
Figure 22. Diabetes Long-term Complications (PQI #3)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	116.4	119.4	120.0	119.4	116.4	116.0	113.5	110.4	108.1	103.4
Lake	113.1	123.0	93.5	67.9	86.1	105.6	114.8	146.9	127.1	100.2

Source: OSHPD, Patient Discharge Data, 2005-2014

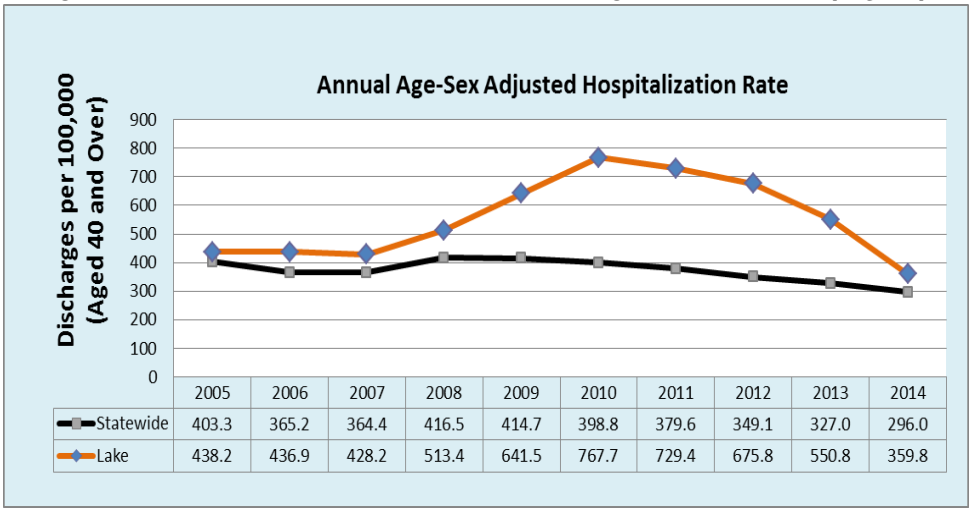
Figure 23. Uncontrolled Diabetes (PQI #14)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	12.6	11.9	12.8	12.8	12.4	12.0	11.8	10.5	9.3	8.0
Lake	16.7	11.0	12.8	14.5	26.9	26.6	10.6	15.9	14.1	6.9

Source: OSHPD, Patient Discharge Data, 2005-2014

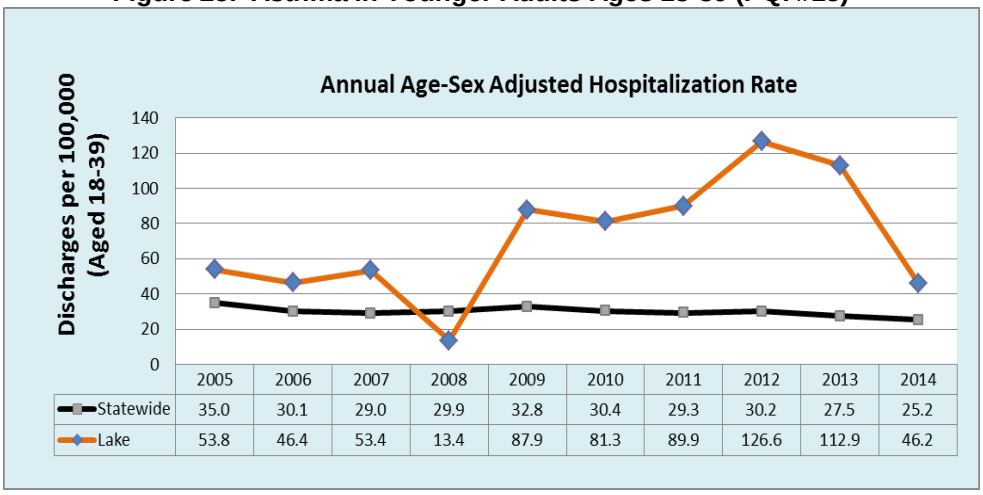
Figure 24. COPD or Asthma in Older Adults Ages 40 and Older (PQI #5)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	403.3	365.2	364.4	416.5	414.7	398.8	379.6	349.1	327.0	296.0
Lake	438.2	436.9	428.2	513.4	641.5	767.7	729.4	675.8	550.8	359.8

Source: OSHPD, Patient Discharge Data, 2005-2014

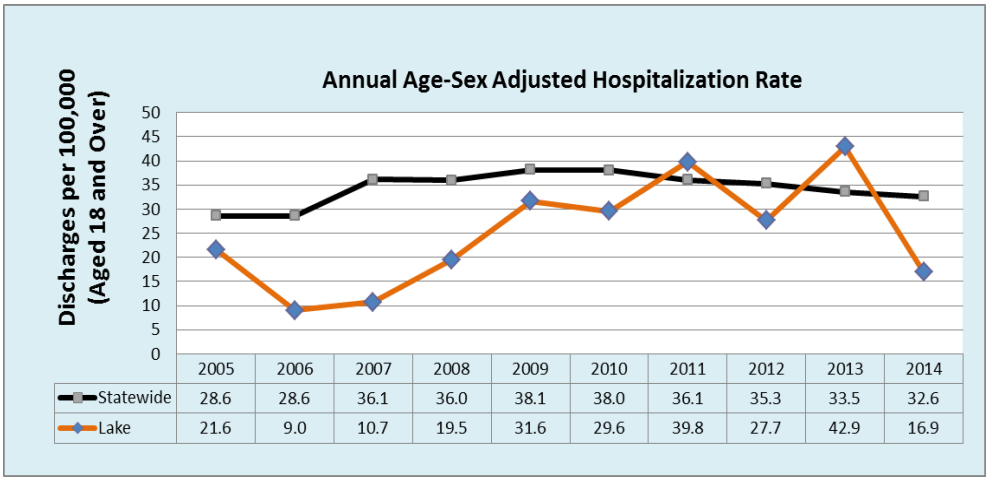
Figure 25. Asthma in Younger Adults Ages 18-39 (PQI #15)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	35.0	30.1	29.0	29.9	32.8	30.4	29.3	30.2	27.5	25.2
Lake	53.8	46.4	53.4	13.4	87.9	81.3	89.9	126.6	112.9	46.2

Source: OSHPD, Patient Discharge Data, 2005-2014

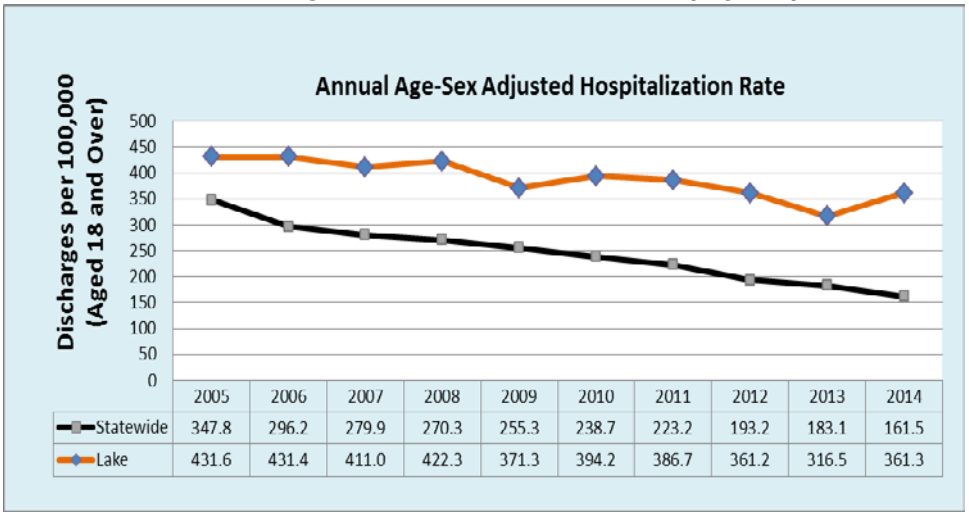
Figure 26. Hypertension (High Blood Pressure) (PQI #7)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	28.6	28.6	36.1	36.0	38.1	38.0	36.1	35.3	33.5	32.6
Lake	21.6	9.0	10.7	19.5	31.6	29.6	39.8	27.7	42.9	16.9

Source: OSHPD, Patient Discharge Data, 2005-2014

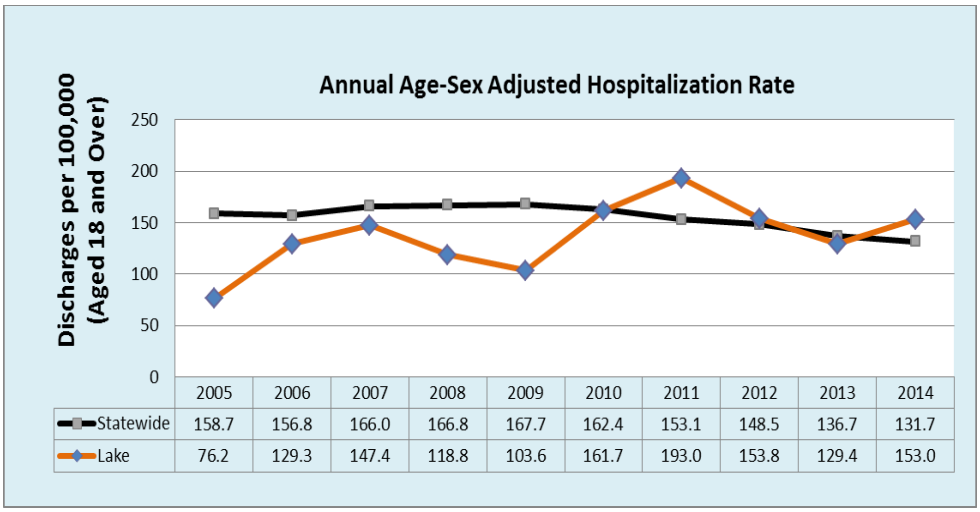
Figure 27. Bacterial Pneumonia (PQI #11)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	347.8	296.2	279.9	270.3	255.3	238.7	223.2	193.2	183.1	161.5
Lake	431.6	431.4	411.0	422.3	371.3	394.2	386.7	361.2	316.5	361.3

Source: OSHPD, Patient Discharge Data, 2005-2014

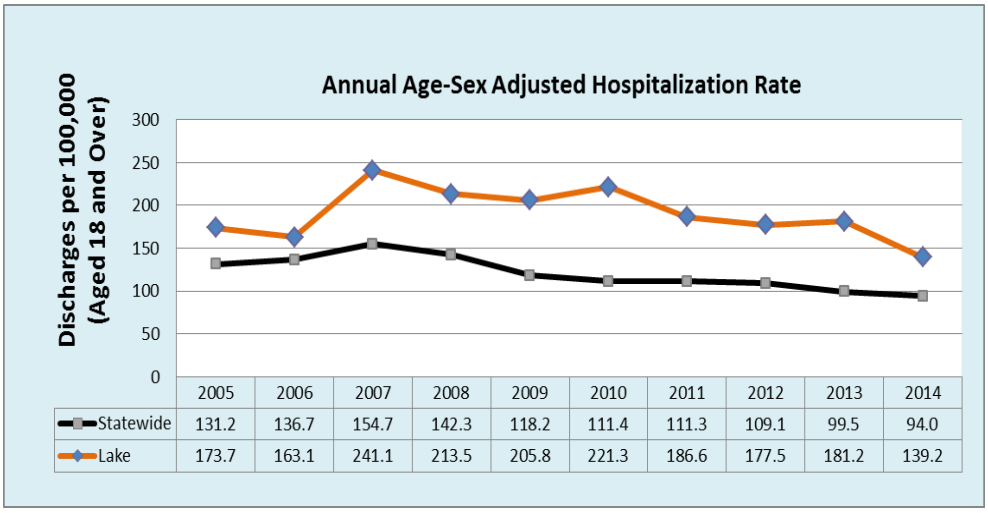
Figure 28. Urinary Tract Infection (PQI #12)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	158.7	156.8	166.0	166.8	167.7	162.4	153.1	148.5	136.7	131.7
Lake	76.2	129.3	147.4	118.8	103.6	161.7	193.0	153.8	129.4	153.0

Source: OSHPD, Patient Discharge Data, 2005-2014

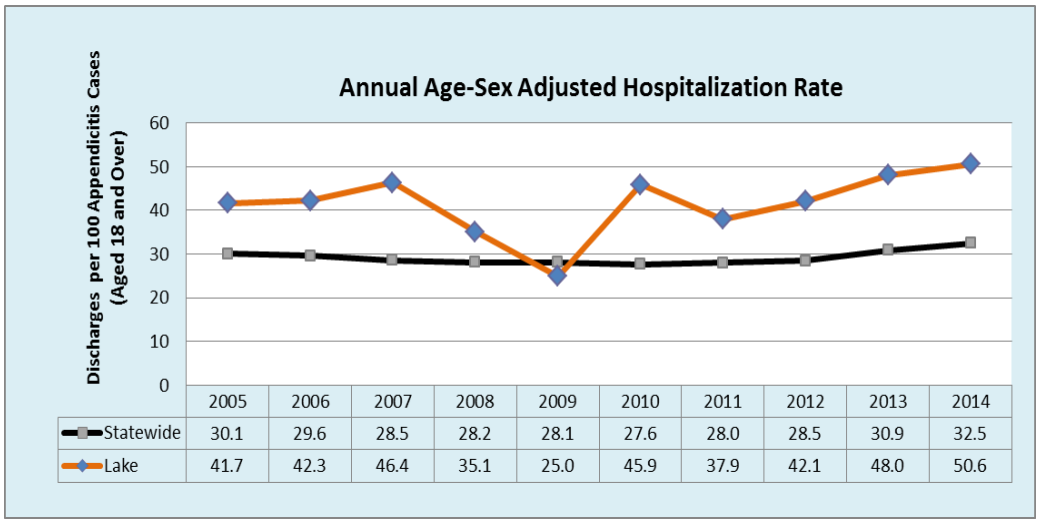
Figure 29. Dehydration (PQI #10)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	131.2	136.7	154.7	142.3	118.2	111.4	111.3	109.1	99.5	94.0
Lake	173.7	163.1	241.1	213.5	205.8	221.3	186.6	177.5	181.2	139.2

Source: OSHPD, Patient Discharge Data, 2005-2014

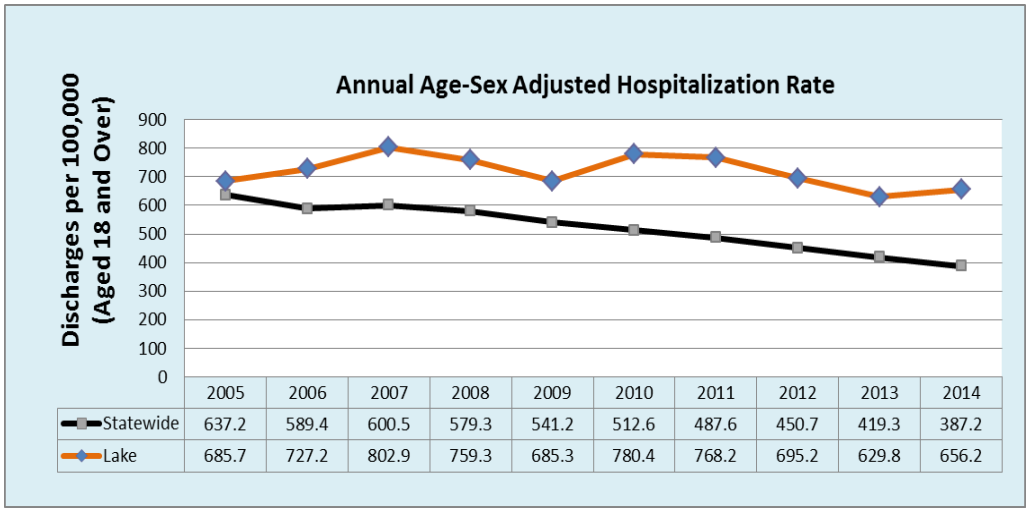
Figure 30. Perforated Appendix (PQI #2)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	30.1	29.6	28.5	28.2	28.1	27.6	28.0	28.5	30.9	32.5
Lake	41.7	42.3	46.4	35.1	25.0	45.9	37.9	42.1	48.0	50.6

Source: OSHPD, Patient Discharge Data, 2005-2014

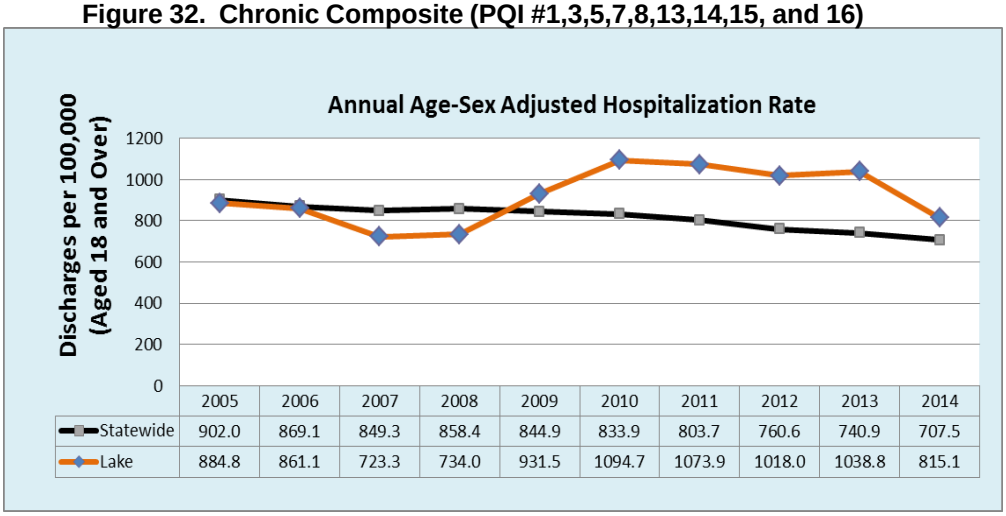
Figure 31. Acute Composite (PQI #10, 11, and 12)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	637.2	589.4	600.5	579.3	541.2	512.6	487.6	450.7	419.3	387.2
Lake	685.7	727.2	802.9	759.3	685.3	780.4	768.2	695.2	629.8	656.2

Source: OSHPD, Patient Discharge Data, 2005-2014

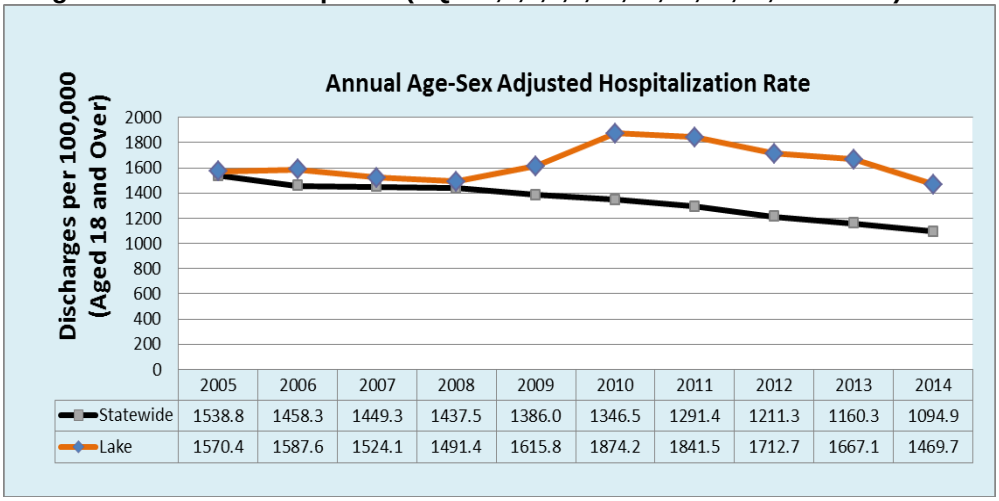
Figure 32. Chronic Composite (PQI #1,3,5,7,8,13,14,15, and 16)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	902.0	869.1	849.3	858.4	844.9	833.9	803.7	760.6	740.9	707.5
Lake	884.8	861.1	723.3	734.0	931.5	1094.7	1073.9	1018.0	1038.8	815.1

Source: OSHPD, Patient Discharge Data, 2005-2014

Figure 33. Overall Composite (PQI #1,3,5,7,8,10,11,12,13,14,15 and 16)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Statewide	1538.8	1458.3	1449.3	1437.5	1386.0	1346.5	1291.4	1211.3	1160.3	1094.9
Lake	1570.4	1587.6	1524.1	1491.4	1615.8	1874.2	1841.5	1712.7	1667.1	1469.7

Source: OSHPD, Patient Discharge Data, 2005-2014

MORTALITY (DEATH)

Mortality statistics are the backbone of public health. Without knowing how people die, and at what ages, epidemiologists can only guess how many deaths are potentially preventable. Good mortality and surveillance data can identify overlooked problems and help health organizations decide where to direct effort and money.[79]

Mortality indicators correlate with more than physical health conditions as described above; social and environmental factors play important roles. Being healthy and living long—and a community's burden of disease—can depend very much on which community a person lives in. People with less income and wealth can expect to live comparatively shorter lives.[80]

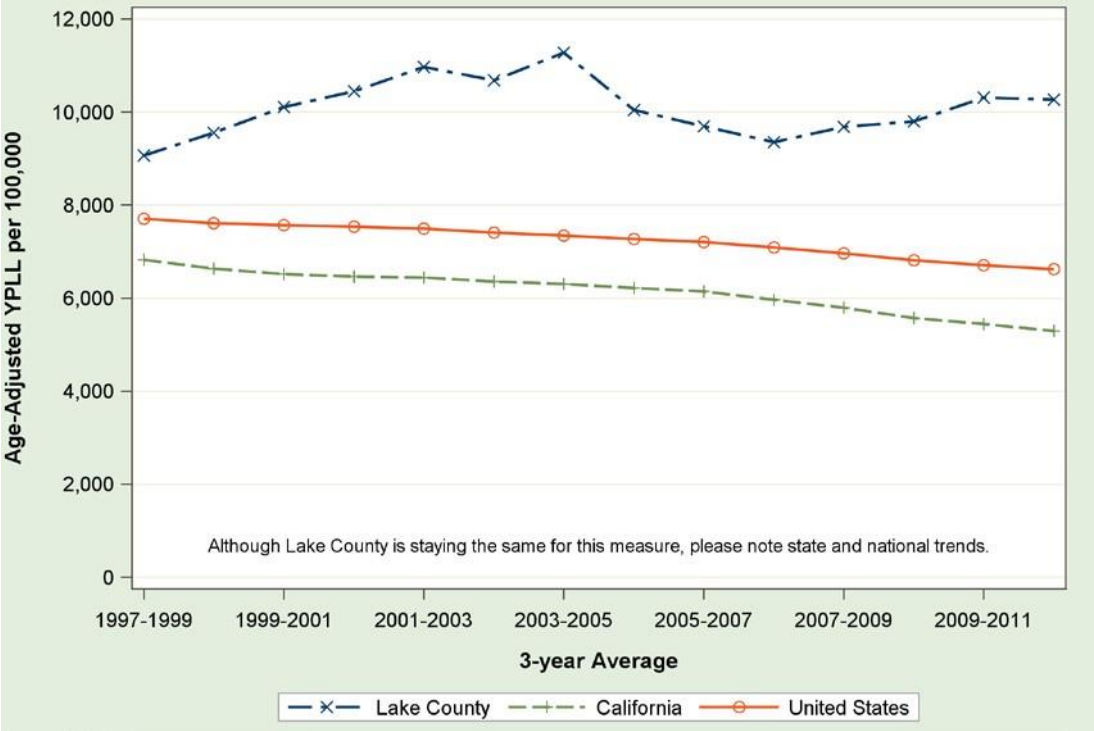
Disease Burden and Years of Potential Life Lost (YPLL)

There are several measures used to quantify the burden imposed by diseases on people. Years of potential life lost (YPLL) is a simple estimate of the number of years that a person's life was shortened due to a disease. It is used to reflect the impact of premature mortality (death) on a population's overall life expectancy. Seventy-five years is used as the standard life expectancy and YPLL-75 is obtained by subtracting the age at the time of death from 75. For example, a man who died from heart disease at age 60 would add 15 years of potential life lost, while a man who died at 80 would not contribute any years of life lost.

Lake County ranks as the worst county in California for premature death. The 2010-2012 three-year average total age-adjusted years of potential life lost before age 75 (YPLL-75) per 100,000 persons was 10,269 years, almost double the state as a whole (5,295). After rising between about 1998 and 2004, YPLL-75 in the county declined some, but has remained substantially higher than both the state and national rates (Figure 34).[81]

[79] Brown, D. Health and Science. *Washington Post*. Reprinted September 18, 2010.
[80] Sampson R, Morenoff J, Gannon-Rowley T. Assessing "neighborhood effects": Social processes and new directions in research. *Annu Rev Sociol*. 2002;28:443-478.
[81] *County Health Rankings and Roadmaps.* University of Wisconsin Population Health Institute. http://www.countyhealthrankings.org/app/california/2015/overview

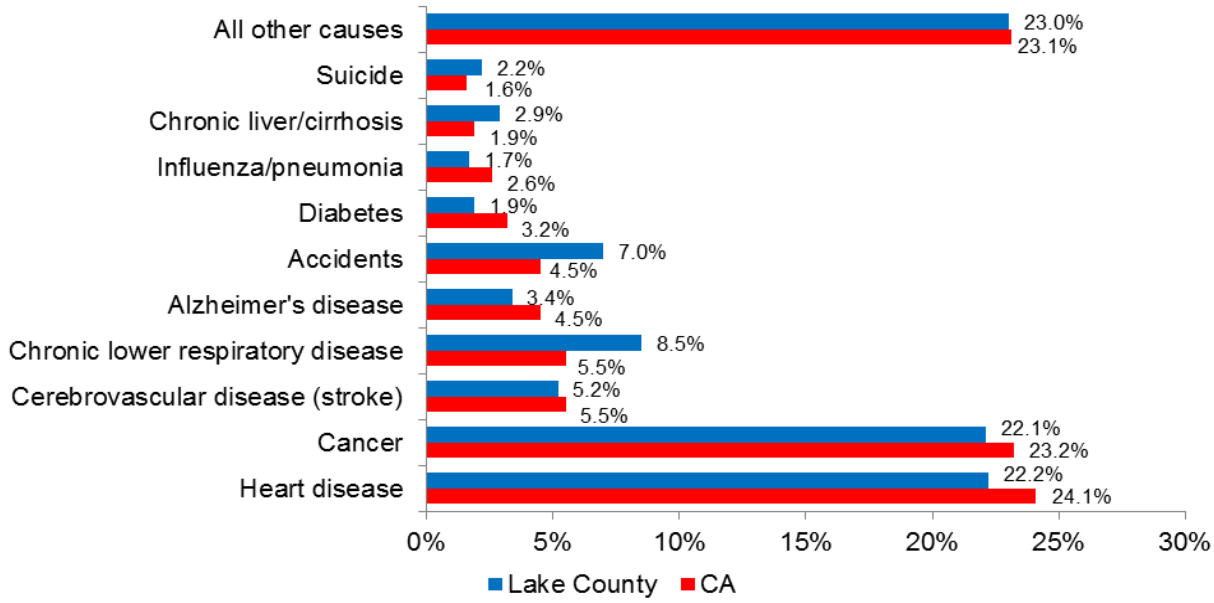
Figure 34. Premature Death in Lake County, Years of Potential Life Lost (YPLL)



County Health Rankings and Roadmaps. University of Wisconsin Population Health Institute.

The leading causes of mortality present a broad picture of the causes of death in Lake County. The 10 leading causes by percentage of contribution in 2013 for the county and state are displayed below in Figure 35.[82]

Figure 35. Ten Leading Causes of Death by Percent of Contribution, 2013



Source: Death Statistical Data Tables, California Department of Public Health

82 https://www.cdph.ca.gov/data/statistics/Documents/VSC-2013-0520.pdf

The Lake County death *rates* displayed in Table 18 are per 100,000 population for the most recent 3-year average period of 2012-2014. The crude death rate is the actual risk of dying. The age-adjusted rate is the hypothetical rate that the county would have if its population were distributed by age in the same proportions as the 2000 U.S. population. The shaded rows in the table—some of which contain "statistically unstable" rates, unavoidable because of small numbers of events—highlight the death rates for which Lake County was reported to exceed state, national, or National Health Objective rates. Of the 19 reported causes of death, the county ranked worse than the state—and most of California's other counties as well—on all but 2 causes (89%).[83] It ranked worst or 2nd worst for all causes, all cancers combined, lung cancer, unintentional injuries, drug-induced deaths, chronic lower respiratory disease, and chronic liver disease and cirrhosis.

Table 18. Lake County Deaths by Cause, 3-Year Average, 2012-2014

Lake County Rank Order	Health Status Indicator	Crude Death Rate	Age-Adjusted Death Rate	Age-Adjusted Death Rate		National Health Objective
				Statewide	National[1]	
58	All causes	1,266.8	918.6	619.6	731.9	[a]
57	All cancers	284.5	193.2	146.5	163.2	161.4
45	Colorectal (colon) cancer	22.1*	14.6*	13.3	14.6	14.5
58	Lung cancer	85.9	55.8	31.7	43.4	45.5
50	Female breast cancer	35.1*	22.3*	20.3	20.8[2]	20.7
42	Prostate cancer	28.7*	21.8*	19.3	7.8	21.8
25	Diabetes	23.7*	16.7*	20.4	21.2	[b]
36	Alzheimer's disease	42.2	30.2	30.1	23.5	[a]
55	Coronary heart disease	190.4	133.0	96.6	169.8	103.4
49	Cerebrovascular disease (stroke)	61.7	42.6	34.4	36.2	34.8
49	Influenza/pneumonia	25.2*	18.7*	15.3	15.9	[a]
56	Chronic lower respiratory disease	99.8	67.3	33.7	42.1	[a]
57	Chronic liver disease and cirrhosis	35.5	24.6	11.7	10.2	8.2
57	Unintentional injuries	92.1	83.6	28.2	39.4	36.4
54	Motor vehicle crashes	22.1*	21.8*	7.9	10.9	12.4
55	Suicide	27.8*	25.8*	10.2	12.6	10.2
56	Homicide	10.8*	11.9*	5.0	5.2	5.5
52	Firearm-related	19.0*	17.1*	7.6	10.4	9.3
58	Drug-induced deaths	46.3	43.6	11.3	14.6	11.3

Source: County Health Status Profiles 2016. California Department of Public Health.
The shaded rows in the table highlight the death rates where Lake County exceeds state, national, or National Objective rates.
* Rates are deemed unreliable based on fewer than 20 data elements.
[1] Deaths: Final Data for 2013, table 18. CDC/National Center for Health Statistics. http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf
[2] Health, United States, 2014, table 26. CDC/National Center for Health Statistics. http://www.cdc.gov/nchs/fastats/cancer.htm
[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 data files. California's data exclude multiple/contributing causes of death.

[83] "Incidence" of diseases refers to new cases being identified, while "mortality" refers to death from that that disease. While the former may be reflective of characteristics of the population and risk factors that contribute to the development of disease, the latter may be more reflective of access to, or appropriate use of healthcare services for effective diagnostic and treatment services.

Diseases of the circulatory system—coronary heart disease and stroke—are responsible for about 20% of Lake County's deaths. With the exception of a lower death rate than the national average for coronary heart disease, death rates due to stroke and coronary heart disease exceeded state, national and National Health Objective rates.

Primarily attributed to excessive alcohol consumption and Hepatitis C, liver disease and cirrhosis was the 11th leading cause of death in California and the 9th in Lake County for the 2012-2014 period.[84] The county's age-adjusted death rate, 24.6 per 100,000, was twice the state rate and two and a half times higher than the HP 2020 objective for the nation, which is 8.2 per 100,000. Other causes for which Lake County's death rates exceeded the state rate or HP 2020 objectives substantially were drug induced deaths (almost four times the state), unintentional injuries (more than three times the state), and chronic lower respiratory disease (over twice the state).

Table 19 presents the causes of death for which Lake County's rates *improved* (declined) between the 2009-2011 and 2012-2014 measurement periods. Those with reliable rates that improved include all causes, lung cancer, coronary heart disease and unintentional injuries. Despite the improved rates, the county's poor ranking for those causes changed little.

Table 19. Lake County Causes of Death Where Rates Decreased (Improved) from 2009-11 to 2012-14

Health Status Indicator	2009-2011 (3-year average)		2012-2014 (3-year average)	
	Age-Adjusted Death Rate	Rank Order	Age-Adjusted Death Rate	Rank Order
All causes	989.2	58	918.6	58
All cancers	193.3	52	193.2	58
Lung cancer	57.6	54	55.8	58
Female breast cancer	25.2*	50	22.3*	50
Prostate cancer	29.3*	56	21.8*	42
Coronary heart disease	164.7	55	133.0	55
Cerebrovascular disease (stroke)	55.3	57	42.6	49
Influenza/pneumonia	23.6*	55	18.3*	49
Drug-induced deaths	45.3	58	43.6	58
Suicide	26.7*	57	25.8*	55
Diabetes	18.4*	34	16.7*	25
Unintentional injuries	85.7	57	83.6	57
Motor vehicle crashes	21.9*	56	21.8*	54
Chronic lower respiratory disease	71.1	56	67.3	56

Source: County Health Status Profiles 2016. California Department of Public Health.
* Rates are deemed unreliable based on fewer than 20 data elements.

Table 20 presents the causes of death for which Lake County's rates *worsened* (increased) between the 2009-2011 and 2012-2014 measurement periods. The cause with a reliable rate that worsened was Alzheimer's disease.

[84] County Health Status Profiles 2016. California Department of Public Health. http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx

Table 20. Lake County Causes of Death whose Rates Increased (Worsened) from 2009-11 to 2012-14

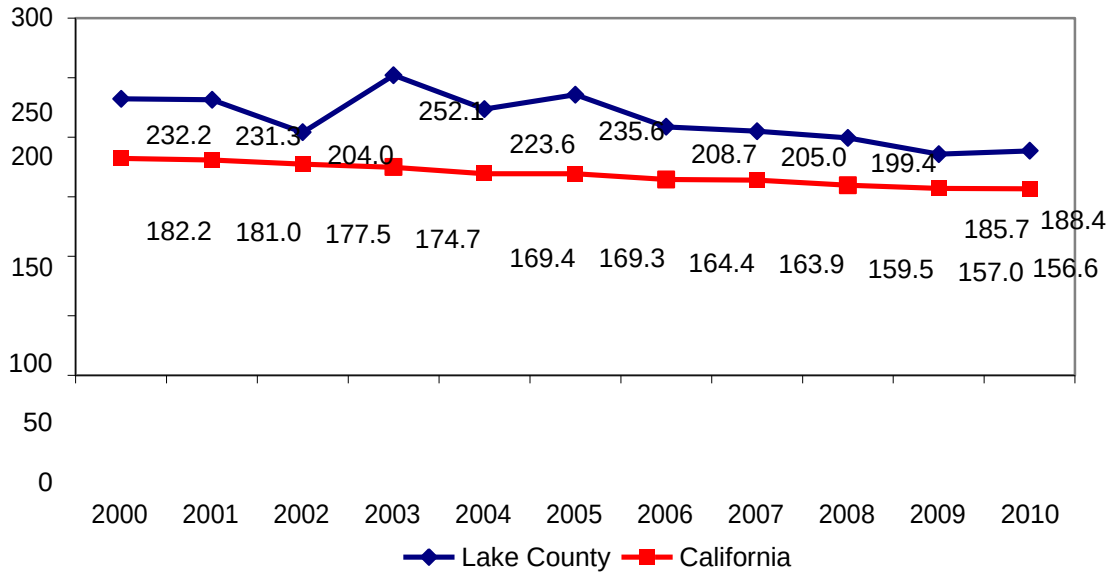
Health Status Indicator	2009-2011 (3-year average)		2012-2014 (3-year average)	
	Age-Adjusted Death Rate	Rank Order	Age-Adjusted Death Rate	Rank Order
Alzheimer's disease	29.0	31	30.2	36
Chronic liver disease and cirrhosis	21.7*	57	24.6	57
Firearm-related	16.7*	54	17.1*	52
Homicide	6.5*	43	11.9*	56

Source: County Health Status Profiles 2016. California Department of Public Health.
* Rates are deemed unreliable based on fewer than 20 data elements.

Cancer

Cancer accounts for about one out of every four deaths in Lake County. In the 2012-2014 measurement period, the county ranked worst in the state on death rate due to all cancers, falling from 52nd place in 2009-2011. Its rate was higher than both statewide and the HP 2020 national objective. The rate of death from lung cancer, for example, was substantially higher than the state rate. Nevertheless, mirroring the trend in California, there has been a statistically significant downward trend in the cancer mortality rate between 2000 and 2010 (Figure 36).

Figure 36. Age-Adjusted[1] Cancer Death Rates,[2] Lake County and California, 2000-2010



Source: California Department of Public Health. http://www.cdph.ca.gov/programs/ohir/Pages/Cancer2010County.aspx
[1] Rates are age-adjusted using the year 2000 U.S. standard population.
[2] Rates are per 100,000 population. More information about rate calculation is in the Technical Notes.

About 30% of all cancers (80% of lung cancers) are associated with exposure to tobacco smoke. Nearly 40% are considered associated with unhealthy lifestyle factors--combinations of poor diet,

inactivity, elevated body weight, excessive alcohol consumption, and high salt intake.[85] Death from cancers of the trachea, bronchus and lung lead all other types.

Table 21 breaks out mortality rates by type of cancer and shows that Lake County's death rates due to all cancers combined and specific individual cancers were worse than statewide rates and Healthy People 2020 Targets. The county's age-adjusted rate dropped from 232.3 in 2000 to 193.3 in 2010, a 17% decrease. California's age-adjusted rate dropped from 182.2 in 2000 to 156.6 in 2010, a 14% decrease. The county's rate of 193.2 in 2012-2014 for all cancers was virtually the same as in the 2011-2013 period, though its ranking fell from 52 to 58 worst in the state. The unstable rate for female breast cancer suggests a possible decline.

Table 21. Deaths Due to Cancer by Type of Cancer, 2009-2011 & 2012-2014, 3-year averages

Type	2009-2011				2012-2014				Healthy People 2020 Target
	County Rank Order	Crude Death Rate Lake County	Age-Adjusted Death Rate		County Rank Order	Crude Death Rate Lake County	Age-Adjusted Death Rate		
			Lake County	CA			Lake County	CA	
All cancers	52	260.6	193.3	156.4	57	284.5	193.2	146.5	161.4
Lung	54	79.1	57.6	36.5	58	85.9	55.8	31.7	45.5
Colorectal (colon)	36	19.6*	15.3*	14.7	45	22.1*	14.6*	13.3	14.5
Female breast	50	35.4*	25.2*	21.3	50	35.1*	22.3*	20.3	20.7

*Statistically unreliable due to small sample size.
Source: County Health Status Profiles 2013 & 2016. California Department of Public Health.

[85] *California Cancer Facts and Figures, 2013.* California Cancer Registry, California Department of Health Services, and American Cancer Society. http://www.ccrcal.org/pdf/Reports/ACS_2013.pdf

CHRONIC DISEASE AND OTHER CONDITIONS

Chronic diseases cost the nation's economy more than $1 trillion a year in lost productivity and treatment costs according to estimates of the cost burden of chronic disease. [86] And, the rate of chronic diseases is expected to increase annually, and with it the cost of treatment. Currently in California, 14 million people are estimated to be living with at least 1 chronic condition, and more than half have multiple chronic conditions.[87]

The most recent estimates of the burden of chronic disease in California using statewide prevalence estimates found nearly $98 billion was spent in treating 6 common chronic conditions (arthritis, asthma, cardiovascular disease, diabetes, cancer and depression) in California in 2010.[88] The estimated cost of treating these 6 conditions is 42% of all healthcare expenditures in the state. This study estimated that cardiovascular disease was associates with the greatest expense—an estimated $37 billion spent annually, or 16% of all healthcare costs.

The estimated number of cases and cost burden of chronic disease in Lake County suggests $222.2 million was the total health care cost on 6 common chronic conditions in 2010; these conditions represented 55.1% of total health care expenditures in Lake County (Table 22).

Table 22. Estimated Number of Lake County Cases* and Health Care Costs of Chronic Conditions in 2010.

	Arthritis	Asthma	Cardiovascular Disease	Diabetes	Cancer	Depression	Total health care cost on 6 chronic conditions	% of total health care expenditure due to 6 chronic conditions
Estimated number of cases	13,386	9,640	22,613	4,294	2,754	8,649		
Estimated healthcare costs	$35.4M	$19.3M	$89.5M	$24.5M	$31.2M	$22.3M	$222.2M	55.1%

*The data are reported as cases because people can have more than one chronic condition.
Source:. California Department of Public Health. Chronic Disease Control Branch. 2015.

.

Heart Disease

"Heart disease" refers to a variety of conditions including coronary artery disease, heart attack, heart failure, and angina, and is the leading cause of death in California. Smoking, being overweight or physically inactive, and having high cholesterol, high blood pressure, or diabetes are risk factors that can increase the chances of having heart disease. In addition, heart disease is a major cause of chronic illness.

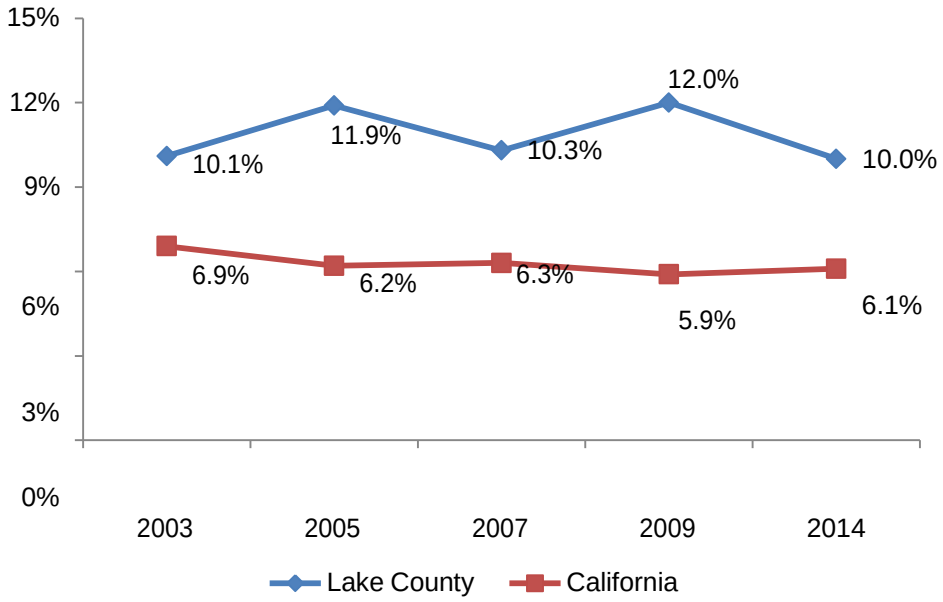
Lake County's 2012-2014 three-year average age-adjusted death rate from coronary heart disease was 133.0 per 100,000 population, 55th highest among the 58 counties, but down from 140.5 in the

[86] DeVol R, et al. An Unhealthy America: The Economic Burden of Chronic Disease. Milken Institute. 2007.
[87] The Burden of Chronic Disease and Injury in California, 2013.
https://www.cdph.ca.gov/programs/cdcb/Documents/BurdenReportOnline%2004-04-13.pdf
[88] Economic Burden of Chronic Disease in California, 2015. California Department of Public Health.
https://www.cdph.ca.gov/programs/cdcb/Documents/CDPHEconomicBurdenCD2015California.pdf

previous three-year period.[89] The county's rate is higher than both the statewide average of 96.6 and the Healthy People 2020 objective of 103.4.

Trend data from the California Health Interview Survey (CHIS) is difficult to interpret but suggests the incidence of heart disease has not changed appreciably in Lake County (Figure 37). According to the 2014 CHIS, 10% of Lake County adults indicated that they had been given a heart disease diagnosis by a physician—compared to 6.1% of residents statewide—a similar proportion to a decade ago. Asked in the 2014 CHIS how confident the respondents felt in being able to control and manage their heart disease, 50.0% reported "very confident," compared to 53.6% statewide, and 39.0% reported "somewhat confident."

Figure 37. Percent of Lake County Adults Who Self-Reported Ever Being Diagnosed With Heart Disease

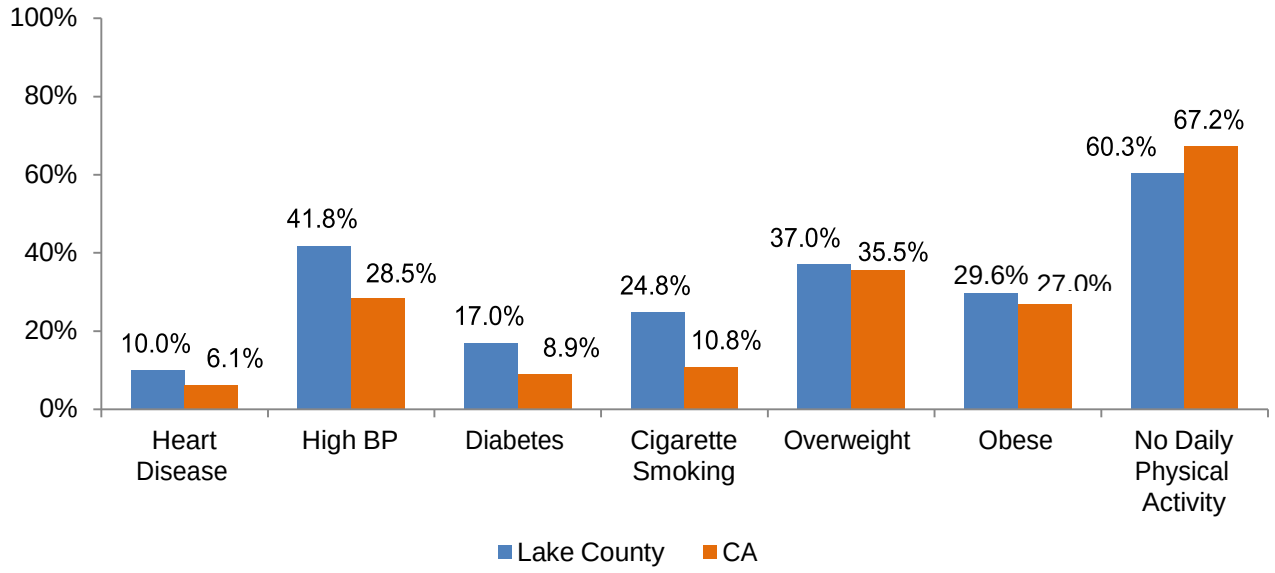


Source: California Health Interview Survey, multiple years.

Figure 38 shows current prevalence data from CHIS respondents on heart disease, stroke, heart failure, and related risk factors. Lake County residents fare worse than residents statewide on all of the risk factors such as heart disease, high blood pressure, diabetes and cigarette smoking, and slightly more favorably on daily exercise.

[89] County Health Status Profiles 2016. California Department of Public Health. http://www.cdph.ca.gov/programs/ohir/Pages/CHSPCountySheets.aspx#l

Figure 38. Prevalence Estimates for Heart Disease, Stroke, Risk Factors Among Adults, Lake County and California, 2014



Source: 2014 California Health Interview Survey.

Diabetes

The prevalence of diabetes continues to grow nationwide, and it poses a significant public health challenge. It increases the risk of cardiovascular disease, and the direct complications—blindness, lower limb amputation and end-stage kidney failure—increase as the prevalence of diabetes increases.[90] California's diabetes risk profile is higher than that of the rest of the United States, in part because of the state's higher proportion of Latinos, higher proportion of people without a high school diploma, and younger average age.[91] The estimated number of new diabetes cases in California has increased from 131,000 in 1995 to 209,000 in 2010 (age-adjusted rates) according to the CDC's Behavioral Risk Factor Surveillance System.[92] More than 1 in 10 California adults has diabetes, a 38% increase in one decade, and one in three has pre-diabetes.[93]

Obesity is a major risk factor for the development of diabetic complications, including cardiovascular disease and stroke as described above. Diabetes is also strongly related to social and economic factors. It is more than twice as common among adults who either did not attend or did not graduate from high school, compared to college graduates.[94]

The prevalence of diagnosed type 2 diabetes is 2 times higher in Californian adults without a high-school diploma compared to those with a college degree. Similarly, the percent of adults in Californians with diabetes is almost 2 times higher in those with family incomes below 200% of the federal poverty level compared to those whose income is 300% above.[95] A national clinical trial

[90] National Diabetes Fact Sheet, 2012. United States Department of Health and Human Services.
[91] Shi L, van Meijgaard J, Fielding J. Forecasting diabetes prevalence in California: a microsimulation. *Prev Chronic Dis* 2011;8(4):A80.
[92] Centers for Disease Control and Prevention, National Diabetes Surveillance System. *California - Total number (in thousands) of new cases of diagnosed diabetes among adults aged 18-76 years, 1996-2010*. http://www.cdc.gov/diabetes/statistics
[93] Diabetes in California Counties 2009. California Diabetes Program. http://www.caldiabetes.org/content_display.cfm?contentID=1160 (April 2010)
[94] Sayda A, Lochner K. Socioeconomic Status and Risk of Diabetes-Related Mortality in the U.S. *Public Health Rep*. 2010 May-Jun; 125(3): 377–388.
[95] Burden of Diabetes in California. California Department of Public Health Chronic Disease Control Branch, September 2014. https://www.cdph.ca.gov/programs/cdcb/Documents/FINAL%20Rpt%20(1877)%20DM%20burden%202014_9-04-14MNR3.pdf

demonstrated that type 2 diabetes can be delayed or prevented by healthful lifestyle changes, including moderate weight loss and regular, moderate-intensity physical activity.[96] In Lake County, the estimated number of people age 18 years or older with Type 2 diagnosed diabetes is 4,000 (8.1% prevalence) and the number with obesity is 13,000 (26.4% prevalence), a higher prevalence for both conditions than the statewide average of diabetes prevalence of 6.9% and obesity of 24.8%.[97]

According to the 2014 California Health Interview Survey (CHIS), 17% (8,111) of the 47,712 adults living in Lake County self-reported as having diabetes—a 61.9% increase from 2009. In both Lake County and California, the proportion of the adult population that was ever told by a doctor, they had diabetes or borderline or pre-diabetes, other than during pregnancy, also increased from 2009 to 2014 (Table 23).[98] Asked in the 2014 CHIS how confident the respondents felt in being able to control and manage diabetes, 68.7% reported "very confident" and 29.5% "somewhat confident.

Table 23. Lake County Adults Who Self-Reported Ever Having a Diabetes-Related Diagnosis

Area	Diagnosed with Diabetes				Diagnosed as Borderline or Pre-Diabetes			
	2005	2007	2009	2014	2009	2011	2013	2014
Lake County	6.8%	9.7%	10.5%	17.0%	11.9%	6.4%	10.8%	11.2%
California	7.0%	7.8%	8.5%	8.9%	8.0%	8.9%	10.1%	10.5%

Some estimated statistically unstable.
Source: California Health Interview Survey, multiple years.

The CHIS data from 2013-14 were pooled and analyzed, utilizing predictive models based on other data, to estimate the percentage of adults with prediabetes. Pre-diabetes, also referred to as impaired glucose tolerance or impaired fasting glucose, is a condition in which blood glucose levels are higher than normal but not high enough for a diagnosis of diabetes. People with pre-diabetes have a much higher risk of developing type 2 diabetes, as well as an increased risk for cardiovascular disease.[99] In Lake County, similar to the state, close to half of adults (46%) were estimated to have pre-diabetes. Among young adults ages 18-39, of all counties, Lake County had the *lowest* rates of pre-diabetes in California (Table 24). The county's rate of diabetes, however, was nearly double the proportion of the statewide average, 17% vs. 9%.

Table 24. Percent of Adults Estimated to Have Diabetes and Pre-diabetes by Age, Lake 2013-14

Area	Pre-Diabetes	Diabetes	Total	Pre-Diabetes by Age Group				
				18-39	40-54	55-69	70+	All Adults
Lake County	46%	17%	63%	26%	43%	58%	58%	46%
California	46%	9%	55%	33%	49%	60%	59%	46%

Source: UCLA Center for Health Policy Research and California. California Health Interview Survey.

[96] Diabetes in California Counties 2009. California Diabetes Program. http://www.caldiabetes.org/content_display.cfm?contentID=1160
[97] Burden of Diabetes in California. California Department of Public Health Chronic Disease Control Branch, September 2014. https://www.cdph.ca.gov/programs/cdcb/Documents/FINAL%20Rpt%20(1877)%20DM%20burden%202014_9-04-14MNR3.pdf
[98] California Health Interview Survey, UCLA Center for Health Policy.
[99] Babey SH, Wolstein J, Diamant AL, Goldstein H. *Prediabetes in California: Nearly Half of California Adults on Path to Diabetes*. UCLA Center for Health Policy Research and California Center for Public Health Advocacy, 2016.

Overweight and Obesity

Overweight and obesity, which are often caused by an interdependence of dietary factors and physical inactivity, are epidemic in the population and are associated with an increased risk for a number of serious health conditions.[100] On average, higher body weights are associated with higher death rates. Obesity's health impact goes far beyond heart disease and diabetes. In the past decade, overweight and obesity have emerged as new risk factors for developing certain cancers, including colorectal, breast, uterine (endometrial), and kidney cancers.[101] According to the CDC, the impact of the current weight trends on cancer incidence will not be fully known for several decades.[102] Continued focus on preventing weight gain will lead to lower rates of cancer and many chronic diseases. In 2013, severe obesity—defined as a body mass index of 35 or higher—cost California about $9.1 billion, with about $1.3 billion covered by Medi-Cal.[103]

While there is wide public understanding of the connection between obesity and health impacts such as diabetes and heart disease, other consequences are not as well known. A national survey[104] that assessed how the public understands the reasons behind the rising rates of obesity in the U.S. showed only 7% mentioned cancer, and only about 15% knew obesity can contribute to arthritis (a vicious cycle as the joint pain then makes it harder to exercise and lose weight); 25% thought it was possible for someone to be very overweight and still be healthy. In another concern, about half of the respondents thought their weight was "just about right" despite national data that show two-thirds of U.S. adults (and one-third of children and teens) are either overweight or obese.

There is considerable variation in the prevalence of overweight and obesity by race and ethnicity. While obesity affects nearly all age, income, educational, ethnic, and disability groups, rates are highest among Californians of Latino, American Indian, African American and Pacific Islander descent with lower incomes and disabilities.[105]

Adults

There is increasing evidence that obesity rates are stabilizing for adults and children—but the rates remain high. California is the 46th most obese state in U.S. for adults, with an obesity rate in 2013 of 24.1% and overweight and obesity rate combined of 60.1%.[106]

Table 25. California Adult Obesity Rates by Age and Ethnicity, 2013

Obesity Rates by Age								Obesity Rates by Ethnicity					
18-25 Years Old		26-44 Years Old		45-64 Years Old		65+ Years Old		Among Blacks		Among Latinos		Among Whites	
2013 %	Rank	2013 %	Rank	2013 %	Rank	2013 %	Rank	2013 %	Rank	2013 %	Rank	2013 %	Rank
13.9	41	25.5	43	29.3	45	21.5	47	34.8	31	30.7	21	22.4	45

Source: The State of Obesity: *Better Policies for a Healthier America 2014.* Trust for America's Health.

---

[100] For adults, overweight and obesity ranges are determined by using weight and height to calculate a number called the "body mass index" (BMI). BMI is used because, for most people, it correlates with their amount of body fat. An adult who has a BMI between 25 and 29.9 is considered overweight. An adult who has a BMI of 30 or higher is considered obese.

[101] Danaei G, Ding E, Mozaffarian D, et al. The preventable causes of death in the United States: Comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Med*. 2009 Apr 28;6(4):e1000058.

[102] http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=5.

[103] Wang YP et al. Severe Obesity In Adults Cost State Medicaid Programs Nearly $8 Billion In 2013. *Health Affairs* November 2015; 34(11):1923-1931

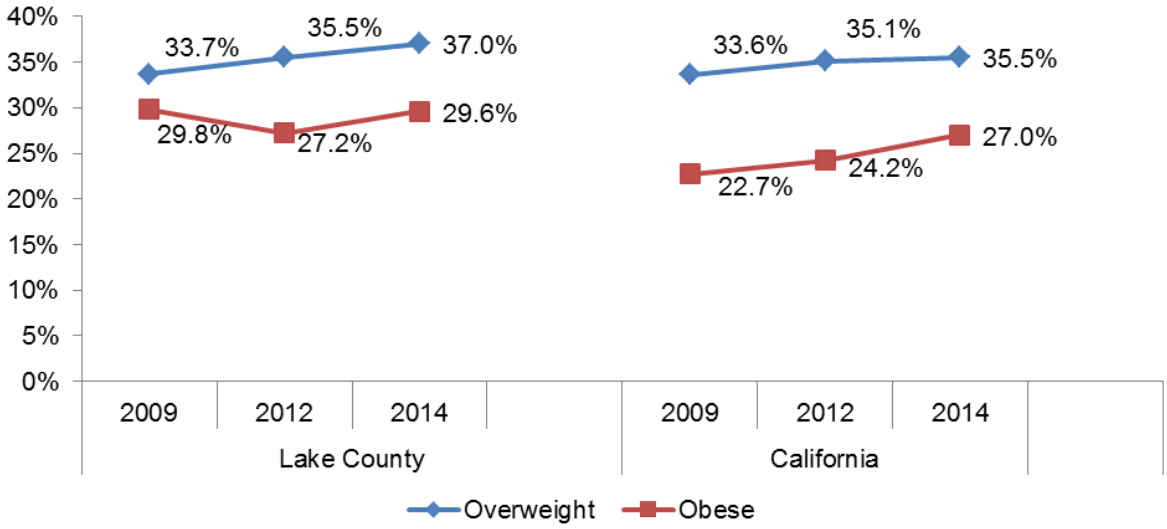
[104] T. Tompson, J. Benz, J. Agiesta, K.H. Brewer, L. Bye, R. Reimer, D. Junius. Obesity in the United States: Public Perception. The Associated Press-NORC Center for Public Affairs Research. January 2013.

[105] Ibid.

[106] The State of Obesity: *Better Policies for a Healthier America 2014.* Trust for America's Health. Robert Wood Johnson Foundation. http://stateofobesity.org/files/stateofobesity2014.pdf

As Figure 39 shows, rates of overweight and obesity are higher in Lake County than in the state as a whole. While the percentage of the county residents at normal weight, about one-third remained relatively consistent over the 2005-2009 period displayed in the graph, the proportion in the overweight category seems to have shifted into the obese category. Neither the county nor the state has met the Healthy People 2020 national objective of 15%.

Figure 39. Prevalence of Adult Overweight and Obesity, Lake County and California



Source: California Health Interview Survey, selected years
(Note: Overweight is (BMI 25.0 -29.9); obese is (BMI>30.0)

Children and Teens

Overweight and obesity have long been known to complicate pregnancy and have an effect on birth outcomes. Babies born to obese women are nearly three times more likely to die within the first month of birth than babies born to women of normal weight, and obese women are almost twice as likely to have a stillbirth.[107] Very obese women are also three to four times as likely to deliver their first baby by Caesarean section as first-time mothers of normal weight.[108]

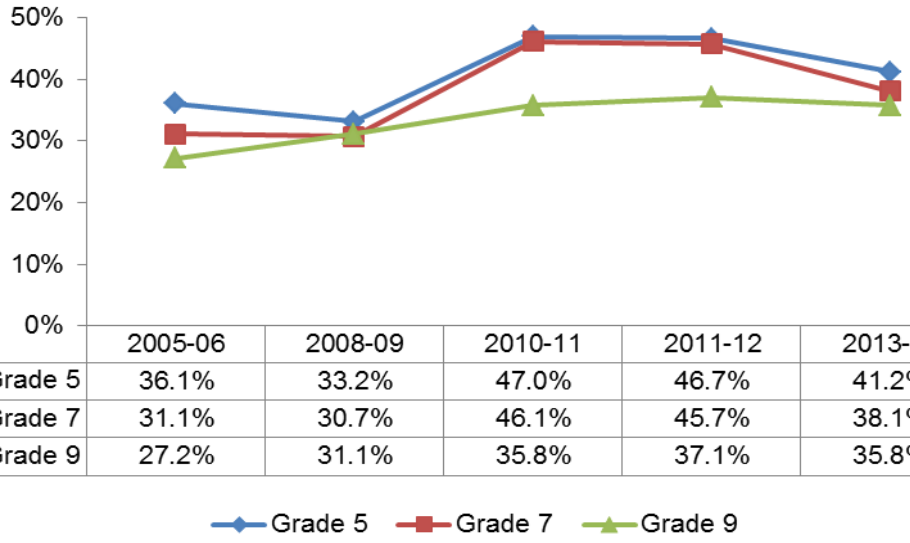
Over the past 20 years, the rate of overweight has doubled in children and tripled in teens nationally.[109] This rapid increase has generated widespread concern, as overweight and obesity are major risk factors for chronic diseases. A child is considered obese if his or her body mass index, calculated using weight and height, is at or above the 95th percentile for children of the same age and sex according to 2000 CDC growth charts. Children are 5 times more likely to be obese as an adult if they are overweight or obese between the ages of 3 and 5 years. Obesity in early childhood increases the risk of high cholesterol, high blood sugar, asthma and mental health problems later in childhood and adolescence.[110]

[107] Hollander D. The more obese a woman is, the greater her risk of having a stillbirth. *Perspectives on Sexual and Reproductive Health*. March 2008.
[108] Vahratian A, Siega-Riz AM, Savitz DA, Zhang J. Maternal pre-pregnancy overweight and obesity and the risk of cesarean delivery in nulliparous women. *Ann Epidemiol.* 2005;15(7):467-74.
[109] California Obesity Prevention Plan: A Vision for Tomorrow, Strategic Actions for Today, Sacramento (CA): Department of Health Services; 2006. http://www.cdph.ca.gov/programs/Pages/CO-OP.aspx (April 2010)
[110] Gilliland FD, Berhane K, et al. Obesity and the risk of newly diagnosed asthma in school-age children. *Am J Epidemiol.* 2003;158:406-415.

A study that analyzed data from 43,300 children suggests that obesity among kids not only exposes them to medical problems but mental health issues and learning disabilities as well.[111] *Overweight* children, the study found, are almost twice as likely as kids of normal weight to suffer from three or more health problems that include asthma, headaches, ear infections, depression, joint and muscle problems and developmental delays. *Obese* children are about 1.3 times as likely as those who aren't overweight to experience those health problems in childhood. According to the 2011 National Survey of Children's Health,[112] California has the 26th highest childhood obesity rate in the United States. Currently 30.4% of youth in California are overweight or obese. The good news is that, at least in California, after decades of rising, obesity rates among low-income pre-schoolers—considered most vulnerable to the disease's health risks—declined from 2008-2011.[113]

Figure 40 shows trends in the percentages of Lake County students who did *not* score in the Healthy Fitness Zone (HFZ) on the California Physical Fitness Test. On average, across the 5 school years presented, Lake County students in grades 5, 7, and 9 considered overweight (based on body composition factors) were 40.8%, 38.3%, and 33.4%, respectively.[114] Although 9th graders generally scored more favorably than 5th and 7th graders on this fitness indicator, their rates generally rose rather than declined like the younger students did across the 9-year period displayed.

Figure 40. Percent of Lake County Students Grades 5, 7 & 9 Not in Healthy Fitness Zone for Body Composition, Selected Years



	2005-06	2008-09	2010-11	2011-12	2013-14
Grade 5	36.1%	33.2%	47.0%	46.7%	41.2%
Grade 7	31.1%	30.7%	46.1%	45.7%	38.1%
Grade 9	27.2%	31.1%	35.8%	37.1%	35.8%

Source: California Department of Education

[111] Halfon N, Larson K, Slusser W. Associations between obesity and comorbid mental health, developmental, and physical health conditions in a nationally representative sample of US children aged 10 to 17. *Acad Ped* 2013;13:6–13.
[112] The State of Obesity: *Better Policies for a Healthier America 2014.* Trust for America's Health. Robert Wood Johnson Foundation. http://stateofobesity.org/files/stateofobesity2014.pdf
[113] Vital Signs: Obesity Among Low-Income, Preschool-Aged Children — United States, 2008–2011. *MMWR* Centers for Disease Control and Prevention. August 6, 2013. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm62e0806a1.htm?s_cid=mm62e0806a1_x
[114] California Department of Education. California Physical Fitness Report. http://dq.cde.ca.gov/dataquest/PhysFitness/PFTDN/Summary2011.aspx?r=0&t=3&y=2013-14&c=09000000000000&n=0000

According to emerging research, one of the potential explanations for why puberty is starting earlier, particularly for Latina girls, is the increase in average body weight among children over the last 3 decades. Studies linking poor diet and childhood obesity suggest the heavier girls are at about age 7 or 8, the earlier they enter puberty,[115,116] a change that puts them at higher risk for breast cancer and risky behaviors which can result in unplanned pregnancies.[117]

Physical Activity and Health

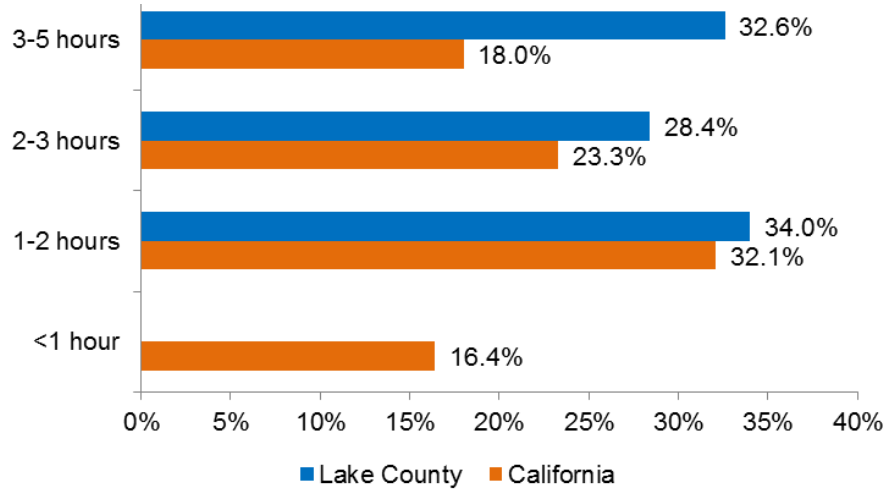
Extensive research has linked physical activity to health and inactivity to poor health, especially to obesity, diabetes and cardiovascular disease.[118,119] In the United States, levels of physical activity in children and adolescents are considered not sufficient to promote optimal health.[120]

A factor that may affect health behaviors that has received increasing attention in recent years is social influence. Although social influences on physical activity can occur throughout life, they are particularly important in children and adolescents because this is a formative period when friends are a primary point of reference in deciding which behaviors, values, and attitudes are desirable and which activities warrant effort. A recent examination that found strong evidence of associations between physical activity and friends' behaviors recommended physical activity with friends be considered in implementing health promotion programs.[121]

Sedentary activities such as sitting at a computer all day, playing video games and TV watching have been reported to be linked with low levels of physical activity. According to the 2014 California Health Interview Survey (CHIS), children and teens in Lake County are much more sedentary than their counterparts in the rest of the state. For example, 32.6% of children and teens in the county spent 3-5 hours on sedentary activities (TV watching, playing computer games) on a typical weekday after school (Figure 41), a much higher proportion than the statewide average.

[115] Biro F, et al. Pubertal assessment method and baseline characteristics in a mixed longitudinal study of girls. *Pediatrics* August 2010.
[116] Davison KK, et al. Percent body fat at age 5 predicts earlier pubertal development among girls at age 9. *Pediatrics* April 2003;111(4):815-821.
[117] Kadlubar FF, et al. The CYP3A4*1B variant is related to the onset of puberty, a known risk factor for the development of breast cancer. *Cancer Epidemiology, Biomarkers & Prevention* April 2003;12:327-331.
[118] Mekary RA, Feskanich D, Malspeis S, Hu FB, Willett WC, Field AE. Physical activity patterns and prevention of weight gain in premenopausal women. *Int J Obes* (Lond). 2009;33(9):1039–1047.
[119] Luke A, Dugas LR, Durazo-Arvizu RA, Cao G, Cooper RS. Assessing physical activity and its relationship to cardiovascular risk factors: NHANES 2003–2006. *BMC Public Health*. 2011;11(1):387.
[120] Salmon J, Timperio A. Prevalence, trends and environmental influences on child and youth physical activity. *Med Sport Sci.* 2007;50:183–199.
[121] Maturo CC, Cunningham SA. Influence of Friends on Children's Physical Activity: A Review. *Amer J Pub Health* July 2013:103(7);e23-e38.

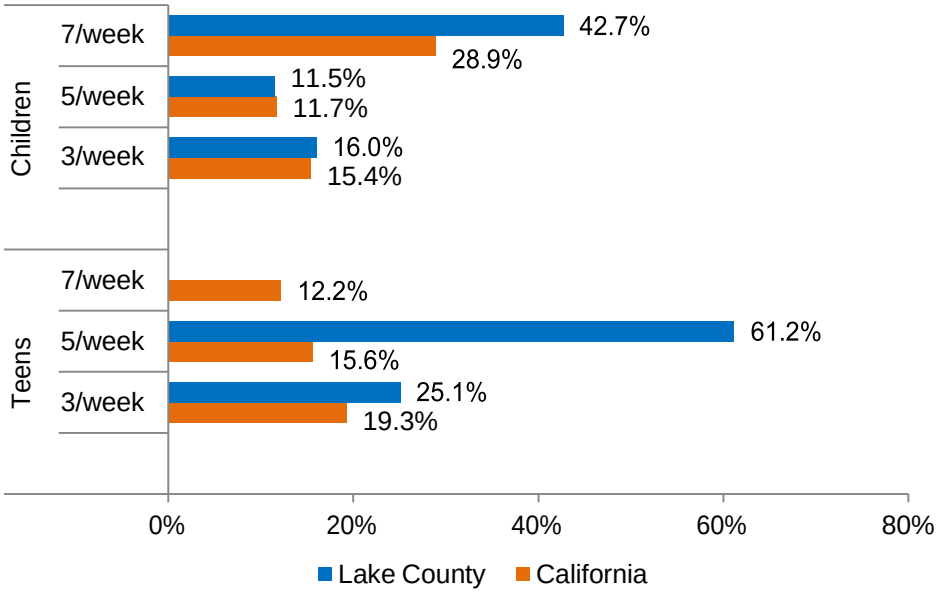
Figure 41. Time Children and Teens Spent on Sedentary Activities on Typical Weekday After School



Source: 2014 California Health Interview Survey.
Note: County rates are statistically unstable due to small sample size.

Despite reported levels of time spent during the week in sedentary activities, children and teens in Lake County reported spending more days per week in physical activity—not counting PE— than the statewide average (Figure 42). It should be noted, however, that the county's sample size was too small to produce results for each amount of weekly exercise, and the rates reported are statistically unstable.

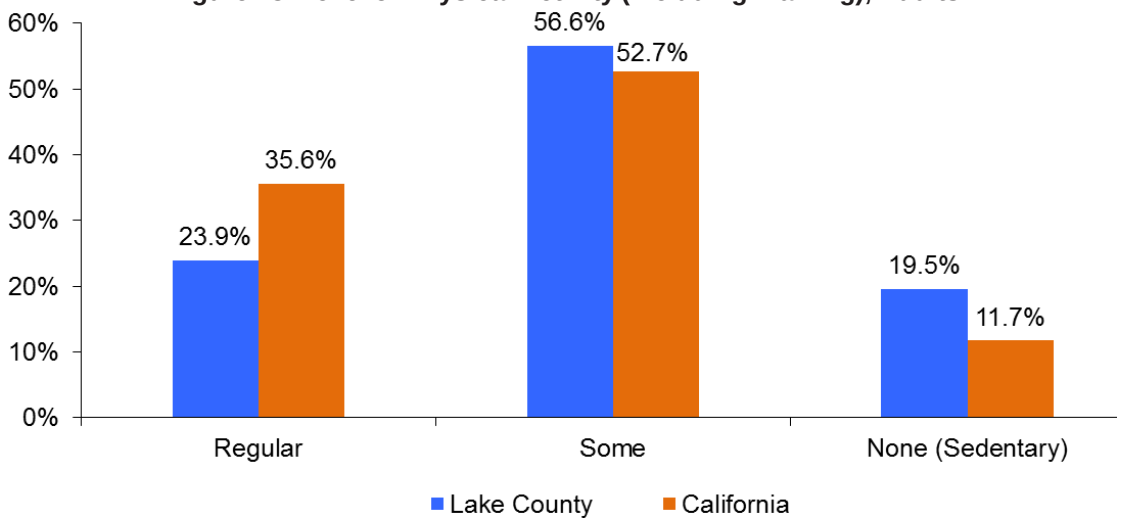
Figure 42. Number of Days Children and Teens Physically Active at Least One Hour in Past Week



Source: 2014 California Health Interview Survey.
Note: County rates are statistically unstable due to small sample size.

Adults were also asked about their level of regular physical activity (but not since the 2009 survey), and unlike younger residents, their exercise rates were lower than the average California adult (Figure 43).

Figure 43. Level of Physical Activity (Including Walking), Adults



Source: 2009 California Health Interview Survey.
Note: County rates are statistically unstable due to small sample size.

Asthma

Asthma is a serious public health problem and is responsible for millions of outpatient and emergency department visits and hundreds of thousands of hospitalizations nationally.
In Lake County, the average charges per asthma hospitalization for children's cases in 2010—the latest data available—were $15,016 for ages 0-17 and $28,017 for adults age 18+.[122] In addition to the direct costs of health care services and medications, there are the indirect costs incurred by time lost from school, work, and premature deaths.

A combination of factors work together to cause asthma to develop, most often early in life, and particular "triggers" such as exposure to pets can make symptoms worse. Besides family genes, certain environmental exposures increase the risk. For example, lower levels than previously thought of ozone and common particle pollutants (discussed later in this report) can trigger asthma attacks, increasing the risk of emergency room visits and hospital admissions for asthma.[123]

There are considerable disparities in the burden and management of asthma by race and ethnicity, income, age, and other risk factors.[124] For example, household income below $20,000 is associated with more frequent asthma symptoms and higher asthma hospitalization rates.[125] While there is no cure for asthma, there are a variety of medical and environmental interventions and

[122] http://www.californiabreathing.org/asthma-data/county-asthma-profiles/lake-county-asthma-profile
[123] Meg Y-Y, Rull RP, Wilhelm M, et al. Outdoor air pollution and uncontrolled asthma in the San Joaquin Valley, California. *J Epidem & Comm Health*.2010; 64: 142-147.
[124] McDaniel M, Paxson C, Waldfogel J. Racial Disparities in Childhood Asthma in the United States: Evidence from the National Health Interview Survey, 1997 to 2003. Pediatrics. May 2006;117: e868-e877; Lieu TA, Lozano P, Finkelstein JA, Chi FW, Jensvold NG, Capra AM, Quesenberry CP, Selby JV, Farber HJ. Racial/Ethnic Variation in Asthma Status and Management Practices Among Children in Managed Medicaid. Pediatrics. May 2002;109:857-865.
[125] Milet M, Tran S, Eatherton M, et al. The Burden of Asthma in California: A Surveillance Report. Richmond, CA: California Department of Health Services, Environmental Health
Investigations Branch, 2007.

policies that can help people prevent asthma and control its symptoms so as to have a minimal effect on peoples' daily lives.[126]

According to 2014 California Health Interview Survey data, about 7.8% of Lake County children and adolescents and 15% of adults had a diagnosis of lifetime asthma (Table 26), lower rates than statewide for both age groups. [127] Children's asthma rates in Lake County appear to be declining each year since 2005; it is difficult to interpret the adult rate changes since that time, however.

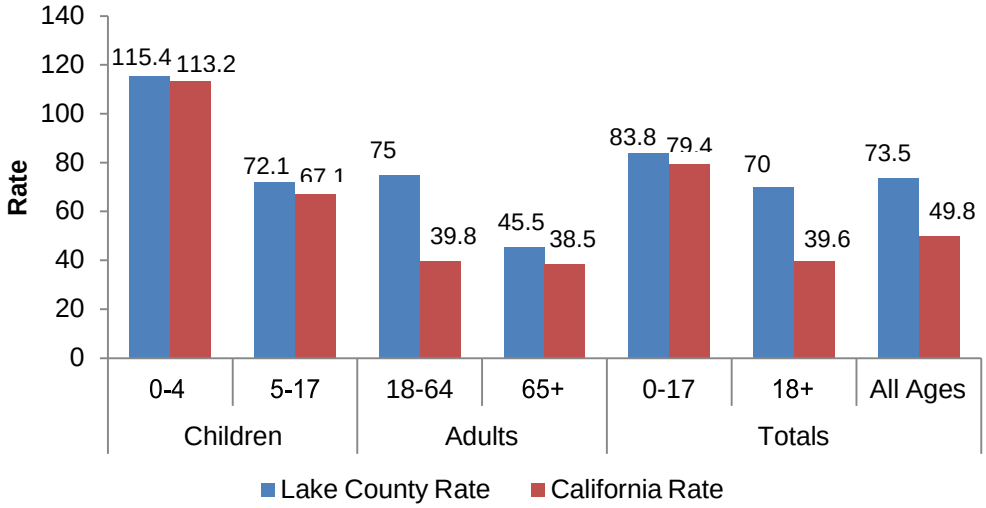
Table 26. Lifetime Asthma[1] in Children and Adults, Lake County and California

	2005		2009		2011		2014	
	Children	Adults	Children	Adults	Children	Adults	Children	Adults
Lake County	19.4%	19.8%	17.3%	15.9%	6.7%	9.4%	7.8%	15.0%
California	16.1%	12.7%	14.3%	13.5%	15.9%	14.1%	14.3%	13.8%

Source: California Health Interview Survey, 2009, 2011, 2014.
[1]Individuals with "lifetime asthma" who have ever been diagnosed with asthma by a health provider.

When people manage their asthma properly and have access to appropriate health care, they should not have to go to the emergency department (ED) for treatment. However, many still do. Figure 44 below compares the county's rate of ED visits by age in 2012 with statewide rates. While the rates for the age group 0-4 are relatively similar, the ED visit rate for Lake County residents is higher than the statewide average for all other age groups.

Figure 44. Asthma ED Visits per 10,000 Residents, Lake County and California, 2012



Source: Office of Statewide Health Planning and Development, 2014.

[126] Strategic Plan for Asthma in California 2015–2019 California Department of Public Health, April 2015. http://www.cdph.ca.gov/HealthInfo/discond/Documents/Asthma/SPAC2015.PDF
[127] California Health Interview Survey, 20014 UCLA Center for Health Policy Research.

The expected payer sources for Lake County ED visits associated with asthma are largely a reflection of the county's socioeconomic and health insurance status profile. Medi-Cal picks up over half of these costs.

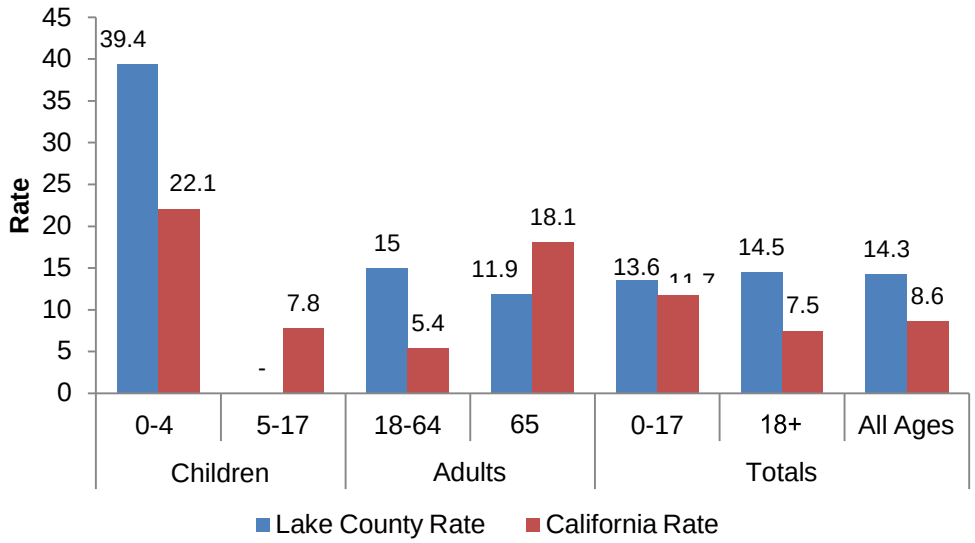
Table 27. Expected Source of Payment for Asthma ED Visits, 2010

Payment Source	Lake County	California
Medicare	16.6%	12.6%
Medi-Cal	52.8%	37.1%
Private	18.6%	31.1%
Other	12.0%	19.3%

Source: Office of Statewide Health Planning and Development, 2012.

The county's asthma hospitalization rates in 2012, which were highest for children age 0-4 (nearly double the California average for this age group), were higher than statewide rates except for seniors age 65+ (Figure 45), possibly reflective of inadequate access to appropriate care.

Figure 45. Asthma Hospitalizations per 10,000 Residents, Lake County and California, 2012



Source: Office of Statewide Health Planning and Development, 2014.

Alzheimer's Disease

Dementia is characterized by the loss or decline in memory and one of at least a couple of other cognitive abilities. Alzheimer's disease is the most common cause of dementia.[128] More women than men have dementia, primarily because women live longer on average than men.[129] Not only are women more likely to have Alzheimer's, they also comprise 60-70% of all caregivers of persons with

[128] *Alzheimer's Disease Facts and Figures 2012*. Alzheimer's Association. www.alz.org.
[129] Plassman BL, Langa KM, Fisher GG, Heeringa SG, Weir DR, Ofstedal MB, et al. "Prevalence of dementia in the United States: The Aging, Demographics and Memory Study." Neuroepidemiology 2007;29:125–132.

the disease. The Alzheimer's Disease Facts and Figures report indicated that 17% of women and 9% of men will develop Alzheimer's disease in their remaining lifetime if they lived to be at least age 55; and that 21% of women and 14% of men will develop some form of dementia in their remaining lifetime if they lived to be at least age 55.[130] In California, Medi-Cal spending on Alzheimer's is projected to increase from $3.1 billion in 2015 to $4.9 billion by 2025.[131]

Projections by the Alzheimer's Association, California Council, show that approximately 1,700 residents in Lake County were *projected* to have Alzheimer's in 2008; that number grows by 21% in 2015 and by 99% in 2030 (Table 28). (The basis for the projection may be related to the aging population.) The increased numbers of people with Alzheimer's will have a marked impact on local healthcare systems—they are high users of health care, long-term care, and hospice—as well as families and caregivers.

Table 28. Estimated Number and Percent Change in People 55+ with Alzheimer's Disease: 2008, 2015 and 2030, Lake County and California

	2008	2015	2030	% change 2008-2015	% change 2015-2030	% change 2008-2030
Lake County	1,700	2,056	3,386	21%	65%	99%
California	588,208	678,446	1,149,560	15%	69%	95%

Source: Alzheimer's Association, California Council.

Similar to other health disparities, research suggests prevalence rates of Alzheimer's are higher, on average, among African American and Latino adults than among whites, and among older than younger seniors in these racial/ethnic groups.[132,133] Because of the large number of aging baby boomers and various social, health, environmental, and genetic risk factors, Alzheimer's disease cases in California are estimated to triple among Latinos and Asian Americans and double among African Americans aged 55 and older by 2030.[134] Lake County estimates are shown in Table 29.

Table 29. Estimated Number of People 55+ with Alzheimer's Disease by Race/Ethnicity, Lake County

Year	Caucasian	Latino/ Hispanic	African-American	Asian/Pacific Island	Native American	Multirace
2015	1,736	125	73	33	41	48
2030	2,848	182	84	62	99	107

Source: Alzheimer's Association, California Council.

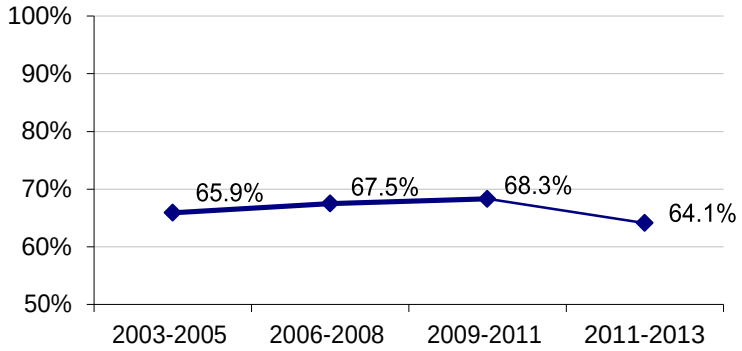
[130] Ross LK, et al. Alzheimer's Disease Facts and Figures in California: Current Status and Future Projections. Alzheimer's Association, California Council. February 2009.
[131] Kelley A et al. The Burden of Health Care Costs for Patients With Dementia in the Last 5 Years of Life Burden of Health Care Costs for Patients With Dementia *Intern Med.* Published online 27 October 2015. doi:10.7326/M15-0381
[132] Dilworth-Anderson P, Hendrie HC, Manly JJ, Khachaturian AS, Fazio S. "Diagnosis and assessment of Alzheimer's disease in diverse populations." *Alzheimer's & Dementia* 2008;4:305–309.
[133] Manly JJ, Mayeux R. "Ethnic differences in dementia and Alzheimer's disease." In Anderson NA, Bulatao RA, Cohen B. (eds.). Critical perspectives on racial and ethnic differentials in health in late life, Washington, D.C.: National Academies Press, 2004.
[134] Leslie K. Ross et al., "Alzheimer's Disease Facts and Figures in California: Current Status and Future Projections," University of California, San Francisco, Institute for Health and Aging, School of Nursing, prepared for the Alzheimer's Association, California Council, February 2009. Estimates are for years 2008 to 2030.

MATERNAL HEALTH

Prenatal Care

Early initiation of and adequate prenatal care are associated with improved birth outcomes. The Healthy People 2020 national objective for births to mothers with early and adequate prenatal care is 77.6%. Using California's measure of "adequate/adequate plus" prenatal care, Lake County ranks 54th in the state, with only 64.1% compared to the statewide rate of 79.2% in 2011-2013. The percentage of women receiving adequate/adequate plus care in that 3-year period is lower than it was in 2003-2005 (Figure 46). [135]

Figure 46. Percent of Births with Adequate/Adequate Plus Prenatal Care, Lake County, Selected 3-Year Averages



Source: County Health Status Profiles 2015. California Department of Public Health.

Births

California's birth rate—the number of births for every 1,000 women between the ages of 15 and 44—has been steadily declining over the past decade (experts say that fiscal concerns stemming from the economic recession could have caused a sharp decline in the birth rate beginning in 2008). Lake County's birth rate fell from 66.9 in 2010 to 54.5 in 2013 (Table 30). This decline of about 12% was less than the statewide decline of 16%.

Table 30. Birth Rate per 1,000 Women Ages 15-44, CA and Lake County, 2010 and 2013

Area	Rate per 1,000	
	2010	2013
Lake County	66.9	54.5
California	63.0	47.3

California Dept. of Public Health, Center for Health Statistics and Informatics, Vital Statistics Query System

[135] County Health Status Profiles 2015. California Department of Public Health.

Approximately 715 babies were reported to be born in 2013 to women living in Lake County.[136] While the number of births has varied slightly from year to year, birth projections through 2019 show a slight but steady increase (Table 31). Similar to the majority of the state, the growth will be disproportionately higher among the Latino and certain Asian/Pacific Islander populations.

Table 31. Actual and Projected Births, Lake County, 2007-2019

Actual	
2007	742
2008	705
2009	726
2010	721
2011	715
2012	726
2013	715
Projected	
2014	733
2015	736
2016	740
2017	743
2018	745
2019	747

Source: Years 2005-2011: California Department of Public Health. County Birth Statistical Data Tables; California Department of Finance, County Birth Projections, 2014 Series.

Medi-Cal as Payer

In 2011 (the latest year for which these data are available) in Lake County, more than two-thirds (69.6%) of births were paid with Medi-Cal as the primary payer compared to fewer than half statewide (46.9%). The County's proportion of births paid by Medi-Cal has climbed steadily from less than 55% in 1999 to 7 in 10 in 2011.[137]

Adolescent Pregnancy

Lake County's three-year average adolescent birth rate (per 1,000 female population), was 36.4 in 2011-2013, down from the 2008-2010 rate of 46.2, but higher than the statewide rate of 25.5, ranking the County 47th of 58 counties (Table 32).[138] While no national objective has been established for this indicator, the national target for *pregnancies* (as opposed to births) among adolescent females is 43 pregnancies per 1,000.[139]

[136] Births are reported by county of residence of mother not county of facility where the birth occurred.
[137] Improved Perinatal Outcome Data Reports, Lake County Profile, 2011. http://ipodr.org/033/bcf/index.html
[138] County Health Status Profiles 2015. California Department of Public Health. http://www.cdph.ca.gov/programs/ohir/Documents/OHIRProfiles2015.pdf It is important to note that because the total number of teen births in Lake County is relatively small, due to the County's small population, a difference in the number of births of only 1 or 2 babies (or a set of twins) more or less can affect percentages, and thereby suggest a trend which does not exist.
[139] U.S. Teenage Pregnancies, Births and Abortions: National and State Trends and Trends by Race and Ethnicity. Guttmacher Institute January 2010. www.guttmacher.org.

Table 32. Births to Teen Mothers 15-19 Years of Age

	Age-Specific Birth Rate (per 1,000 female population)	
Area	2008-2010 (3 yr average)	2011-2013 (3 yr average)
Lake County	46.2	36.4
California	35.2	25.5

Source: County Health Status Profiles 2015. California Department of Public Health.

Adolescent pregnancy is an important indicator because children of teen mothers are more likely to experience poor health and social outcomes than those of older mothers, such as premature birth, low birth weight, higher rates of abuse and neglect, and greater likelihood of entering foster care or doing poorly in school.

Infant Mortality

Infant mortality rates—the rate at which babies less than one year of age die—are used to compare the health and well-being of populations across and within countries. While the infant mortality rate has continued to steadily decline in the U.S. and California over the past several decades, in 2011 the nation's rate remained higher than that of 46 other countries.[140]

For that reason, reducing infant deaths is one of Healthy People 2020's two leading Maternal, Infant, and Child Health Indicators. The infant mortality rate is defined as the number of deaths within 365 days of birth divided by the number of all live births multiplied by 1,000. Neonatal and post neonatal deaths combined constitute infant deaths and are shown for Lake County in Table 33.

In 2010-2012, Lake County's three-year average infant mortality rate was estimated at 6.4, higher than the statewide rate of 4.8 and the Healthy People 2020 objective of 6.0. However, it should be noted that because the number of infant deaths in each county is fairly low, county level infant mortality rates are considered unreliable, except for the largest counties.

Table 33. Infant Mortality Rates, California and Lake County

	Birth Cohort Infant Death Rate (per 1,000 population)	
Area	2007-2009 (3 yr average)	2010-2012 (3 yr average)
Lake County	6.0*	6.4*
California	5.2	4.8

*Statistically unreliable based on fewer than 20 data elements
County Health Status Profiles 2015. California Department of Public Health.

[140] U.S. Office of Disease Prevention and Health Promotion. Healthy People 2020. http://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Maternal-Infant-and-Child-Health

Preterm Births

Preterm birth increases an infant's risk of death in its first few days of life and can lead to serious and lifelong disabilities for the child. These include visual and hearing impairments, developmental delays, and mild to severe behavioral and emotional problems. Nationally, 12% of infants are born preterm each year, an increase of 20% from 1990 to 2006.[141]

In 2011, 8.9% of Lake County births were preterm, lower than statewide (9.8%) and the Healthy People 2020 objective of 11.4%. The rate for Hispanic births (5.4%) was almost half that of non-Hispanic Whites (Table 34). Non-Hispanic Whites had a higher rate (10.1%) of preterm births than statewide (8.8%).

Table 34. Number and Percent of Preterm Infants by Race/Ethnicity, California and Lake County, 2011

Race/Ethnicity	Lake County	California
	%	%
Hispanic	5.4	10.0
Non-Hispanic White	10.1	8.8
Non-Hispanic Black	0.0*	13.7
Non-Hispanic Asian/Pacific Islander	25.0*	9.2
Non-Hispanic Other Race	10.1	11.4
Overall	8.9	9.8

*Unreliable based on fewer than 10 data elements
County Health Status Profiles 2015. California Department of Public Health.

Low Infant Birth Weight

Low birth weight poses the same risks described above for preterm birth. Nationally, 8.2% of infants are born with low birth weight.[142]

In 2011, 7.1% of Lake County's infants were born with low birth weight (less than 2500 grams at birth), slightly higher than statewide (6.8%) but lower than the Healthy People 2020 objective of 7.8% (Table 35 below). However, the county's rate of low birth weight infants has risen in recent years from 5.9% for 2006-2008.

The 2011 rate of low birth weight among the county's Hispanic population (4.5%) was lower than statewide (6.2%), while the rate for Non-Hispanic Whites (7.5%) was higher (6.1%). The high rate for non-Hispanic Blacks and Asian/Pacific Islanders were based on small numbers of births so should be interpreted with caution.

[141] *Ibid.*
[142] *Ibid.*

Table 35. Number and Percent of Low Birth Weight Infants by Race/Ethnicity, Lake County and California, 2011

Race/Ethnicity	Lake County	California
	%	%
Hispanic	4.5	6.2
Non-Hispanic White	7.5	6.1
Non-Hispanic Black	20.0*	11.8
Non-Hispanic Asian/Pacific Islander	25.0*	7.8
Non-Hispanic Other Race	8.2	8.3
Overall	7.1	6.8

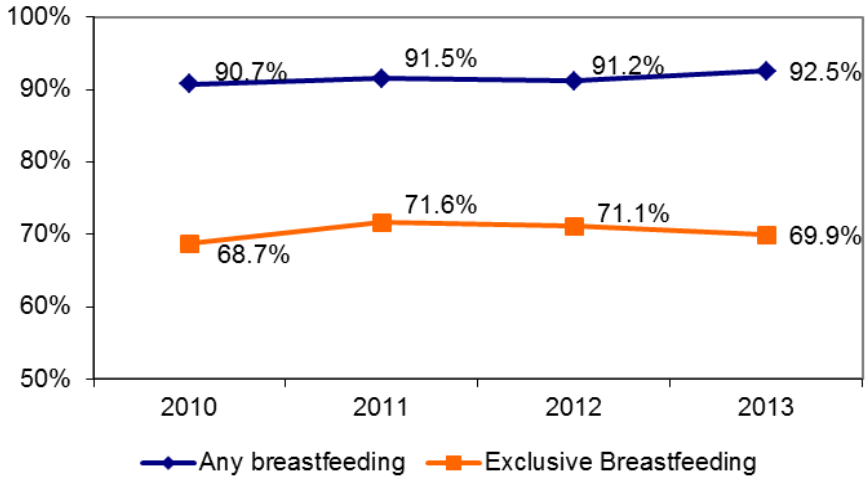
*Unreliable based on fewer than 10 data elements
County Health Status Profiles 2015. California Department of Public Health.

Breastfeeding Rate

Interventions aimed at childhood obesity typically target school-age children, but prevention should start much earlier, as early as the day the child is born according to pediatric experts. Breast milk not only provides infants with all the nutrients they need and elements that promote growth and a healthy immune system, but is also recognized as the first step in the battle against childhood overweight.[143] Mothers who breastfeed exclusively (breast milk is the infant's only food) are likely to breastfeed for a longer time—offering the best protection against overweight.

Statewide in 2013, 93% of California mothers chose to breastfeed their infants in the hospital, with 64.8% breastfeeding exclusively.[144] Lake County's overall rates that year were 92.5% and 69.9%, respectively (Figure 47). As shown in the trends chart, the rates for both "any" and "exclusive" breastfeeding have been fairly steady since 2010. Due to revisions in the data collection tool and changes to the analysis methodology, data for 2010 through 2013 should not be compared to data published in prior years.

Figure 47. In-Hospital Breastfeeding Initiation, Lake County, 2010-2013



Source: California Department of Public Health
Note: Data are for county of mother, not hospital of occurrence.

[143] Owen CG, et al. Effect on infant feeding on the risk of obesity across the life course: A quantitative review of published evidence. *Pediatrics* 2005; 115:1367-1377.
[144] CA Hospital Breastfeeding Report 2013. http://www.cdph.ca.gov/data/statistics/Pages/InHospitalBreastfeedingInitiationData.aspx

As shown in Table 36, Lake County's breastfeeding rates vary by race/ethnicity. Of particular note, the proportion of American Indian mothers doing any breastfeeding rose substantially between 2011 and 2013, from 78.6% to 90.9%. However, the proportion who breastfed exclusively (45.5%) was much lower than statewide (65.9%). The Healthy People 2020 objective is for 81.9% of mothers to "ever" breastfeed in the early post-delivery period and for 46.2% to breastfeed exclusively through 3 months old.

Table 36. In-Hospital Breastfeeding Initiation, Lake County and California, by Race/Ethnicity, 2011 and 2013

Ethnicity	Lake County				California	
	Any Breastfeeding (%)		Exclusive Breastfeeding (%)		Any Breastfeeding (%)	Exclusive Breastfeeding (%)
	2011	2013	2011	2013	2013	
American Indian	78.6	90.9	*	45.5	89.1	65.9
Hispanic	92.5	95.3	64.0	66.8	92.7	58.6
White	91.2	92.4	75.5	74.3	94.7	79.4
Multiple Race	94.9	82.1	82.1	64.1	92.9	73.6
Total	91.5	92.5	71.6	69.9	93.0	64.8

Source: California Department of Public Health.
* Percents not shown for <10 events.

SUBSTANCE USE AND ABUSE

Adult Alcohol and Other Drug Use

Alcohol abuse is a pattern of drinking which results in harm to one's health, interpersonal relationships and/or ability to work. It is associated with a number of acute and chronic health effects. *Chronic* health consequences of excessive drinking[145] can include liver cirrhosis (damage to liver cells); pancreatitis (inflammation of the pancreas); various cancers, including liver, mouth, throat, larynx (the voice box), and esophagus; high blood pressure; and psychological disorders. *Acute* health consequences can include motor vehicle injuries, falls, domestic violence, rape, and child abuse.[146]

The State collects, monitors, and reports community-level indicators that serve as direct and indirect measures of the prevalence of alcohol and other drug (AOD) use and related problems.[147] Selected indicators for Lake County and the state are shown in Table 37. The county's rates for all of the reported indicators are higher than the statewide averages. While these indicators have not been updated since 2008, much of the data may still be currently relevant for implementing improvement strategies

Table 37. Selected Community-Level Alcohol and Drug-Related Indicators, Adults

Indicator (rates per 100,000)	Period	Lake	CA
Rate of alcohol-involved motor vehicle accident fatalities	2006-2008	8.7	3.9
Rate of arrests for drug-related offenses	2006-2008	1,050.5	982.8
Rate of alcohol and drug use hospitalizations	2006-2007	334.2	203.7
Rate (per 1,000) of admissions to alcohol and other drug treatment	2006-2008	1,120.0	597.7
Rate of deaths due to alcohol and drug use	2006-2007	51.6	21.4

Source: *Indicators of Alcohol and Other Drug Risk and Consequences for California Counties*. Lake County 2010. Center for Applied Research Solutions.
Note: Report period is a 3-yr average unless otherwise specified.

Lake County's rate of hospitalizations due to alcohol and drug use has fluctuated slightly in each year since 2000 (data not shown), but has remained higher than the statewide rate in each 2- or 3-year average reporting period.[148] Most of the alcohol-related deaths were due to "alcoholic liver disease" (note that Hepatitis C could be a major cause of cirrhosis), while the drug-related deaths were primarily due to "accidental drug poisoning" (i.e., overdose). As described earlier, Lake County's age-adjusted rate of death due to chronic liver disease and cirrhosis of the liver, 21.3—57th worst of 58 counties in the state--is 7 times higher than the Healthy People 2020 goal of 8.2.[149]

Lake County's alcohol arrest rate (which appears from the data source to be residents, and not include visitors to the county) has been higher than the state overall each year for the past 10 years

[145] For men, heavy drinking is typically defined as consuming an average of more than 2 drinks per day. For women, heavy drinking is typically defined as consuming an average of more than 1 drink per day. Note: There is no one definition of moderate drinking, but generally the term is used to describe low-risk or responsible drinking. http://www.cdc.gov/alcohol/faqs.
[146] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. http://www.cdc.gov/alcohol/faqs.
[147] *Indicators of Alcohol and Other Drug Risk and Consequences for California Counties*. Lake County 2010. Center for Applied Research Solutions. http://www.ca-cpi.org/docs/County_Data_Files/Lake_10.pdf
[148] Ibid.
[149] http://www.cdph.ca.gov/programs/ohir/Documents/OHIRProfiles2015.pdf .

with arrests due to driving-under-the-influence accounting for approximately about half of the arrests. In 2012, 60 Lake County residents were killed or injured in traffic collisions due to alcohol. (Table 38). The county ranks 35th of 58 counties in the rate of alcohol-related traffic deaths and injuries caused by young drivers.[150]

Table 38. Alcohol-Related Traffic Fatalities and Injuries, Lake County, 2012

Type of Collision	Victims Killed and Injured	County Ranking
Alcohol Involved	60	9/58
Had Been Drinking Driver < 21	4	35/58
Had Been Drinking Driver 21 - 34	29	6/58

Source: California Office of Traffic Safety.

Health behaviors that include excessive drinking and alcohol-impaired driving deaths are among the health factors addressed in the County Health Rankings population data.[151] Outcomes for Lake County displayed in Table 39 add to the picture of alcohol abuse and impairment.

Table 39. County Health Rankings: Alcohol-Related Measures, Lake County, 2015

	Excessive Drinking	Alcohol-Impaired Driving Deaths		
Sample Size	% Excessive Drinking	# Alcohol-Impaired Driving Deaths	# Driving Deaths	% Alcohol-Impaired
272	21%	31	81	38

Source: County Health Rankings 2015. http://www.countyhealthrankings.org/app/california/2015/overview

Data on the health consequences of alcohol and other drugs (AOD) for deaths, hospitalizations and emergency department (ED) visits for Lake County residents are displayed below (Table 40).

Table 40. Number of Cases of Alcohol and Other Drug Deaths, Hospitalizations and ED Visits, Residents of Lake County, 2013

Outcome	Drug Category		
	Alcohol Only	Other Drugs Only	Amphetamines
Deaths	25	23	NR
Non-fatal Hospitalization	99	89	1
Non-fatal Emergency Department Visit	284	153	27

Source: California Office of Statewide Health Planning and Development, Inpatient Discharge Data. Prepared by: California Department of Public Health, Safe and Active Communities Branch. http://epicenter.cdph.ca.gov.
NR = Not Reported

[150] California Office of Traffic Safety. http://www.ots.ca.gov/Media_and_Research/Rankings/default.asp
[151] http://www.countyhealthrankings.org/app/california/2015/rankings/lake/county/outcomes/overall/snapshot

Binge drinking is a public health issue because dangerous driving, assault, risky sexual behavior and long-term illness are some of the larger problems that result from binging on alcohol. Because 80% of binge drinkers are not alcoholics, it's not recognized as a problem, according to the Centers for Disease Control and Prevention.[152] According to California Health Interview Survey (CHIS), the rate of binge drinking is generally higher in Lake County than statewide, although this was not true for 2014 (Table 41). About one-quarter (26%) of Lake County residents age 18 and older participated in binge drinking in 2014, lower than statewide rate of 32.6%. Males participated much more frequently than females (data not shown). Note that the CHIS question about binge drinking changed in 2007, from asking about binge drinking the past 30 days to the past year.

Table 41. Adult Binge Drinking

	Engaged in Binge Drinking[1]			
	2007	2009	2012	2014
Lake County	33.9%	32.2%	39.7%	26.0%
California	29.7%	31.3%	31.2	32.6%

Source: California Health Interview Survey.
[1]In the CHIS data set, for males, binge drinking is considered five or more drinks on one occasion; for females it is four or more.

While these data are helpful for identifying risk and problem areas, there are some limitations to note. For example, the rates for alcohol and drug use prevalence and related problems may underestimate actual occurrence due to under-reporting. Further, admission rates do not account for the utilization of services provided outside of the publicly-funded alcohol and drug treatment and recovery system. Additionally, hospital discharge rates only include discharges for diagnoses directly attributable to alcohol and drug use. And, the contribution of chronic Hepatitis C infection is unknown.

Adolescent Alcohol and Drug Use and Abuse

Among youth, alcohol and other drug use remains a major public health problem; substance use can increase the risk for injuries, violence, HIV infection, and other diseases.[153,154,155] Underage alcohol use is more likely to kill young people than all illegal drugs combined. Youth who use alcohol are 1.5 times more likely to require ER care and 9.4 times more likely to drink and drive; they are also 2.5 times more likely to smoke.[156]

Selected community indicators the State collects, monitors, and reports for youth in Lake County are shown in Table 42 over a 6-year period. While the rates of juvenile arrests for alcohol-related offenses appeared to be decreasing, the rates for arrests related to drug-related offenses mostly rose over the period. That the rate of admissions for AOD treatment had increased may be an indication that more youth with AOD issues received services. The county's rates for all of these indicators were

[152] http://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm
[153] U.S. Department of Health and Human Services. Centers for Disease Control and Prevention: Youth Risk Behavior Surveillance – United States, 2005. *Morb Mortal Wkly Rep.* 2006;55:.
[154] Bailey SL, Pollock NK, Martin CS, et al.. Risky sexual behaviors among adolescents with alcohol use disorders. *J Adolesc Health*. 1999;25:179–181.
[155] Centers for Disease Control and Prevention. "Alcohol & Other Drug Use." Adolescent and School Health. http://www.cdc.gov/healthyyouth/alcoholdrug/index.htm
[156] National Household Survey on Drug Use and Health

higher than the statewide averages; they may not have changed appreciably since these indicators were last updated and may still have relevance for designing improvement strategies.

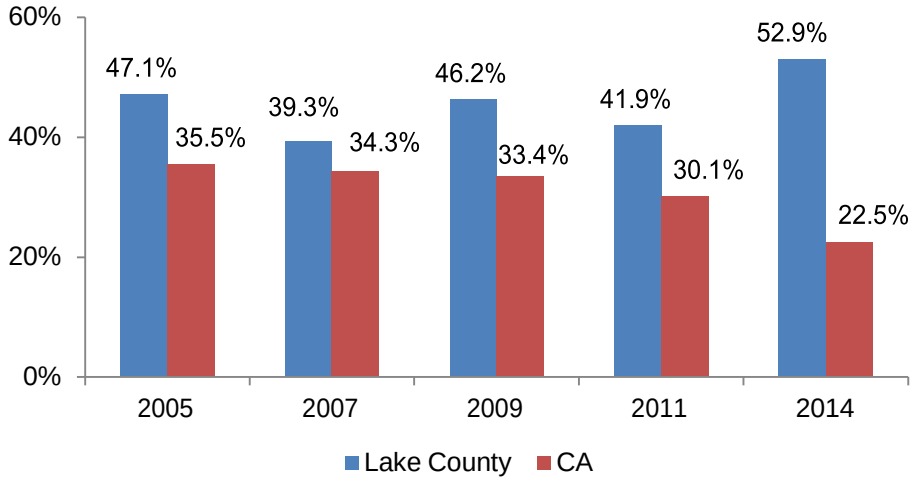
Table 42. Selected Community-Level Alcohol and Drug-Related Indicators, Lake County Youth

Indicator (rates per 100,000)	2003	2004	2005	2006	2007	2008
Rate of juvenile arrests for drug-related offenses, ages 10-17	556.4	992.3	762.5	962.0	611.1	1,439.4
Rate of juvenile arrests for alcohol-related offenses, ages 10-17	7,369	7,256	7,082	6,861	6,546	6,183
Rate of juvenile admissions (per 1,000) to alcohol and other drug treatment, ages 17 and under	1,301.3	1,388.2	1,423.2	1,056.5	1,374.9	1,579.0

Source: *Indicators of Alcohol and Other Drug Risk and Consequences for California Counties*. Lake County 2010. Center for Applied Research Solutions.

A higher percentage of adolescents in Lake County than in California as a whole reported in the CHIS "ever having a drink of alcohol." While the percentage of teens statewide affirming having tried alcohol declined each year since 2005, the percentage of teens in Lake County has remained relatively constant over the last decade (Figure 48).

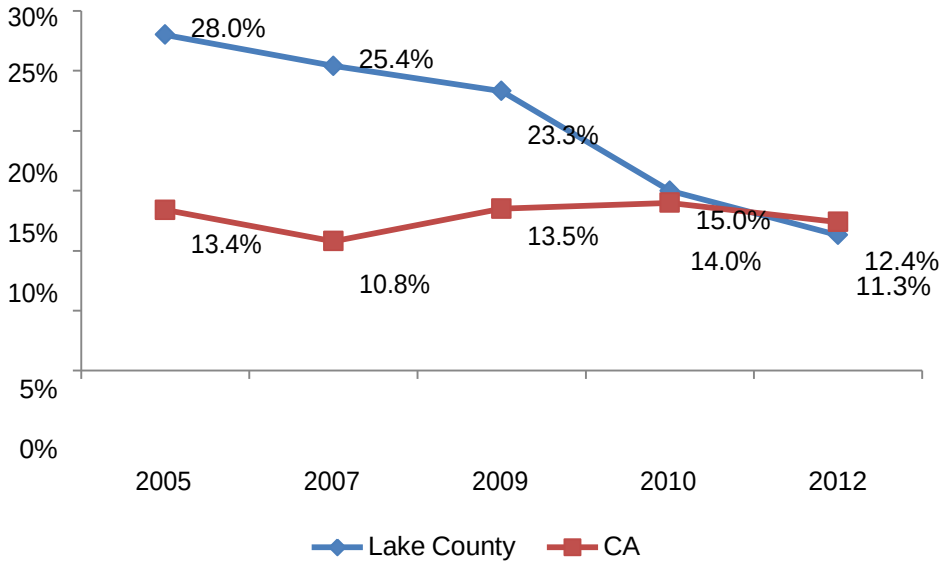
Figure 48. Percent of Teens Reporting Ever Having a Drink of Alcohol



Source: California Health Interview Survey

The percentage of Lake County adolescents who responded "yes" to the CHIS question, "Have you ever tried marijuana, cocaine, sniffing glue or any other drugs?" decreased each year between 2005 and 2012, while the statewide average, which was lower than Lake until 2012, remained relatively constant each year (Figure 49).

Figure 49. Teen-Reported Ever Trying Drugs



Source: California Health Interview Survey, selected years

Adult and Youth Tobacco Use

Tobacco use remains the leading cause of premature and preventable death in the United States, responsible for approximately 443,000 deaths each year because of smoking and exposure to secondhand smoke. [157] Most tobacco users in California smoke cigarettes; less than 5% use other tobacco products (i.e., smokeless tobacco, snuff, little cigars, cigars, pipe tobacco), and less than 2% using more than one tobacco product.[158] Cigarette smoking causes about 1 of every 5 deaths in the United States each year. On average, adults who smoke cigarettes die 14 years earlier than nonsmokers.[159]

Tobacco use is the single most preventable cause of disease, disability, and death, yet more deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined.[160] Smoking and smokeless tobacco use are initiated and established primarily during adolescence. More than 80% of adult smokers begin smoking before 18 years of age. Additionally, adolescent smokeless tobacco users are more likely than nonusers to become adult cigarette smokers.[161]

According to the 2014 California Health Interview Survey (CHIS), 15.9% of Lake County adults (age 19+) reported being a current cigarette smoker compared to 11.9% overall in California (Figure 50). While the statewide average has constantly declined over the last decade, the county percentage appears to be increasing since 2009.

---

[157] Centers for Disease Control and Prevention. Annual smoking—attributable mortality, years of potential life lost, and productivity losses—United States, 2000–2004. MMWR. 2008;57(45):1226–1228. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a3.htm

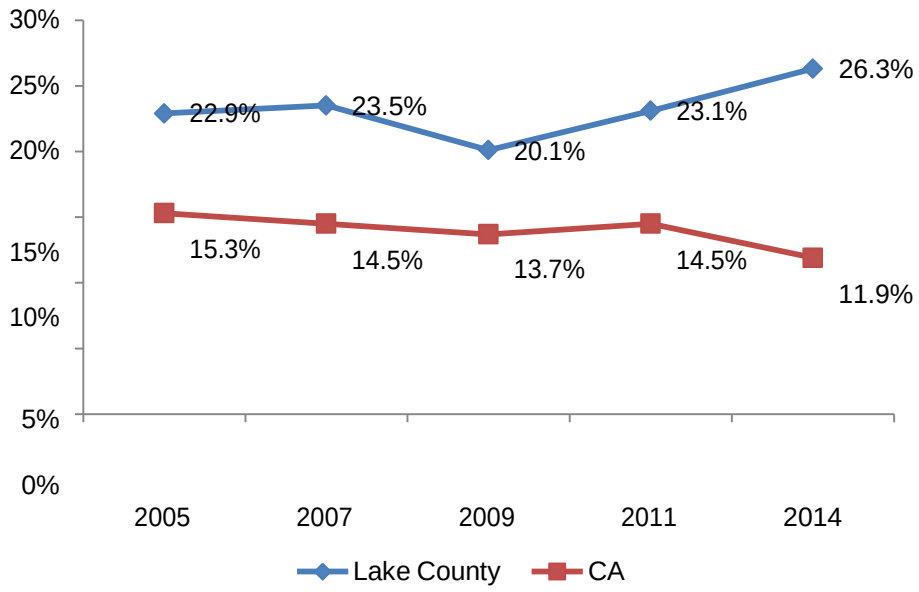
[158] CaliforniaDepartmentofPublic Health,CaliforniaTobaccoControlProgram, *California Tobacco Facts and Figures 2015*, Sacramento, CA, 2015. https://www.cdph.ca.gov/programs/tobacco/Documents/Resources/Fact%20Sheets/2015FactsFigures-web2.pdf

[159] http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/

[160] Mokdad AH, Marks JS, Stroup DF, et al. Actual causes of death in the United States. *JAMA*. 2004;291(10):1238–1245.

[161] Campaign for Tobacco-Free Kids. The Path to Smoking Addiction Starts at Very Young Ages. Washington: Campaign for Tobacco-Free Kids, 2009.

Figure 50. Current Smoking Habits of Adults 2005-2014



Source: California Health Interview Survey, selected years

Electronic cigarettes (also called e-cigarettes or electronic nicotine delivery systems) are battery-operated devices designed to deliver nicotine with flavorings and other chemicals to users in vapor instead of smoke. Although they do not produce tobacco smoke, e-cigarettes still contain nicotine and other potentially harmful chemicals. In addition to the unknown health effects, early evidence suggests that e-cigarette use may serve as an introductory product for youth who then go on to use other tobacco products, including conventional cigarettes.[162] Three times the proportion (33.6%) of Lake County teen respondents to the 2014 CHIS than teens statewide (10.3%) reported that they had ever smoked an e-cigarette (Table 43).

Table 43. Percent of Teens Who Ever Smoked an E-Cigarette

	Percent
Lake County	33.6%
California	10.3%

Source: 2014 California Health Interview Survey.

Although the CHIS figures for youth are statistically "unstable" because of the small sample size and/or confidence intervals, they are generally supported by what middle and high school students in Lake County have reported in the most recent California Healthy Kids Survey (CHKS)[163] where, except for 11th grade, girls reported more experience smoking in the last 30 days than boys (Table

[162] DrugFacts: Electronic Cigarettes (e-Cigarettes). National Institute on Drug Abuse. https://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes
[163] County-level CHKS data were not reported for 2011-2013.

44). When asked about *daily* smoking, 6% of both males and females in the 11th grade said they were daily smokers.

Table 44. Selected Measures of Tobacco Use Reported by Lake County Students

Indicators	7th Grade		9th Grade		11th Grade	
	Female	Male	Female	Male	Female	Male
During your life, did you ever smoke a cigarette?	9%	10%	36%	21%	31%	36%
During the past 30 days, did you smoke a cigarette?	6%	3%	14%	9%	17%	20%

Source: California Healthy Kids Survey, 2009-2011.

Despite strict advertising restrictions, tobacco companies continue to find ways to reach youth and young adults. A recent U.S. Surgeon General report concluded that there is a causal relationship between advertising and promotional efforts of tobacco companies and the initiation and progression of tobacco use among young people.[164] Cigarettes are not the only focus of tobacco marketing. The tobacco industry is increasing promotion of non-cigarette tobacco products, such as snuff.[165]

Neither the state nor county meet the Healthy People 2020 objectives which is that no more than 12% of adults age 18+and no more than 4.2% of youth age 12-17 smoke cigarettes; and, no more than 16% of students in grades 9-12 smoked in the past 30 days. Decreasing the rate of smoking would lead to a demonstrable decrease in mortality from cancer alone, not to mention the additional decreases in mortality in heart disease and stroke. Based on CDC estimates, a 1% decrease in smoking would lead to about a 1% decrease in all-cause mortality in Lake County.

Perinatal Substance Abuse

A number of studies have found poor pregnancy and neonatal outcomes among women who used alcohol or illegal drugs during pregnancy, and harmful long term impacts of prenatal alcohol or illicit drug exposure on the development and behavior of the exposed child.[166] Accurate statistics on substance use during pregnancy are difficult to obtain—for example, since alcohol is a legal drug, its negative impact is often overlooked—but several studies, including local efforts, offer a sufficient picture of use to guide planning and intervention strategies.

The California Maternal and Infant Health Assessment (MIHA), an annual, statewide-representative telephone survey (English and Spanish) of women who recently gave birth to a live infant, also tracks tobacco and alcohol use during pregnancy. The data are linked to birth certificate information and weighted to reflect sampling design. Regional (Lake is 1 of 23 Northern Mountain Counties) MIHA data for 2010-2012 showed 12.3% of pregnant women reported smoking during the 3rd trimester (Table 45). And, 5.4% reported drinking alcohol during the 3rd trimester (nearly one-quarter, 22.4%, reported binge drinking in the 3 months prior to getting pregnant). Higher rates of use were associated with lower income and education levels, but not markedly.[167] All of these indicators for the region were worse than the rest of California for the common data measures.

[164] U.S. Surgeon General's Report, Preventing Tobacco Use Among Youth and Young Adults. 2012.
[165] California Department of Public Health, California Tobacco Control Program. *State Health Officer's Report on Tobacco Use and Promotion in California*: Sacramento, CA 2012.
[166] Chasnoff I et al. The *4P's Plus*© Screen for Substance Use in Pregnancy: Clinical Application and Outcomes. Children's Research Triangle, Chicago, IL, 2005.
[167] http://www.cdph.ca.gov/data/surveys/Documents/MO-MIHA-RegReport2012.pdf.

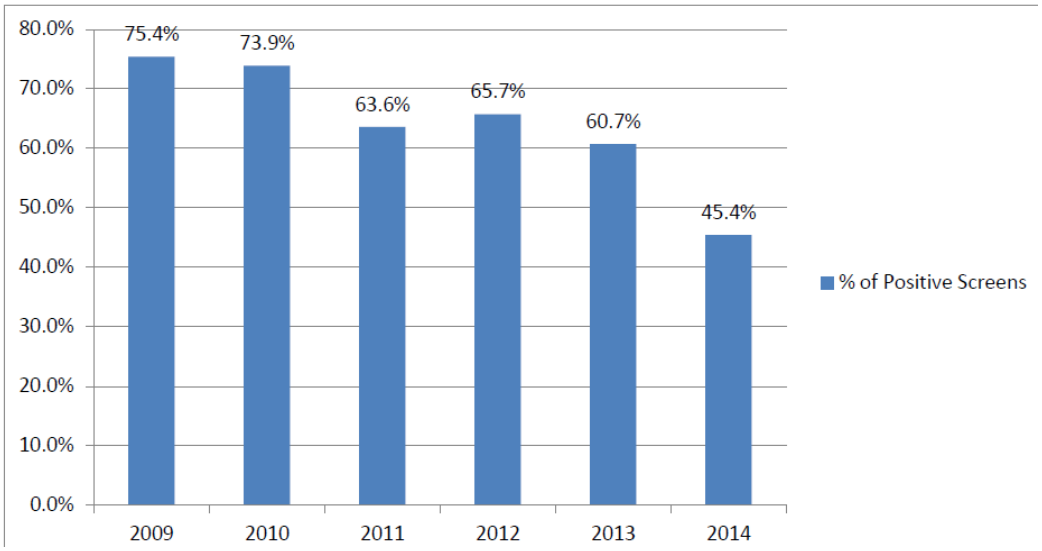
Table 45. Substance Use from Maternal and Infant Health Assessment Regional Survey, 2010-12

Substance Use	North/Mountain Region*
Any smoking, 3 months before pregnancy	30.1%
Any smoking, 3rd trimester	12.3%
Any smoking, postpartum	17.8%
Any binge drinking, 3 months before pregnancy	22.4%
Any alcohol use, 3rd trimester	5.4%

* Lake County is included within these 23 Northern Mountain Counties.
Source: Maternal and Infant Health Assessment (MIHA) Survey.

Lake County continues to utilize the *4P's Plus*© screening and intervention methodology to deter drug use during pregnancy.[168] The screening tool is being utilized by all of the county's main clinics: Sutter Lakeside Hospital's Family Medicine Clinic, Lakeside Health Center, Tribal Health Clinic and Clearlake Family Health Center. Since implementing the 4P's Plus program in 2009, Lake County has screened a total of 880 women, of which about 63% have been positive. Of the brief interventions that were offered, 96% were accepted; and 25% of the 2,058 referrals offered were accepted. Data shown in Figure 51 suggest there is a trend toward a lower rate of substance use during pregnancy.

Figure 51. 4P's Plus© Substance Use Positive Screening Results by Year, Lake County, April 2009 – November 2014



Caucasian women had the highest rate of positive screens (74.8%) followed by women who identified as "Other" (66.7%), and Native American women (60.1%). Hispanic women had the lowest rates of positive screens (37.2%). Medi-Cal was the payer source for 93% of the women screened whose payer source was identified.

[168] The data source for *4P's Plus*© is NTI Upstream, and was provided by the Maternal Child Adolescent Health Program, Lake County Public Health Department.

Some of the 880 women reported using some type of substance (including cigarettes) *since* learning they were pregnant (Table 46), some more than one substance.

Table 46. Use of Substances Since Pregnancy, Women Screened in *4P's Plus*©

Since learning you were pregnant, last month did you use…..?	Yes		No	
	n	%	n	%
Cigarettes	232	31.8%	495	67.8%
Alcohol	108	14.8%	615	84.2%
Marijuana	144	19.7%	578	79.2%
Drugs	17	2.3%	706	96.7%

Source: www.NTIupsteam.com, MCAH, Lake County Public Health Department

Of statistical significance, 61.5% (up from 57.3% in 2012) of the Lake County women screened in the *4P's Plus*© project reported that their parents had had problems with drugs or alcohol. The same percentage as reported in 2012 (20.2%) said drugs or alcohol were a problem for their partner as well. The study also found a significant relationship between depressive symptoms and the pregnant woman's screen outcomes. Women who experience depressive symptoms were more likely to have a positive screen (78.3%) compared to women did not experience depressive symptoms (57.6%).

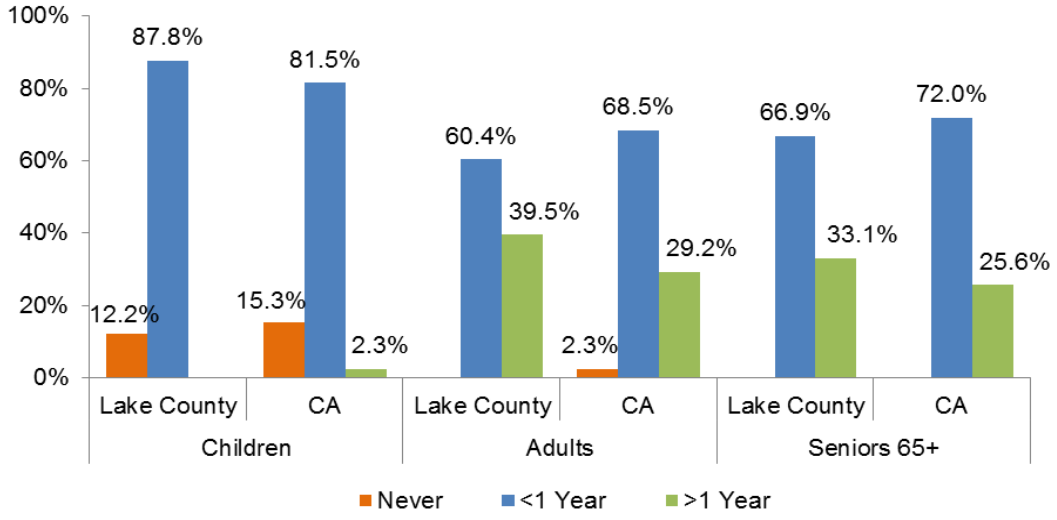
ORAL HEALTH

Tooth decay, the most preventable disease of childhood,[169] is among the top reasons that keeps children out of school.[170] Regular dental care, optimally starting with the first tooth or the first birthday, is essential to good oral and overall general health. Prevalence of untreated decay in primary or permanent teeth among children from lower-income households is more than twice that among children from higher-income households.[171] Oral health is an under-recognized a component of overall health and well-being for adults as well. It can affect general health and quality of life in very direct ways, such as pain and suffering and difficulty in speaking, chewing and swallowing. The loss of self-esteem, which can intensify isolation and possibly lead to depression, is associated with the loss of teeth.[172] Over the past decade, evidence has also been building of a relationship between oral disease and diabetes[173] as well with cardiovascular disease and its complications, including stroke.[174]

Access to oral health services is limited by a number of factors. On the health system side, these include lack of available resources (primarily dentists' unwillingness to participate in Denti-Cal), restrictive policies, provider awareness levels and attitudes and lack of cultural competency. Common patient-related barriers are lack of perceived need and knowledge about the importance of oral health, financial (including lack of dental insurance), dental fear, lack of education, and limitations due to transportation, child care and work leave time issues.

According to the 2014 California Health Interview Survey (CHIS) of households of all income levels, 87.8% of children in Lake County reported visiting a dentist in the last year compared to 81.5% of all California children (Figure 52). (The number of county children's dental visits that were made more than 1 year ago was too small to report.) Lake County adults age 21-64 and seniors 65+ visited the dentist less recently than Californians in both adult age categories.

Figure 52. Dental Care Utilization by Lake County Residents

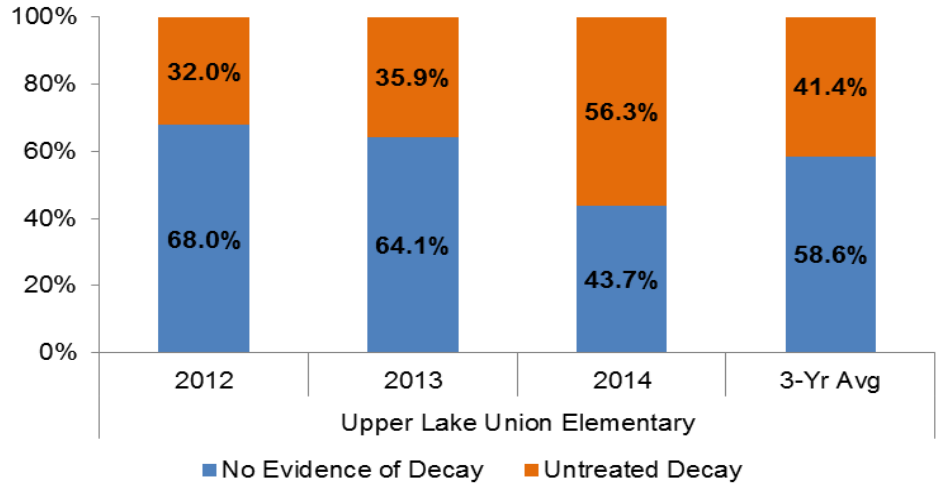


Source: CA Health Interview Survey, 2014. Some county-level data are considered statistically "unstable."

[169] Benjamin RM. Oral Health: the Silent Epidemic. *Public Health Rep.* 2010 Mar-Apr; 125(2):158–159.
[170] Blumenshire SL. Children's school performance: impact of general and oral health. *J Pub Health Dent* Spring 2008;68(2):82-87.
[171] http://www.cdc.gov/mmwr/preview/mmwrhtml/su6302a9.htm
[172] Davis DM et al. The emotional effects of tooth loss: a preliminary quantitative study. *British Dental Journal,* 188(9):503-506, May 2000.
[173] Centers for Disease Control and Prevention. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, CDC.
[174] Joshipura K, Jung H, Rimm E et al. Periodontal disease, tooth loss and incidence of ischemic stroke. Stroke. 2003;34:47-54.

While there are limited data available to measure the extent of dental disease among children in Lake County, pre-kindergarten assessments[175] provide a picture of disease prevalence. Based on the most recent 3-year average (2012-2014), screening results for the one reporting school in Lake County (Upper Lake Union Elementary) showed that 41.4% of the children screened in that district had evidence of untreated dental decay (Figure 53).

Figure 53. Results of Pre-Kindergarten Dental Screenings, Lake County Reporting School District



Source: California Dental Association AB 1433 Pre-K Reported Data

While all children with Medi-Cal have coverage for dental services, they make fewer preventive dental visits than their peers not covered by Medi-Cal.[176] In 2014, across all age groups, Lake County children with Medi-Cal utilized dental services at lower rates than children statewide (Table 47), ranking the county in 42nd place among California's 56 counties with statewide data.

Table 47. Utilization (Percent) of Medi-Cal Dental Services of Children by Age, 2011 and 2015

Area	Ages 0-3		Ages 4-5		Ages 0-20	
	2011	2014	2011	2014	2011	2014
Lake	35.5%	37.9%	61.7%	57.4%	47.7%	47.2%
California*	31.1%	30.6%	66.4%	63.6%	52.2%	52.5%

Source: California Department of Health Care Services, Medi-Cal Dental Services Division. Data run August 28, 2015.
*Fee-for-service system only; Sacramento and LA Medi-Cal dental managed care data excluded.
Note: Full-year Medi-Cal dental data unavailable for adults.

Dental disease is a chronic problem among low-income adults as well as children. Oral health is often an overlooked component of seniors' general health and well-being and can affect general health and quality of life in very direct ways, such as pain and suffering and difficulty in speaking, chewing and swallowing. The loss of self-esteem, which can intensify isolation and possibly lead to depression, is

[175] AB 1433 (enacted in 2006 through the efforts of the California Dental Association) required that children have a dental checkup by May 31 of their first year in public school, at kindergarten or first grade. The requirement for screening was later changed to a voluntary basis because of school funding issues and the removal of certain mandates. The CDA is working to restore the oral health screening requirement.
[176] Yarbrough C, Nasseh K, Vujicic M. Key Differences in Dental Care Seeking Behavior between Medicaid and Non- .edicaid Adults and Children. Health Policy Brief, American Dental Association, September 2014.

associated with the loss of teeth.[177] A study titled "Prevalence of Periodontitis in Adults in the United States: 2009 and 2010" estimated that 47.2% of all American adults aged 30 and older have mild, moderate or severe periodontitis; of these, 8.9% have severe periodontitis the more advanced form of periodontal disease..[178]

Applying prevalence estimates from this collective research suggests the following *could be* the case for low-income adults in Lake County: as 25% (11,928) of the 47,712-adult population is below the federal poverty level, approximately 47% has mild, moderate or severe periodontitis means *5,606 adults age 21+ with some level of oral disease, and 1,061 has severe periodontitis, the more advanced form of periodontal disease.*

Emergency Department Visits for Dental Conditions

Visiting an emergency department (ED) for non-traumatic *dental* problems, which have risen over the last decade,[179,180] is likely a reflection of poor prevention and suggests lack of access to readily-available community dental services. Hospital EDs are not equipped to provide definitive treatment for toothaches and dental abscesses.

Although ED visits related to oral conditions comprised a small percentage (1.59%) of all ED visits made by children 0-18, in 2014 there were 98 visits to a Lake County ED by children due to an oral condition (Table 48) 93 (94.9%) of these ED visits were made for an *ambulatory care sensitive* (ACS) condition—that is, one that would "likely or possibly benefit from better prevention or primary care and is considered preventable."[181] The slightly higher proportion of Lake County ACS ED dental visits than statewide suggests access to preventive dental care may be more limited for county residents.

Table 48. ED Visits Made to Lake County EDs[1] by Age Group, 2014

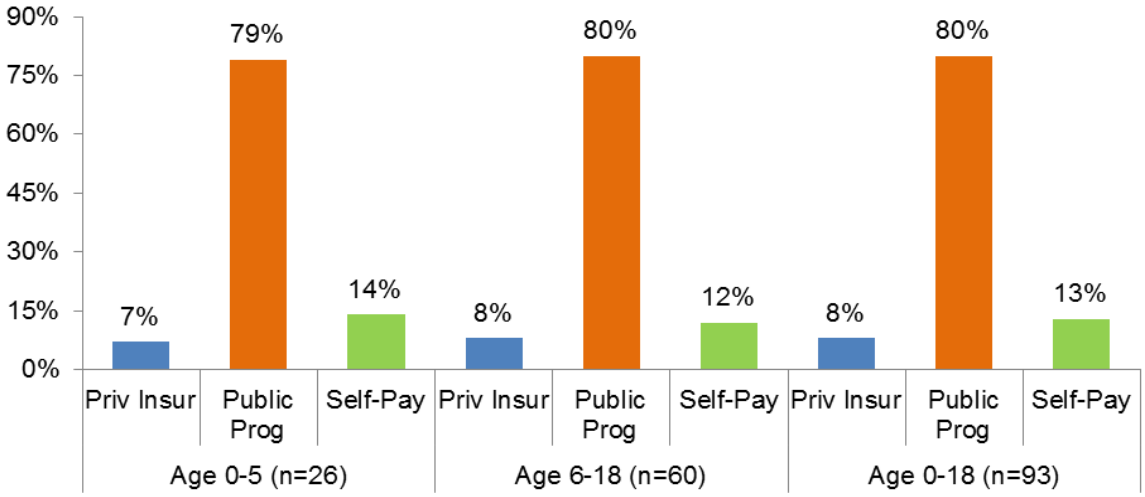
ED Visits	Lake County					
	Age 0-5		Age 6-18		Age 0-18	
All Reasons	2,266		3,915		6,181	
All Oral	30	1.32%	68	1.74%	98	1.59%
ACS Oral[2]	28	1.24%	65	1.66%	93	1.50%
ACS Oral as % of all Oral		93.3%		95.6%		94.9%
	California					
All Reasons	1,391,259		1,529,203		2,920,462	
All Oral	11,606	0.83%	11,437	0.75%	23,043	0.79%
ACS Oral[2]	10,942	0.79%	10,518	0.69%	21,460	0.73%
ACS Oral as % of all Oral		94.3%		92.0%		93.1%

[1]County of Facility
[2]Ambulatory Care Sensitive Conditions. Primary ICD-9 Codes included in the analysis: 521-523, 528, and 529.
Source: Office of Statewide Health Planning and Development, Healthcare Information Resource Center.

[177] Davis DM et al. The emotional effects of tooth loss: a preliminary quantitative study. *British Dental Journal,* 188(9):503-506, May 2000.
[178] Eke PI, et al. Prevalence of periodontitis in adults in the United States: 2009 and 2010. *J Dent Res* 2012 Oct;91(10):914-20.
[179] Lee HH, Lewis CW, Saltzman B, Starks H. Visiting the emergency department for dental problems: trends in utilization, 2001 to 2008. *Amer J Pub Health.* Nov 2012;102(11):e77–83.
[180] Wall T. Recent trends in dental emergency department visits in the United States:1997/1998 to 2007/2008. *J Pub Health Dent.* Summer 2012;72(3):216–220.
[181] Shortridge EF, Moore, JR. Use of Emergency Departments for Conditions Related to Poor Oral Health Care. Rural Health Research & Policy Centers, and NORC Walsh Center for Rural Health Analysis. Final Report, August 2010.

Children with Medi-Cal use the ED for dental services at higher rates than privately insured children.[182] Public programs (nearly exclusively Medi-Cal) paid for the majority of the Lake County ACS dental visits (Figure 54).

Figure 54. Children's Use of Lake County EDs for an ACS* Dental Condition, 2014



Source: California Office of Statewide Health Planning and Development.
*Ambulatory Care Sensitive, a condition considered avoidable by access to preventive care.

MENTAL HEALTH

The burden of mental illness in the United States is among the highest of all diseases, and mental health disorders are among the most common causes of disability.[183] Mental disorders are health conditions that are characterized by alterations in thinking, mood, and/or behavior that are associated with distress and/or impaired functioning. According to national research, nearly 90% of Americans value mental health and physical health equally, yet about one-third find mental health care inaccessible, and more than 4 in 10 see cost as a barrier to treatment for most people. In a sign that the treatment of depression is shifting to mainstream medical care, the U.S. Public Preventive Services Task Force (USPSTF) recommends screening for depression in the general adult population, including pregnant and postpartum women. The guidelines state that "screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up."[184] Most people understand that mental health conditions like depression are risk factors for suicide, although far fewer know that anxiety or panic disorders in particular put individuals at increased risk.[185] A key component of community health is "recognizing the relationship between mental and physical health and ensuring that services account for that relationship."[186]

[182] California Office of Statewide Health Planning and Development. Special data run for author, July 2012.

[183] Healthy People 2020. Leading Health Indicators Bulletin, April 2016. https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Mental-Health

[184] Siu ALand the US Preventive Services Task Force (USPSTF). Screening for Depression in Adults U.S. Preventive Services Task Force Recommendation Statement. *JAMA* January 26, 2016;315(4):380-387.

[185] Anxiety and Depression Association of America; American Foundation for Suicide Prevention; National Action Alliance for Suicide Prevention. Harris Poll of 2,0202 U.S. adults. August 2015.

[186] *Good Health Counts: A 21st Century Approach to Health and Community for California.* Prevention Institute. November 2007.

An estimated 26.2% of Americans ages 18 and older suffer from a diagnosable mental disorder in a given year.[187] Projecting this estimate of need to Lake County's 2014 population, up to 13,312 persons age 18 and older in the county could suffer from some level of mental health problem or disorder.

Approximately 20% of older adults, who face challenges coping constructively with the physical limitations, cognitive changes, and various losses, such as bereavement, that frequently are associated with late life, are estimated to experience specific mental disorders that are not part of "normal" aging. Many in the senior population have to contend with difficulties remaining in their homes due to health and financial reasons, a dearth of community-based affordable assisted living facilities, and difficulties accessing and retaining home health services. Although Lake County has a variety of senior service providers and professionals, not all are available in every geographic area. Family caregivers may find it increasingly difficult to be aware of the range of services as well as to navigate the various programs needed to provide for the physical, mental health, and social needs of elderly loved ones.

It is estimated that more than half of all prison and jail inmates have a mental health problem. The Department of Justice's Survey of Inmates in State and Federal Correctional Facilities and Survey of Inmates in Local Jails indicate that fewer than half of inmates who have a mental health problem have ever received treatment for their problem (rates differ depending upon the type of correctional facility).[188]

The high rate of co-occurrence or comorbidity between substance abuse and mental illnesses is now generally well recognized. Mental disorders can lead to drug abuse, (e.g., possibly as a means of self-medication). While the connection or causality between drug addiction and other mental illnesses cannot be proven, certain mental disorders are established risk factors for subsequent drug abuse—and vice versa.

Even more than other areas of health and medicine, the mental health field is plagued by disparities in the availability of and access to its services. A key disparity often hinges on a person's financial status; formidable financial barriers block needed mental health care regardless of whether one has health insurance with inadequate mental health benefits or lack of any insurance. Lake County area experts and community members consistently reported the immense struggle residents had in maintaining positive mental health and accessing treatment for mental illness.

To understand how mental health concerns impact Lake County, several indicators with readily available data were reviewed: psychological distress, teen depression, use of treatment resources, and suicide. Lake County faces a number of challenges in the incidence of mental health concerns. Overall, the residents of Lake County were more likely to experience psychological distress and symptoms of depression and experience higher suicide rates than the state average. Lake County residents sought mental health treatment at approximately the same rate as residents of California, however.

Psychological Distress

Although the smaller sample sizes for the county means that the data are considered "statistically unstable," it is worth noting the 2014 California Health Interview Survey (CHIS) findings concerning

[187] Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and co-morbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry, 2005 Jun;62(6):617-27 in The Numbers Count: Mental Disorders in America. National Institutes of Mental Health.

[188] Department of Justice's Survey of Inmates in State and Federal Correctional Facilities (2004) and Survey of Inmates in Local Jails (2002). http://bjs.ojp.usdoj.gov/index.cfm.

psychological distress. A significantly higher percentage of Lake County respondents reported having experienced serious psychological distress during past month than California respondents overall. This was especially so for adults (Table 49). This indicator will be especially important to track next year in light of the 2015 wildfires.

Table 49. Likelihood of Having Experienced Psychological Distress in the Last Month

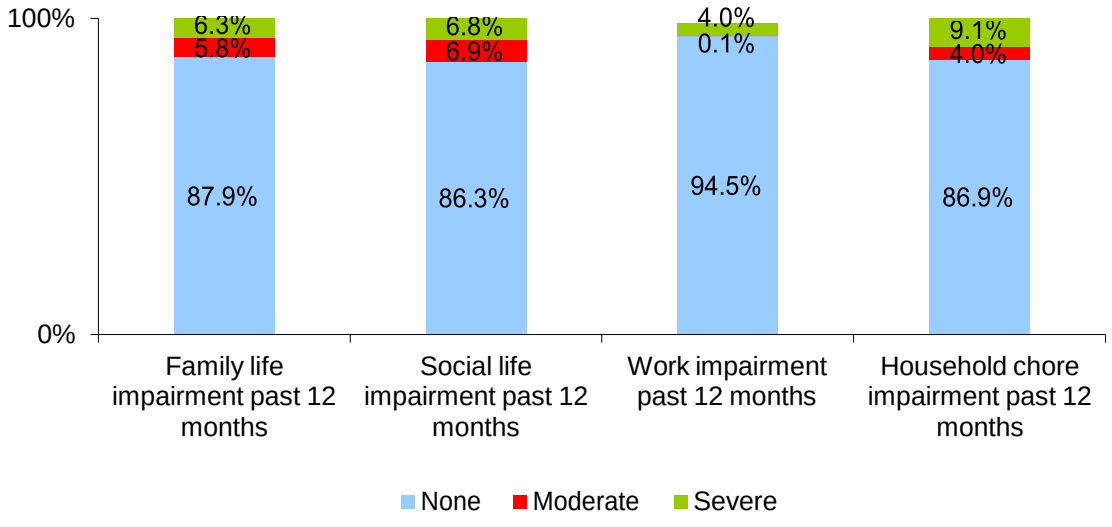
	Lake County		CA	
	Teens*	Adults	Teens	Adults
Likely had experienced psychological distress	8.6%	8.2%	5.3%	3.6%

Source: California Health Interview Survey 2014
*Statistically unstable.

Emotional Impairment

Between 86.3% and 94.5% of Lake County adults who responded to the 2014 California Health Interview Survey (CHIS) said they had not experienced any emotional impairment in the past year relative to family, social and work life (e.g. relationships) and ability to do their usual household chores (Figure 55), proportions generally comparable to state figures. However, 4.0%-9.1% reported experiencing severe levels of impairment in those areas with the ability to complete household chores the greatest impacted.

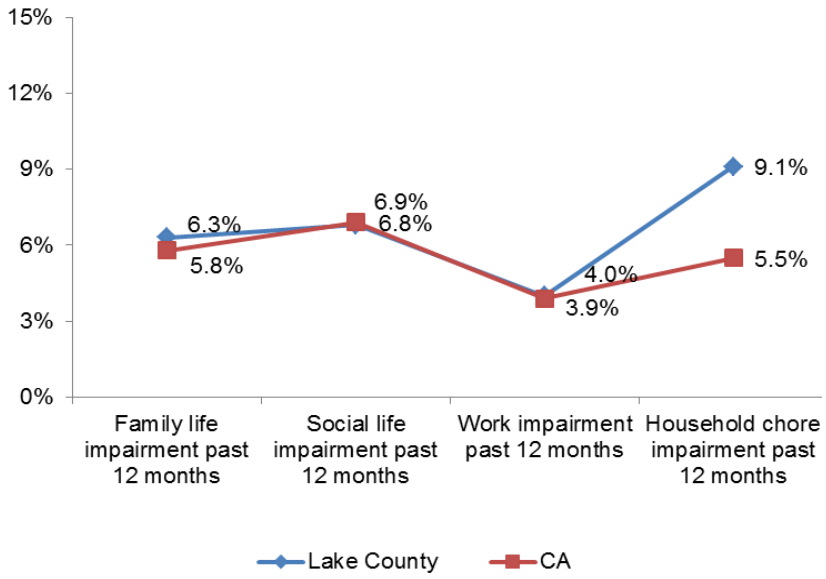
Figure 55. Level of Emotional Interference in Various Areas of Life, Lake County Adults



Source: California Health Interview Survey 2014

Although the smaller sample sizes for the county means that some figures for impairment are considered "statistically unstable," it is worth noting that the proportions of severe impairment are generally comparable to state figures—except for the proportion who reported impairment with household chores (Figure 56).

Figure 56. Percent of Lake County and California Adults Reporting Severe Interference in Various Areas of Life



Source: California Health Interview Survey 2014

Teen Depression

The 2014 California Health Interview Survey reported about the same proportion of Lake County teens (20%) were at risk for depression as the proportion statewide (23.2%), in responding to the question, "During the past 12 months did you think you needed help for emotional or mental health problems, such as feeling sad, anxious or nervous?"[189] The county proportion reported by CHIS has not changed much over the past several years (data not shown).

2009-2011 data from the California Healthy Kids Survey showed that the proportion of junior high school students experiencing depression was distributed unequally between genders. Girls, particularly 9th graders, were more likely to report symptoms of depression than males (Table 50). It is noteworthy that while these students were generally similar to the state average, 36% of 9th graders in Lake County, compared to 30% of all California 9th graders, reported symptoms of depression.[190]

Table 50. Percent of Lake County Students who Felt Sad or Hopeless in the Past 12 Months

	7th Grade			9th Grade			11th Grade		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
During the past 12 months, did you ever feel so sad or hopeless almost every day for 2 weeks or more that you stopped doing some usual activities?	31%	26%	20%	48%	36%	22%	41%	32%	22%

Source: 2009-2011 California Healthy Kids Survey.

[189] UCLA. 2014 California Health Interview Survey.
[190] http://chks.wested.org/resources/Secondary_State_0911Main.pdf

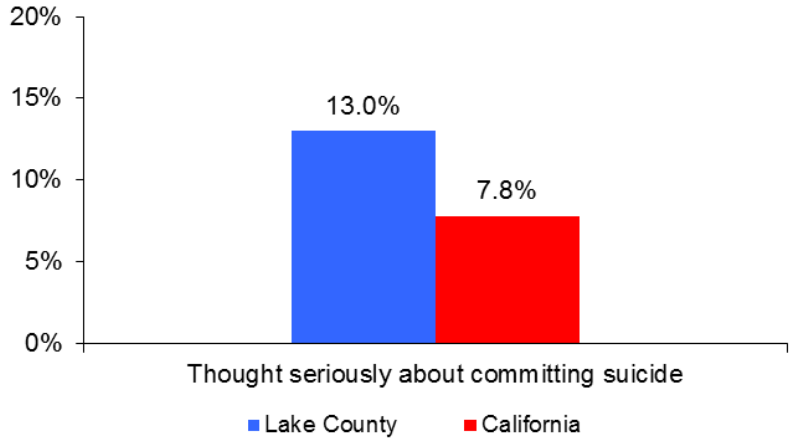
Suicide

Suicide exacts an enormous toll on its victims and the family and friends left behind. Suicide rates, which vary by age, gender and race/ethnicity, may underestimate the true rate of intentional self-harm. For example, gays, lesbians, and bisexuals were more than three times as likely (6.5%) as all adults (1.8%) to have seriously thought about suicide during the previous year.[191] The stigma attached to suicide may influence classification, and certain fatal events may arise from thoughts and actions similar to suicide (e.g., single-vehicle motor vehicle crashes, gang-related fights with weapons). In California, suicide is the 10th leading cause of death.[192]

For the 3-year average 2011-2013, the age-adjusted rate of suicides in Lake County was 25.8 per 100,000 residents. This is about two-and-a-half times the national objective and the California age-adjusted average, both of which are 10.2 per 100,000 residents. The county ranks 54th (slightly improved from 57th in the prior 3-year period) among the 58 counties on deaths from suicide.[193]

Lake County adult respondents to the 2009 CHIS were asked, "Have you ever seriously thought about committing suicide?" While 87% of the population answered "never," it is notable that 13% of the population—close to double the statewide proportion—answered that they *had* ever seriously thought about committing suicide (Figure 57).

Figure 57. Adult Responses Concerning Suicide, Lake County and California



Source: 2014 California Health Interview Survey

Suicide rates generally increase with age, with the highest rates in the 25-64 age group. While in absolute numbers these figures appear small, Table 51 provides a picture of the actual number of deaths from suicide by residents of various age groups in Lake County.

[191] Grant D, et al. *More Than Half a Million California Adults Seriously Thought About Suicide in the Past Year.* UCLA Center for Health Policy Research. Policy Brief. December 19, 2012.
[192] Ibid.
[193] California Department of Public Health, County Health Status Profiles. http://www.cdph.ca.gov/programs/ohir/Pages/CHSPCountySheets.aspx#e

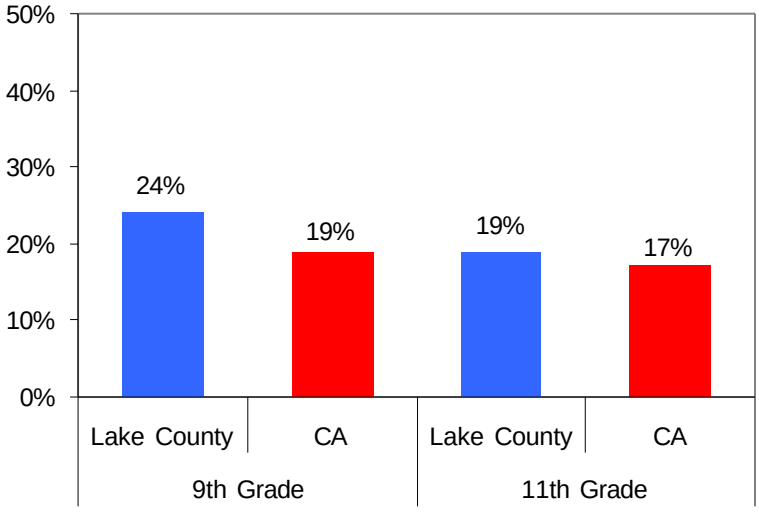
Table 51. Self-Inflicted/Suicide Death, Residents of Lake County by Age Group, Selected Years

Year	15-19	20-24	25-44	45-64	65+	85+
2009	0	2	6	10	5	0
2010	1	0	4	6	6	1
2011	1	1	2	9	5	0
2012	0	1	6	9	2	1
2013	4	2	3	6	2	1

Source: California Department of Public Health. EPIC Branch.

Figure 58 shows the percent of Lake County high school students who reported they seriously considered suicide in the past 12 months. Similar to reports of depression, the proportion of 9th graders expressing a significant mental health concern was higher in the county than the statewide average.

Figure 58. Percent of Lake County High School Students who Seriously Considered Suicide in the Past 12 Months



Source: 2009-2011 California Healthy Kids Survey.

Use of Treatment Resources

Close to 15% of Lake County residents reported to the 2009 CHIS they needed help for emotional/mental health problems or use of alcohol/drug in the last year,[194] and 76.1% responding to a question about health-seeking behavior indicated they had sought this type of help (Table 52 below).[195] The percentage of the population needing help increased slightly in the 2014 CHIS to 15.5%, but help-seeking for those concerns decreased from 2009. The proportion of help-seeking was higher in Lake County than the state average in both periods, however.

[194] CHIS combines these question with substance abuse when inquiring about mental health needs.
[195] California Health Interview Survey, http://www.chis.ucla.edu/main/DQ3/geographic.asp,

Respondents were also asked whether in the last 12 months they had seen their primary care physician or any other professional, such as a counselor, psychiatrist, or social worker, for problems with mental health, emotions, nerves or use of alcohol or drugs. A greater proportion of Lake County residents in both periods, 14.9% in 2009 and 17.5% in 2014, than California residents on average reported accessing one of these treatment resources.

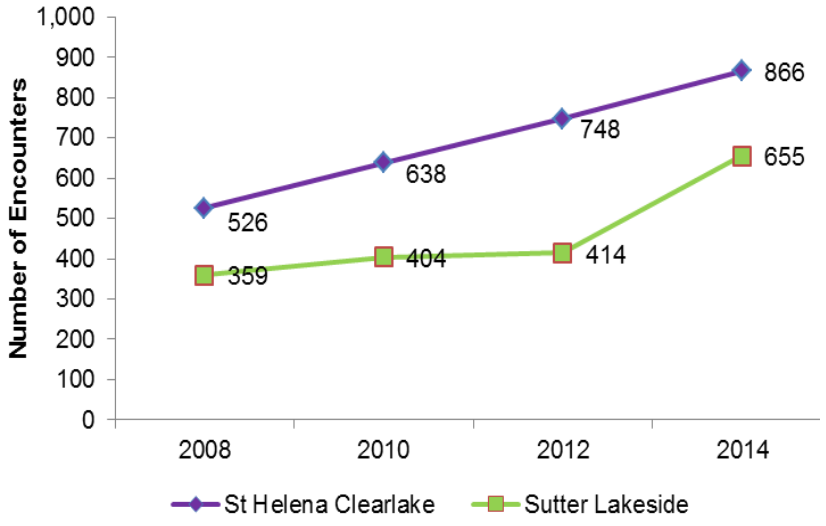
Table 52. Need for Mental Health and Use of Resources, Lake County and California Adults

	Lake County		California	
	2009	2014	2009	2014
Needed help for emotional/mental health problems or use of alcohol/drug	14.8%	15.5%	14.3%	15.9%
Needed help and sought it for self-reported mental/emotional and/or alcohol-drug issues	76.1%	66.3%*	55.5%	56.6%
Saw any healthcare provider for emotional-mental and/or alcohol-drug issues in past year	14.9%	17.5%	10.9%	12.0%

Source: California Health Interview Survey
*Statistically unstable.

Individuals with mental health disorders use the emergency department (ED) for acute psychiatric emergencies, for injuries and illnesses complicated by or related to their mental disorder or when psychiatric or primary-care options are inaccessible or unavailable. The use of the ED for mental disorders in both Lake County EDs increased every year between 2008-2014, with the increase in encounters more noticeable at St. Helena Hospital Clear Lake (Figure 59).

Figure 59. Use of Local Emergency Departments for Mental Disorders



Source: OSHPD

Individuals who may need to be hospitalized so that they can be closely evaluated and accurately diagnosed, have their medications adjusted or stabilized, or be monitored during an acute episode when their mental illness temporarily worsens are generally referred to psychiatric facilities outside the county. The local acute care hospitals are not psychiatric facilities, and everyone who presents there regardless of how they arrive—ambulance, law enforcement, or private vehicle—if they need admission to an inpatient mental health treatment facility, will ultimately be transferred from the hospital in Lake County by ambulance via a transfer center that arranges these transfers.[196]

During 2015, there were 251 inter-facility transfers from the two local acute care hospitals of patients to inpatient treatment facilities for psychiatric care.

- 184 were from St. Helena Hospital Clear Lake
- 67 were from Sutter Lakeside Hospital

Table 53 shows the most common diagnoses associated with these transfers and the facilities to which the patients were most frequently sent.

Table 53. Most Common Diagnoses and Most Frequent Facilities for Out-of-County Mental Health Transfers

Most Common Psychiatric Diagnosis	Number	Percent	Facility Most Frequently Transferred to	Number	Percent
5150 Hold	136	54.2%	St. Helena Hospital Center for Behavioral Health	77	30.7%
Depression, Depressive Disorder or mood disorder	28	11.2%	St. Helena Napa Valley	76	30.3%
Schizophrenia, schizoaffective disorder, paranoid schizophrenia, psychosis, or psychotic disorder (not otherwise specified.	36	17.6%	Aurora Behavioral Health Center	32	12.7%
Bi-polar	17	6.8%	Marin General Hospital	17	6.8%
Danger to self, suicidal ideation or suicide attempt	16	6.4%	California Pacific Medical Center	10	4.0%

Source: Ambulance transfer records (Inter-facility Transfers or IFTs)

[196] Some mental health admissions do remain at the local hospitals, but those situations may represent individuals are treated medically for conditions that are closely tied to a mental health diagnosis (e.g., overdose, self-inflicted injuries, etc.). Once medically stabilized, if they still needed mental health treatment specifically, they would likely be transferred.

SAFETY ISSUES

Overview

The rate of hospitalizations for non-fatal injuries and the rate of injury deaths among the leading causes of injury common to both Lake County and the state are all higher in Lake County, some significantly so (Table 54). Falls among seniors (reported as persons age 55+), 35% higher than statewide, was the leading cause of injury across all ages in Lake County in 2013.

Table 54. Five Leading Causes of Injury in Lake County, All Ages, 2013

	Non-Fatal Hospitalizations				Injury Deaths		
	Lake County		CA		Lake County		CA
Cause	Rank	Rate		Cause	Rank	Rate	
Unintentional - Fall	1	441.6	288.4	Unintentional - Poisoning	1	43.4	10.2
Unintentional - Poisoning	2	147.2	35.8	Suicide/Self-Inflicted	2	27.9	10.5
Suicide/Self-Inflicted	3	82.1	34.4	Unintentional – Motor Vehic Occupant	3	15.5	2.9
Unintentional – Motor Vehicle Occupant	4	65.1	39.7	Homicide/Assault	4	12.4	4.8
Unintentional - Natural/Environmental	5	51.1	N/A	Unintentional - Fall	5	7.7	5.7

Source: California Office of Statewide Health Planning and Development, Inpatient Discharge Data
Prepared by: California Department of Public Health, Safe and Active Communities Branch
Report generated from http://epicenter.cdph.ca.gov

Falls Among Seniors

Among people 65 years and older, falls are the leading cause of injury deaths and the most common cause of nonfatal injuries and hospital admissions for trauma. Serious injuries from falls include hip and other fractures, and head, neck and back injuries that require significant care. Falls that result in hospitalization are likely to cause placement in costly and restrictive long-term care facilities, significantly reduced post-fall activity, depression, anxiety and isolation. Full recovery is unlikely for a significant percentage of survivors.[197]

Hospital discharge information has traditionally been the best falls surveillance system in California, although the data are limited to only those falls that are serious enough to warrant an emergency department visit or hospital admission. The number of reported falls has increased in the last several years. In 2013, there were 245 nonfatal hospitalized fall injuries (up from 212 in 2011 and 199 in 2006) among older Lake County residents; about 65% of these falls were by women; 63% of the 1,324 (up from 1,211 in 2011) non-fatal ED visits for falls by this age group were also by women (Table 55).[198]

[197] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. www.cdc.gov/ncipc/wisqars.
[198] California Department of Public Health, Safe and Active Communities Branch, EPICenter. http://www.apps.cdph.ca.gov/epicdata/default.htm (July 2012)

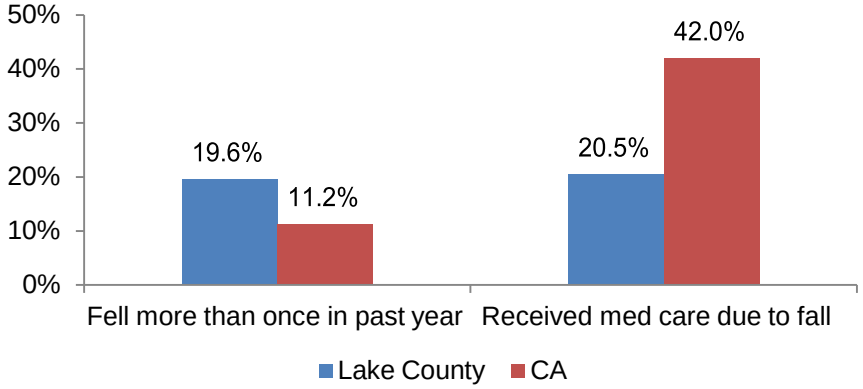
Table 55. Unintentional – Senior (50+ years old) Falls, Lake County, 2013

	Non-fatal Emergency Department Visit				Non-fatal Hospitalization			
Age Group	*50-64*	*65-84*	*85+*	*Total*	*50-64*	*65-84*	*85+*	*Total*
Male	236	194	55	485	23	51	12	86
Female	340	348	151	839	35	75	49	159
Total	576	542	206	1,324	58	126	61	245

Source: California Office of Statewide Health Planning and Development, Inpatient Discharge Data.

The California Health Interview Survey (CHIS) asked seniors age 65+ about falls. In Lake County, 8.9% reported falling to the ground more than once in the past year, somewhat lower than the state average of 11.2% (Figure 60).[199] Of those who had fallen in the past year, a little more than a quarter (26.4%) had received medical care, compared to 42% statewide.

Figure 60. Falls by Seniors Age 65+, Lake County and California



Source: California Health Interview Survey, 2012.

Intimate Partner Violence

It is difficult to gauge the extent of domestic or intimate partner violence in a community because it occurs most often behind closed doors, and it is estimated that a large number of occurrences go unreported. The primary indicator used for domestic violence is the number of law enforcement calls for assistance. Another is the percentage of calls that involve weapons. An additional indicator is the number of visits to the ED where the visit is coded as "violence against women."

In 2014 in Lake County, there were 570 calls for domestic violence assistance, 20.4% of which involved a firearm, knife, or other dangerous weapon.[200] The number of calls is up from 458 calls in 2008 as was the percentage involving weapons, though the weapon-involved calls were about half the proportion as the statewide average (Table 56 below).[201] The City of Clearlake accounted for 44% of the calls for assistance in 2014 (data not shown).

[199] California Health Interview Survey, 2012. UCLA Center for Health Policy Research
[200] California Department of Justice, Criminal Justice Statistics Center, Criminal Justice Profiles. http://ag.ca.gov/cjsc/pubs.php#profiles Domestic violence is defined as "...abuse committed against an adult or a fully emancipated minor who is a spouse, former spouse, cohabitant, former cohabitant, or person with whom the suspect has had a child or is having or has had a dating or engagement relationship."
[201] Ibid.

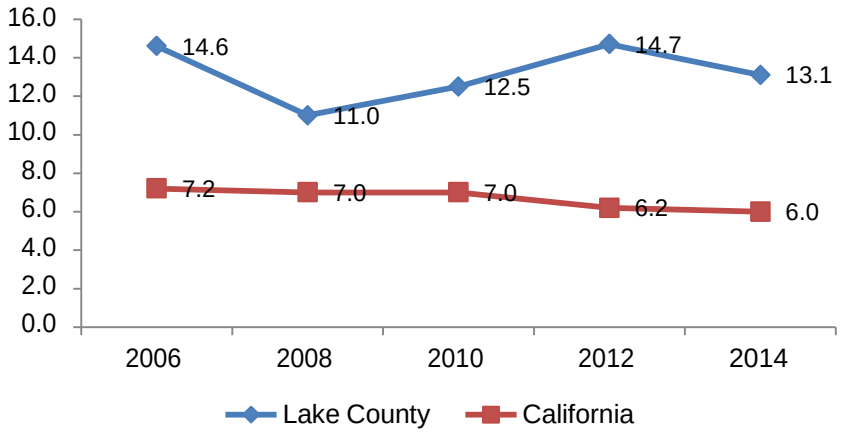
Table 56. Total Number of Domestic Calls and Percent Involving Weapons, Lake County

Category	2008	2010	2012	2014
Total calls				
Lake County	458	522	634	570
% of calls involving weapons[1]				
Lake County	14.3%	15.0%	19.2%	20.4%
California	39.2%	40.0%	40.1%	42.6%

Source: California Department of Justice, Criminal Justice Statistics Center, Criminal Justice Profiles.
[1] Firearm, knife or cutting instrument, or other dangerous weapon. Does not include personal weapons, defined as hands, feet, etc.

For the last 8 years, the *rate* of domestic violence-related calls for assistance in Lake County has been higher--significantly so in some years--than the state average (Figure 61).

Figure 61. Number of domestic violence calls for assistance per 1,000 adults ages 18-69.



California Dept. of Justice, Criminal Justice Statistics Center, Domestic Violence-Related Calls for Assistance Database (2001-2014) and California Criminal Justice Profiles, 2014

In 2013, a total of 137 (down from 170 in 2011) visits were made by females to an ED where violence against women by either a partner or someone else was recorded as the cause for the visit (Table 57).

Table 57. ED Visits Related to Violence Against Females (10+ years old), Lake County, 2013

Perpetrator	Non-fatal Emergency Department Visit (treat & release, or transfer to another facility)							
	Age Group							
	10-14	15-19	20-24	25-44	45-64	65-84	85+	Total
By partner	0	0	0	1	1	0	0	2
By anyone	4	16	22	61	31	1	0	135

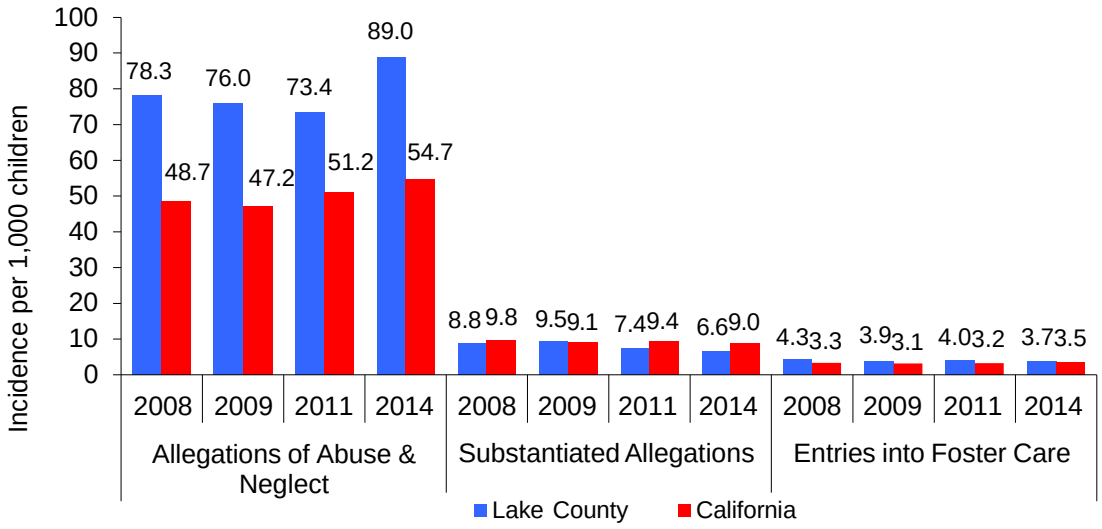
Source: California Office of Statewide Health Planning and Development, Emergency Department Data

Child Abuse

Childhood abuse, neglect, and exposure to other traumatic stressors (termed adverse childhood experiences) is relatively common according to research.[202] Child abuse is a serious problem with numerous short- and long-term consequences. Children who experience maltreatment are at increased risk for adverse health effects and behaviors as adults—including smoking, alcoholism, drug abuse, eating disorders, severe obesity, depression, suicide, sexual promiscuity, and certain chronic diseases.[203]

Lake County's rate of child abuse allegations is substantially higher than the rate for the state (Figure 62). Rates for substantiations and entries into foster care are closer, though still somewhat higher, than state rates (with the exception of 2008-2009). The actual number of allegations and substantiated child abuse cases for the county are shown in Figure 63 on the next page. From 2008 to 2011, the rate of Lake County reported child abuse and neglect allegations declined and then rose in 2014, thought the rates of substantiated allegations and entries into foster care declined slightly in 2014.[204]

Figure 62. Rate of Child Abuse Allegation & Substantiation and Entries Into Foster Care



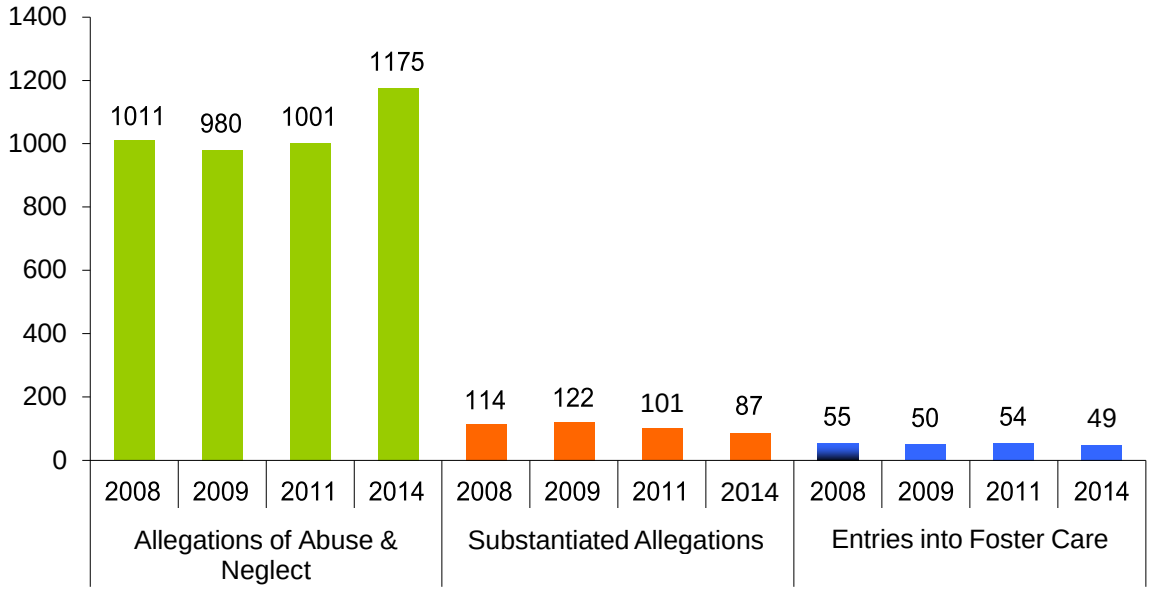
Source: Child Abuse Allegation & Substantiation Rates, Child Welfare Dynamic Report System

[202] U.S. Department of Health and Human Services (DHHS). Administration on Children, Youth, and Families (ACF). Child maltreatment 2011 [online]. Washington (DC): Government Printing Office; 2012. http://www.acf.hhs.gov/programs/cb/resource/child-maltreatment-2011

[203] Felitti V, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine* 1998;14(4):245–58.

[204] Child Abuse Allegation & Substantiation Rates, Child Welfare Dynamic Report System. http://cssr.berkeley.edu/ucb_childwelfare/RefRates.aspx

Figure 63. Number of Child Abuse Allegation & Substantiation and Entries Into Foster Care, Lake County, Selected Years



Source: Child Abuse Allegation & Substantiation Rates, Child Welfare Dynamic Report System

The rates of child abuse allegations, substantiations and entries into foster care are highest in children under age two (Table 58).

Table 58. Number of Children with Allegations, Substantiations, and Entries Into Foster Care, Incidence per 1,000 Children, Lake County, January 2014 – December 2014.

Age Group	Children with Allegations	Incidence per 1,000 Children	Children with Substan-tiations	Incidence per 1,000 Children	% of Allegations	Children with Entries	Incidence per 1,000 Children	% of Substan-tiations
<1	142	202.6	14	20	9.9	9	12.8	64.3
1-2	135	94.5	13	9.1	9.6	6	4.2	46.2
3-5	203	95	16	7.5	7.9	8	3.7	50
6-10	343	92.5	25	6.7	7.3	15	4	60
11-15	269	73	17	4.6	6.3	9	2.4	52.9
16-17	83	53.8	2	1.3	2.4	2	1.3	100
Total	1,175	89	87	6.6	7.4	49	3.7	56.3

Source: CWS/CMS 2015 Quarter 2 Extract. Population Data Source: 2014 - CA Dept. of Finance: 2010-2060 - Pop. Projections by Race/Ethnicity, Detailed Age, & Gender.

Elder Abuse

Elder abuse is a serious problem that is said to live in the shadows of most communities and go largely unreported. Between 2012 and 2015, there were 787 Adult Protective Services confirmed cases of abuse and neglect among older adults in Lake County. Of all APS investigations in these 4

years, 33.8% were for abuse perpetrated by others, and 66.2% for self-neglect (Table 59).[205] These proportions are generally unchanged from the recent 3-year period. Abuse perpetuated by others was primarily categorized as reports of psychological/mental abuse and financial abuse. The majority of self-neglect cases were for health and safety hazards.

Table 59. Investigated and Confirmed Cases of Elder Abuse, 2012-2015, Lake County

Type of Abuse	Percent of Cases
Perpetrated by Others	*33.8%*
Psychological/Mental	10.8%
Financial	9.4%
Neglect	5.6%
Physical	5.2%
Isolation	1.0%
Sexual	0.9%
Abandonment	0.9%
Abduction	0.0%
Self Neglect	*66.2%*
Health and Safety Hazards	30.0%
Medical Care	16.5%
Physical Care	12.1%
Malnutrition/ Dehydration	5.0%
Financial	2.7%

Source: Area Agency on Aging of Lake & Mendocino Counties.

Exposure from the Physical Environment: Air Quality

Despite progress, many people still suffer air pollution levels that are often dangerous to breathe, and unhealthy air remains a threat to health in many California counties. Air pollution is especially harmful to children as their lungs and alveoli (air sacs) aren't fully grown until children become adults.[206] Poorer people and some racial and ethnic groups are among those who often face higher exposure to pollutants and who may experience greater responses to such pollution.[207] Exposure to outdoor air pollution can cause both short-term and long-term health effects, including damage to the immune, neurological, reproductive, cardiovascular, and respiratory systems; asthma; and death.[208,209]

The American Lung Association's State of the Air 2015 report graded local areas on an A through F scale by comparing ozone and small particulate concentrations with the federal air quality standards.

---

[205] Ibid.

[206] World Health Organization. The Effects of Air Pollution on Children's Health and Development: a review of the evidence E86575.2005. Accessed at http://www.euro.who.int/document/E86575.pdf .

[207] O'Neill MS, Jerrett M, Kawachi I, et al.Health, Wealth, and Air Pollution: Advancing Theory and Methods. *Environ Health Perspect*.2003; 111: 1861-1870. Ostro B, Broadwin R, Green S, Feng W, Lipsett M.Fine Particulate Air Pollution and Mortality in Nine California Counties: Results from CALFINE. *Environ Health Perspect*. 2005; 114: 29-33. Zeka A, Zanobetti A, Schwartz J. Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics. *Occup Environ Med.* 2006; 62: 718-725.

[208] U.S. Environmental Protection Agency. "Effects of Air Pollutants – Health Effects." http://www.epa.gov/eogapti1/course422/ap7a.html.

[209] National Institute of Environmental Health Sciences, National Institutes of Health. "Air Pollution." http://www.niehs.nih.gov/health/topics/exposure/air-pollution.

Lake County received an "B" grade for Ozone, an "A" grade for short term particulate pollution (Table 60), and in 2014 was ranked among the Cleanest Counties for Short-term Particle Pollution in the Nation for annual particulate average concentrations.[210]

Table 60. Lake County Air Quality Status

HIGH OZONE DAYS	
Ozone Grade	B
Orange Ozone Days [1]	1
Red Ozone Days	0
Purple Ozone Days	0
PARTICLE POLLUTION - 24 Hour	
Ozone Grade	A
Orange Ozone Days	0
Red Ozone Days	0
Purple Ozone Days	0
PARTICLE POLLUTION - Annual	
Ozone Grade	Pass[2]
GROUPS AT RISK	
Total Population	63,860
Pediatric Asthma	1,152
Adult Asthma	4,564
Chronic Bronchitis	2,799
Emphysema	1,179
Cardiovascular Disease	4,319
Diabetes	6,361
Children Under 18	13,008
Adults 65 and Over	12,669
Poverty Estimate	14,680

Grade	Weighted Average	Approx. # of Allowable Orange/Red/Purple/ Maroon days
A	0.0	None
B	0.3 to 0.9	1 to 2 orange days with no red
C	1.0 to 2.0	3 to 6 days over the standard: 3 to 5 orange with no more than 1 red OR 6 orange with no red
D	2.1 to 3.2	7 to 9 days over the standard: 7 total (including up to 2 red) to 9 orange with no red
F	3.3 or higher	9 days or more over the standard: 10 orange days or 9 total including at least 1 or more red, purple or maroon

Source: American Lung Association. Data from 2012-2014.
[1] Air quality index levels: orange=unhealthy for sensitive groups; red=unhealthy for all; purple=very unhealthy for all.
[2] Since no comparable Air Quality Index exists for year-round particle pollution, grading was based on the Environmental Protection Agency's determination of violations of the national ambient air quality standard. Counties that EPA listed as being in attainment of the standard were given grades of "Pass;" nonattainment counties were given grades of "Fail. "Description of County Grading System. Source: American Lung Association

In the last several years, a growing body of scientific evidence has indicated that the air within homes and other buildings can be more seriously polluted than the outdoor air in even the largest and most industrialized cities. Other research indicates that people spend approximately 90 percent of their time indoors.[211] Thus, for many people, particularly children, the risks to health may be greater due to exposure to air pollution (including from wood-burning stoves) indoors than outdoors. Though uncommon, in some parts of the county the intrusion of naturally occurring geothermal gases into buildings is recognized as a source of indoor air pollution.

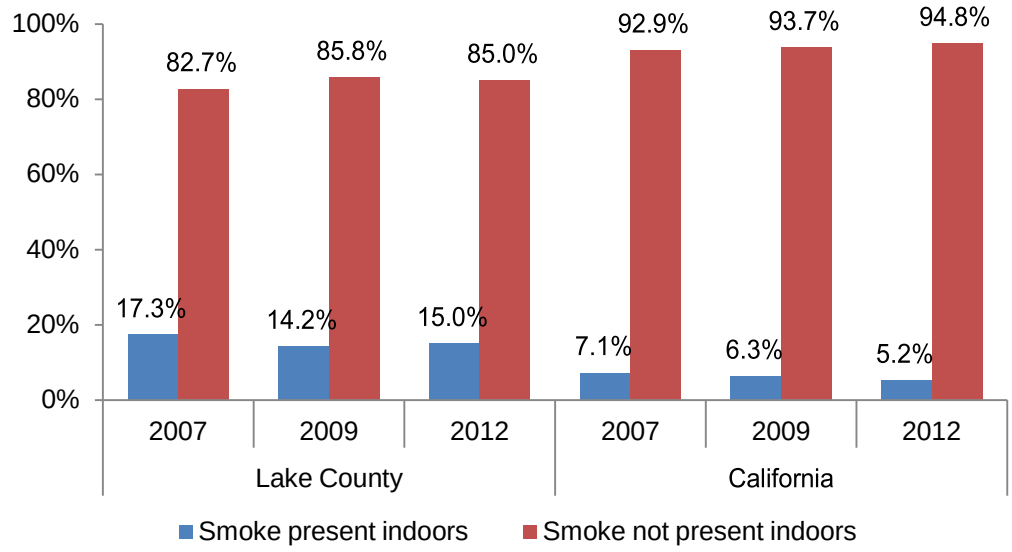
Exposure to Secondhand Smoke

Among the many factors that contribute to poor indoor air quality, secondhand smoke is one of the most common of these pollutants, and poses serious health risks. Exposure to secondhand tobacco

[210] http://www.stateoftheair.org/2014/assets/ALA-SOTA-2014-Full.pdf
[211] http://www.epa.gov/iaq/pubs/insidest.html#Intro1.

smoke--which varies by race and ethnicity, family income level and health insurance status--in Lake County is double the California average (Figure 64) and exceeds the HP2020 target of 87% of homes being smoke free.

Figure 64. Percent of Homes with Adults Who Smoke Indoors, Lake County and California



Source: California Health Interview Survey

PREVENTIVE/PROTECTIVE HEALTH

Vaccination

Immunization is a measure of access to preventive care. Vaccines can prevent the debilitating and, in some cases, fatal effects of infectious diseases. According to Healthy People 2020, vaccination coverage levels of 90% are sufficient to prevent the circulation of viruses and bacteria causing preventable disease. The Healthy People Objectives for 2020 reflect a more mobile society and the fact that diseases do not stop at geopolitical borders, and vaccination coverage levels of 90% may not be sufficient.

In the fall, every licensed childcare facility in California must provide information on their total enrollment, the number of children who have or have not received the immunizations required, and the number of exemptions. In the spring, local and state public health personnel visit a sample of licensed childcare facilities, to collect the same information for comparison. The age group assessed by these surveys is 2 years through 4 years 11 months. On average, one-third of children in this age group attend licensed childcare centers. Hence, the data for children enrolled in licensed childcare centers may not be representative of the entire population of Lake County children in this age group. Data from the 2014-2015 school year indicate that 87.8% (down from 89.9% in 2012-13) of the children enrolled in reporting Lake County childcare centers received all required immunizations mandated by law (Table 61), a lower proportion than the statewide average.

Table 61. Immunization Coverage Among Children in All Child Care Centers, 2014-15

Element	Lake County	California
Admission status		
Entrants with all required immunizations	87.8%	89.4%
Conditional entrants	7.96%	7.4%
Entrants with permanent medical exemptions	0.75%	0.56%
Entrants with personal belief exemptions	3.45%	2.67%

Source: California Department of Public Health, Center for Infectious Disease Division, Department of Communicable Diseases, Immunization Division, Childhood Immunization Coverage. Data are for facilities with 10 or more children enrolled.

The annual kindergarten assessment is conducted each fall to monitor compliance with the California School Immunization Law. Results from this assessment are used to measure immunization coverage among students entering kindergarten. In 2014-2015, Lake County reported 90.9% of kindergarten entrants were adequately immunized at kindergarten entrance. This was a relatively large increase from 85.9% in 2012-2013, and a slightly higher rate than the statewide average (Table 62). Lake County has a higher percentage of personal belief exemptions than California's, suggesting that local belief systems are somewhat less supportive of vaccination as a desirable preventive measure. A new law (Senate Bill 277, which takes effect July 2016), eliminating the personal belief vaccine exemption is a significant change to current vaccine exemption law and is expected to have a profound impact on families who have chosen to delay or decline one or more vaccines for their children and want their children to have a public or private school education.

Table 62. Immunization Coverage Among Children Entering Kindergarten, 2014-15

Element	Lake County	California
Admission status		
Entrants with all required immunizations	90.9%	90.4%
Conditional entrants	4.26%	6.86%
Entrants with permanent medical exemptions	0.00%	0.19%
Entrants with personal belief exemptions	4.85%	2.54%

Source: California Department of Public Health, Center for Infectious Disease Division, Department of Communicable Diseases, Immunization Division, Childhood Immunization Coverage.

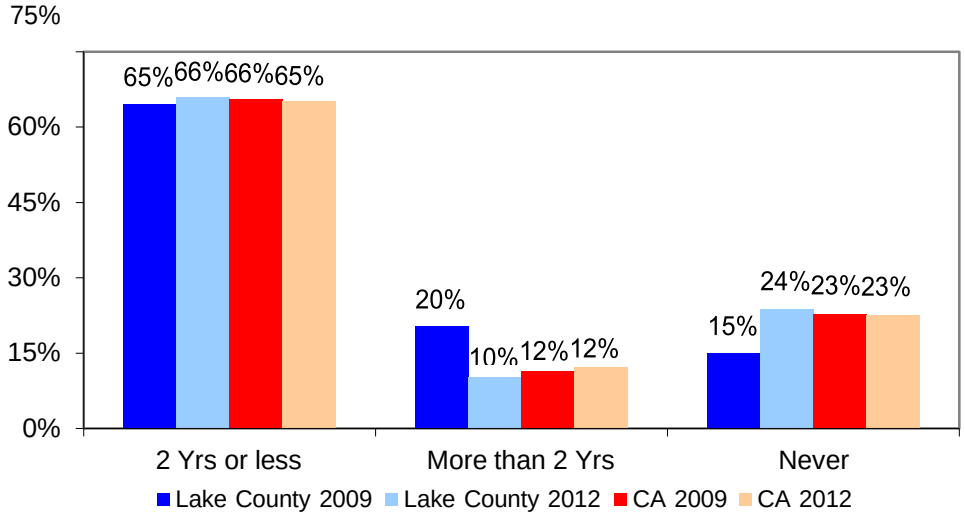
Health Screening for Cancer

Cancer is the second leading cause of death in the nation, and is also one of the most common chronic diseases. Critical health indicators commonly monitored for community health include cancer screening for breast and colorectal cancers. While it has always been difficult to get some people to go for cancer screening, it can be particularly challenging when financial barriers limit access or cultural beliefs influence utilization. In general, Lake County rates of cancer screening are less favorable than both state rates and national health objectives.

Breast Cancer Screening

Earlier detection for breast cancer through regular screenings can increase survival rates of breast cancer because it identifies cancer when it is most treatable.[212] At this time, mammography is the modality of choice for screening for early breast cancer. Data from the California Health Interview Survey (CHIS) show in 2012, 66% of Lake County women age 40-85 had a mammogram in the past 2 years and was slightly more favorable than the rate for women statewide in that year (Figure 65). The county's rate fell short of the national health objective (Healthy People 2020) of 70% screened in the past 2 years.

Figure 65. Recency of Mammogram Screening



Source: California Health Interview Survey, 2009 and 2012

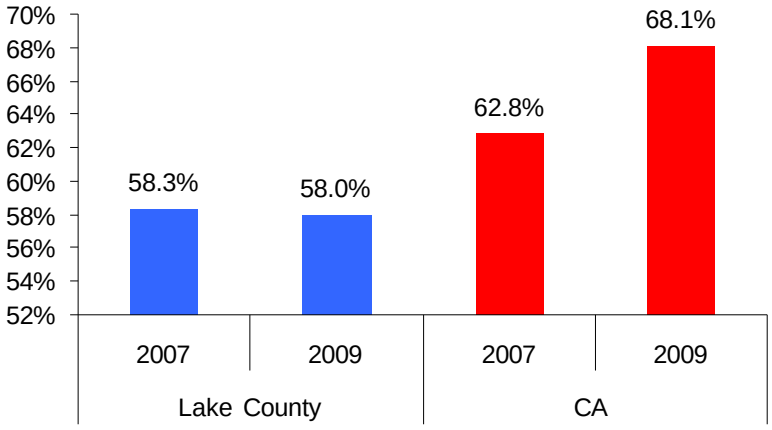
[212] Effects of chemotherapy and hormonal therapy for early breast cancer on recurrence and 15-year survival: an overview of the randomized trials, early breast cancer trials' collaborative group (EBCTCG). *The Lancet,* May 14, 2005:365:1687-1717.

Colorectal Cancer Screening

Colorectal cancer is the third leading cause of cancer-related deaths in the U.S. when men and women are considered separately, and the second leading cause when both sexes are combined. Overall, the lifetime risk of developing colorectal cancer is about 1 in 20 (5.1%). This risk is slightly lower in women than in men. [213] Screening has been shown to have great effect on both cancer prevention and cancer survival rates,[214] but the challenge lies in making the test (colonoscopy/ sigmoidoscopy) accessible to all adults at the appropriate age and schedule, and also in assuring that people actually follow through on recommendations to be screened. Current colorectal screening guidelines consist of sigmoidoscopy every 5 years and colonoscopy every 10 years for those aged 50 to 75 years.[215] Although an annual fecal occult blood test (FOBT) is also recommended, sigmoidoscopy and colonoscopy have higher sensitivity and specificity for the detection of cancerous lesions.[216] Survival from colon and rectal cancer is nearly 90% when the cancer is diagnosed before it has extended beyond the intestinal wall.

Lake County residents receive recommended colorectal screening to a lesser extent than adults statewide. Respondents to the 2009 CHIS (the question was not asked in subsequent interviews) age 50 and older were asked about their compliance with a recommended screening based on American Cancer Society recommendations and the U.S. Preventive Services Task Force guidelines for this age population; 58.0% (slightly less than 58.3% two years earlier) said they were compliant at the time of the recommendation, a lower percentage than 62.8% statewide in 2007 and 68.1% in 2009 (Figure 66).

Figure 66. Colorectal Cancer Screening: Compliance at Time of Recommendation

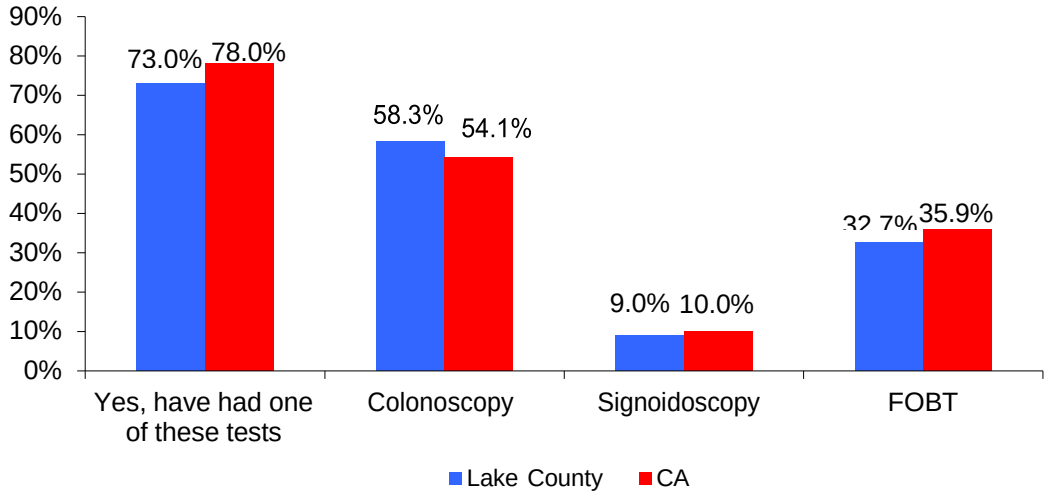


Source: California Health Interview Survey

[213] *Colorectal Cancer Facts & Figures* American Cancer Society. http://www.cancer.org/cancer/colonandrectumcancer/detailedguide/colorectal-cancer-key-statistics
[214] Read TE, Kodner IJ. Colorectal cancer: risk factors and recommendations for early detection. *Amer Fam Physician* June 1999;59(11):3083-88.
[215] US Preventive Services Task Force. Screening for Colorectal Cancer: U.S. Preventive Services Task Force Recommendation Statement. Ann Intern Med. 2008;149(9):627–637
[216] US Preventive Services Task Force. Screening for colorectal cancer: recommendation statement. *Am Fam Physician* 2010;81(8):1012–1016.

Seventy-three percent (up from 72% in 2007) of Lake County adults age 50+ who responded to the CHIS question in 2009 reported they had had one of the types of tests (sigmoidoscopy, colonoscopy or FOBT) for this cancer (78.0% of Californians reported doing so). Of those respondents, a greater proportion countywide than statewide had had a colonoscopy; the reverse was the case for sigmoidoscopy (Figure 67). The national health target (Healthy People 2020) is to increase to 70.5% the proportion of adults age 50+ who receive a colorectal cancer screening based on the most recent guidelines.

Figure 67. Percent Reporting Having Ever Had a Colorectal Screening Test and Type of Test



Source: California Health Interview Survey

These cancer screening rates in Lake County belie a major disparity in screening, however. The CHIS findings cited above may not adequately represent low-income individuals who may be less likely to have access to or be able to pay for these tests. Unlike cervical and breast cancers, there is no state- or federally-funded program to subsidize or cover colorectal cancer screening. If Lake County is similar to the rest of California, Latino adults age 50+ are about one-third less likely than Non-Latino Whites to have had a sigmoidoscopy/colonoscopy in the last five years.[217]

Prostate Cancer Screening

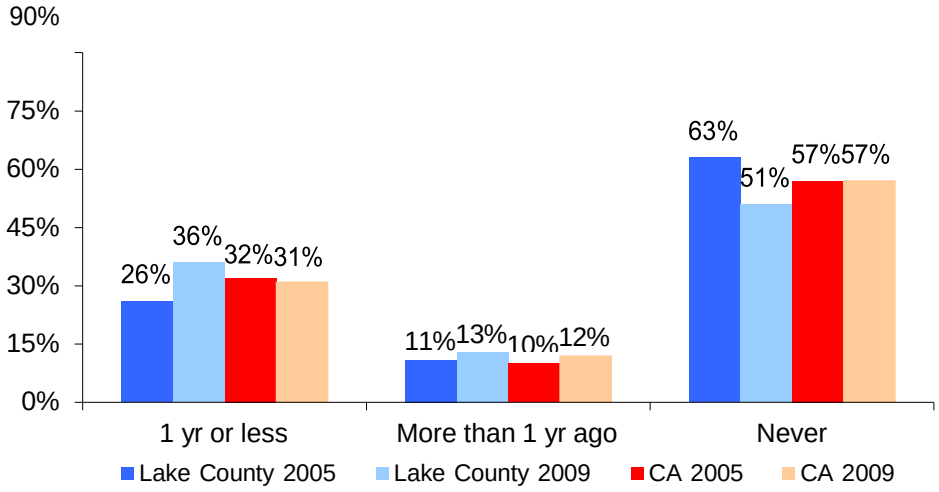
According to the National Cancer Institute, 1 in 6 men will be diagnosed with prostate cancer at some time during their lives, and that more than 8% of men will develop prostate cancer between their 50th and 70th birthdays.[218]

Research has not yet proven that the potential benefits of testing outweigh the harms of testing and treatment. It is definitely an issue of informed personal choice. The American Cancer Society recommends that starting at age 50 (age 45 for African Americans and men with a father or brother who had prostate cancer before age 65), men talk with their doctor about the pros and cons of testing to make an informed choice about whether being tested for prostate cancer is the right choice for them. ACS guidelines recommend men who decide to be tested should have the PSA blood test, with or without a rectal exam. How often they are tested depends on their PSA level.[219]

[217] Ibid.
[218] http://seer.cancer.gov/statfacts/html/prost.html.
[219] www.cancer.org/cancerscreeningguidlines.

A greater proportion of Lake County men age 40+ who responded to this question in the CHIS in 2009—which has not been updated since—reported having had a PSA screening test for prostate cancer in the last year than the proportion in 2005, 35% and 26%, respectively. And, fewer men in the county reported in 2009 than in 2005 they had never received this screening test (Figure 68).

Figure 68. Prostate Cancer Screening History



Source: California Health Interview Survey, 2005 and 2009

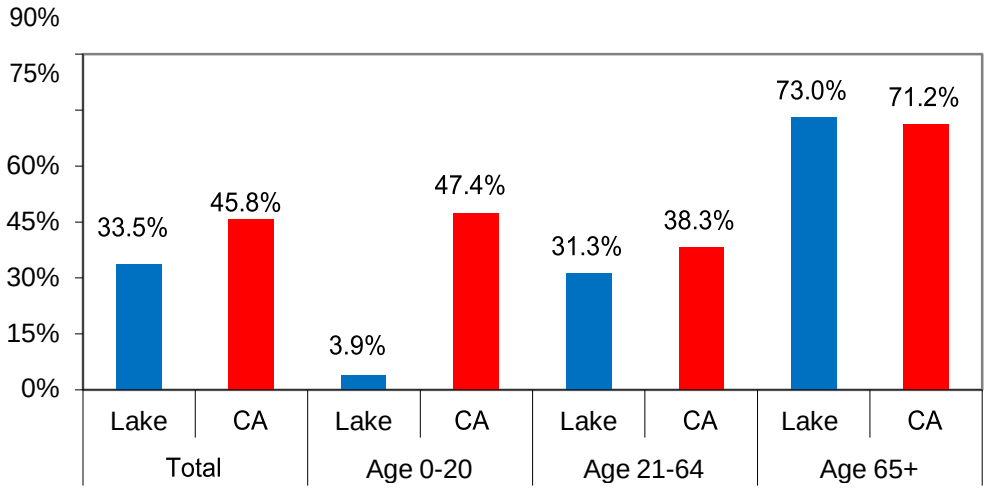
Flu Vaccination

The seasonal flu vaccine protects against at least three influenza viruses that research indicates will be most common during the upcoming season. The Centers for Disease Control and Prevention recommends that everyone 6 months and older should get a flu vaccine each year. According to the CDC, it is especially important that certain groups get vaccinated either because they are at high risk of having serious flu-related complications or because they live with or care for people at high risk for developing flu-related complications. Examples of such groups include children younger than 5, but especially children younger than 2 years old, people 50 years of age and older, people of any age with certain chronic medical conditions, and health care workers.[220]

In 2014, according to the CHIS, the only Lake County residents reported having had a flu shot within the last year equivalent to or better than the statewide average were seniors (Figure 69). There was a marked difference between the county and state rates for children 0-20, with Lake County significantly lower.

[220] http://www.cdc.gov/flu/about/qa/flushot.htm..

Figure 69. Flu Shot Within Last Year, by Age Group



Source: California Health Interview Survey, 2014
Note: Children were asked “Did get a flu shot or the nasal flu vaccine, called 'Flumist'?"

SECTION III. HEALTH RESOURCE AVAILABILITY AND UTILIZATION

"The more programs we put into place in Lake County, the more the services attract even more people in need from surrounding counties." – Focus Group Attendee

"The doctors, or their spouses, say the community is not for them and has a lack of options." – Focus Group Attendee

Planning services and programs and allocating funds appropriately depends on the availability of local resources. Indicators of resource availability in a community include geographic distribution, supply, and capacity relative to a population's health status, risks, and disparities. For example, improving adverse health status levels in high-risk, low-resource communities may indicate the need for more targeted funding and technical assistance.[221] Assessing health care service capacity and access to health care services is an important role for local public health agencies and their partners as understanding gaps and barriers allows effective strategies to be put into place to address the lack of access to health care.[222]

ACUTE CARE HOSPITALS

Lake County has two hospitals: St Helena Hospital Clearlake (formerly Redbud Community Hospital) and Sutter Lakeside Hospital. Both are designated as Critical Access Hospitals (CAH). CAHs are hospitals that are located in a rural area over 35 miles from another hospital. (A rural hospital that is 15 miles from another hospital in mountainous terrain, or areas with only secondary roads, may also qualify as a CAH.) Regardless of the number of beds for which they are licensed, CAHs are limited to using a maximum of 25 beds for inpatient or "swing bed"—acute or skilled nursing facility care—purposes, and would be penalized for going over that limit except in cases of emergencies when a waiver is needed. CAH hospitals also have length-of-stay requirements: acute inpatient care that does not exceed, on an annual basis, an average length of stay of 96 hours; there is no length of stay limit for swing bed patients. Having a CAH designation allows the hospital to be paid by Medicare for most inpatient and outpatient services to Medicare beneficiaries 101% of their allowable and reasonable costs. As of March 2016, there were 34 CAH hospitals in California.[223] CAHs provide referrals to larger hospitals for more specialized services as indicated. This section describes the hospital utilization rates, outpatient visits and emergency department use.

[221] Petersen DJ, Alexander GR. Needs Assessment in Public Health. Kluwer Academic/Plenum Publishers, New York. 2001.
[222] Public Health Accreditation Board Standards & Measures version 1.5. December 2013.
[223] http://www.flexmonitoring.org/data/critical-access-hospital-locations/?search_state=CA&filter_search=yes#result-list, current as of 3/18/16.

Hospital Utilization[224]

Hospital utilization is determined by the number of available beds, the number of patient days, and the occupancy rates. From 2004-2014, the occupancy rate for the Lake County hospitals increased 4% and for California hospitals the rate declined 9% overall. (Table 63). During this same period, the occupancy rate for Lake County hospitals averaged 46% with a high of 53% in 2013.

Table 63. Hospital Utilization for Lake County with State Comparisons, 2004-2014

Year	St Helena Hospital: Clearlake	Sutter Lakeside	Available Beds (Lake County)	Patient Days (Lake County)	Occupancy Rate (Lake County)	Occupancy Rate (California)
2004	X	X	101	15,364	47%	63%
2005	X	X	101	15,679	43%	62%
2006	X	X	101	16,460	45%	62%
2007	X	X	101	15,690	43%	62%
2008	X	X	81	13,064	42%	62%
2009	X	X	81	13,564	46%	60%
2010	X	X	81	14,154	48%	59%
2011	X	X	81	14,211	48%	59%
2012	X	X	81	13,038	44%	56%
2013	X	X	62	12,000	53%	55%
2014	X	X	62	11,542	51%	54%

Source: California Office of Statewide Health Planning and Development
Note: There may be confusion over the distinction between the numbers of licensed beds that critical access hospitals (CAHs) retain versus how many can be occupied. As CAHs, these hospitals did not give up all of their licensed beds—the beds are available as surge capacity in a disaster—but as CAHs, they can only occupy 25 of them. See paragraph above for more information.

Hospital Outpatient Visits[225]

To understand how the number of hospital outpatient visits in Lake County compares to the number of outpatient visits at other California hospitals, the average number of outpatient visits per resident was calculated.[226] From 2004-2014, there was an average of 3.7 outpatient visits each year per Lake County resident, *three times* as many as the statewide average of 1.2 outpatient visits per resident for the same period. These are the same multiple year averages that were seen in the previous community health needs assessment. (Table 64 on the next page).

[224] Information for this section was accessed at: http://oshpd.ca.gov/HID/Hospital-Utilization.html#Complete
[225] Information for this section was accessed at: http://oshpd.ca.gov/HID/Hospital-Financial.asp#Complete,
[226] An outpatient visit is defined as 1) the appearance of an outpatient in an ambulatory service center, or 2) the appearance of a private referred outpatient in the hospital for ancillary services. The number of tests, treatments or procedures rendered per cost center, or the number of ancillary service centers visited generally does not affect this count. Ambulatory service centers include Emergency Services (medical and psychiatric), Clinics (hospital-based and satellite), Ambulatory Surgery Centers (hospital-based and satellite), Outpatient Chemical Dependency Services, Observation Care, Partial Hospitalization - Psychiatric, Home Health Care Services, Hospice - Outpatient, and Adult Day Health Care. Ancillary services include Surgery and Recovery Services, Clinical Laboratory Services, Radiology - Diagnostic, Physical Therapy, etc. http://www.oshpd.ca.gov/hid/Products/Hospitals/AnnFinanData/Manuals/ch4000.pdf

Table 64. Hospital Outpatient Visits for Lake County with State Comparisons, 2004-2014

Year	Lake County Outpatient Visits	Lake County Population[227]	Average Outpatient visits per resident (Lake County)	Average Outpatient visits per resident (California)
2004	249,718	62,633	4.0	1.2
2005	231,878	63,107	3.7	1.2
2006	240,022	63,792	3.8	1.2
2007	251,459	63,986	3.9	1.2
2008	201,320	64,370	3.1	1.2
2009	240,092	64,396	3.7	1.2
2010	232,055	64,599	3.6	1.2
2011	247,564	64,419	3.8	1.2
2012	248,227	64,665	3.8	1.2
2013	226,875	64,548	3.5	1.2
2014	250,749	64,915	3.9	1.2

Emergency Department (ED) Visits[228]

Emergency department (ED) visits were calculated per 1,000 residents for Lake County and California. The percentage of Lake County ED visits that resulted in hospital admission were also compared with statewide data. From 2004-2014, the number of ED visits increased 18% in Lake County and 36% in California.

From 2004-2014, people in Lake County made almost twice as many visits as Californians statewide: there were an average of 544 ED visits per 1,000 residents in Lake County compared to 305 ED visits per 1,000 residents statewide. An average of 9% of the ED visits in the county resulted in hospital admission compared to an average of 15% of ED visits statewide from 2004-2014 (Table 65 that begins on this page).

Table 65. Emergency Department (ED) Visits for Lake County and California, 2004-2014

Year	Number of ED visits (Lake County)	Lake County Population	ED visits per 1,000 residents (Lake County)	ED visits per 1,000 residents (California)	Percentage of ED visits resulting in admission (Lake County)	Percentage of ED visits resulting in admission (California)
2004	32,223	62,633	514	256	8%	15%
2005	31,612	63,107	501	274	8%	15%
2006	33,941	63,792	532	278	7%	16%

Table continues on next page

[227] Population data for 2004-2009 was taken from: State of California, Department of Finance, California County Population Estimates and Components of Change by Year, July 1, 2000-2010. Sacramento, California, December 2011. Accessed at http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/2000-10/, Data for 2010-2014 was taken from: State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year — July 1, 2010–2015, December 2015. Accessed at http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/view.php,

[228] Information for this section was accessed at: http://oshpd.ca.gov/HID/Hospital-Utilization.html#Complete,.

(Table continued)

Year	Number of ED visits (Lake County)	Lake County Population	ED visits per 1,000 residents (Lake County)	ED visits per 1,000 residents (California)	Percentage of ED visits resulting in admission (Lake County)	Percentage of ED visits resulting in admission (California)
2007	35,459	63,986	554	279	7%	16%
2008	34,270	64,370	532	297	6%	16%
2009	34,375	64,396	534	316	5%	15%
2010	36,028	64,599	558	317	6%	16%
2011	34,992	64,419	543	322	41%[1]	16%
2012	35,422	64,665	548	330	1%	15%
2013	35,903	64,548	556	333	7%	14%
2014	39,427	64,915	607	349	3%	14%

[1]Note: the data for this cell is reported at 82% for St Helena Hospital: Clearlake and 3% for Sutter Lakeside on the OSHPD website.

The most common problems or diagnoses that brought people to the ED in 2015 were classified as Symptoms (19%), Injuries/Poisonings/Complications (17%), and Respiratory System (11%). (Table 66).

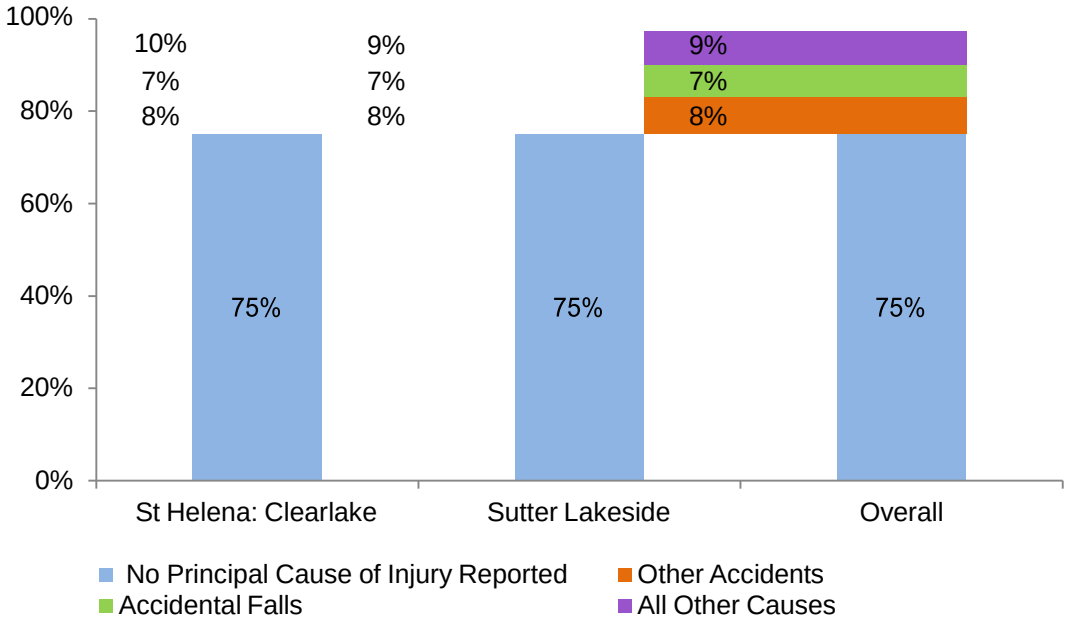
Table 66. Reasons (by Diagnosis) for ED Visits to Lake County Hospitals, 2015

	St Helena-Clearlake	Sutter Lakeside	Overall
	%	%	%
Symptoms	19	18	19
Injuries/Poisonings/Complications	17	17	17
Respiratory System	12	10	11
Digestive System	7	8	7
Musculoskeletal System	7	8	7
Skin Disorders	6	6	6
Genitourinary System	5	6	6
Nervous System	5	6	5
Injuries/Poisonings	5	5	5
Mental Disorders	4	3	4
Circulatory System	3	4	4
Infections	2	3	3
Pregnancies	2	2	2
Endocrine System	1	1	1
Nervous System (Ear Disorders)	0	1	0
Other Reasons	3	2	3

Source: http://www.oshpd.ca.gov/MIRCal/default.aspx

Because the injury/poisonings/complications category included over 20% of the ED visits, this category was examined more closely. The most commonly reported causes for this category (a cause was reported for only one in four of the injuries) were Other Accidents (8%), Accidental Falls (7%) and Other Causes (9%) (Figure 70 on the next page).

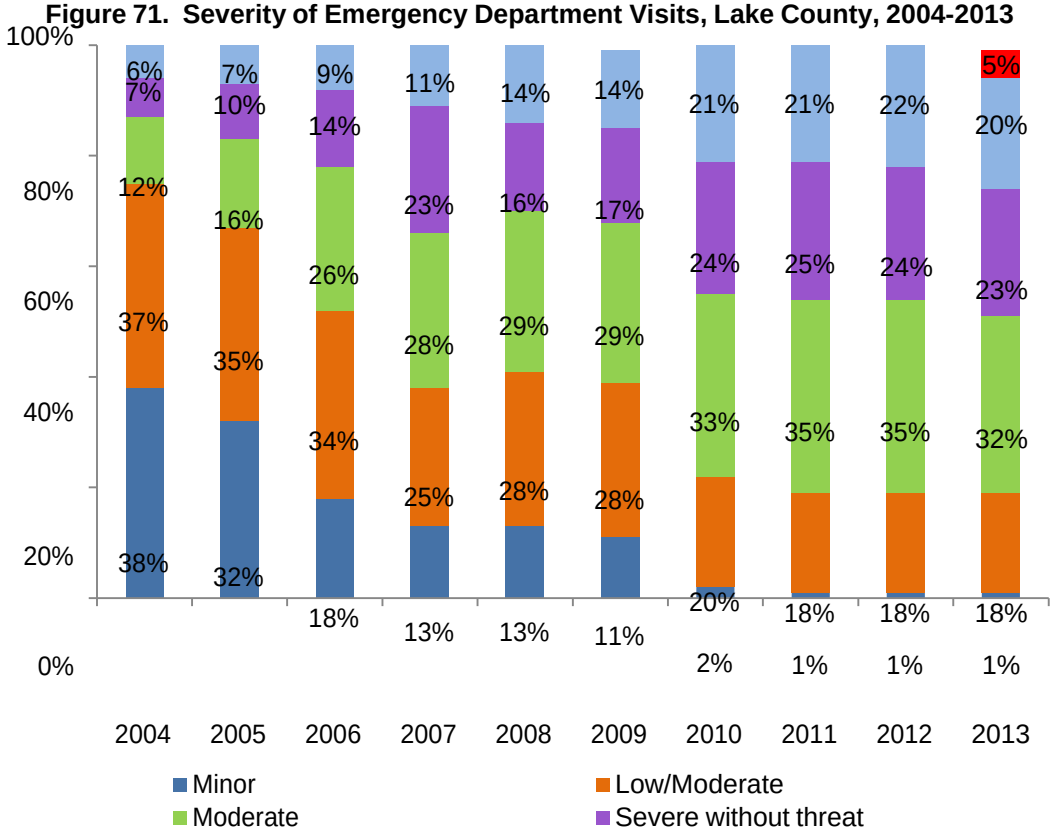
Figure 70. Principle Cause of Injury, Lake County Hospitals, 2015



Source: http://www.oshpd.ca.gov/MIRCal/default.aspx

Emergency department visits in Lake County were also examined for trends in severity. Since 2004, the percentage of visits for minor and low/moderate severity decreased (from 75% in 2004 to 19% in 2013) and the number of visits for moderate, severe without threat and severe with threat increased (Figure 71).

Figure 71. Severity of Emergency Department Visits, Lake County, 2004-2013



Source: http://oshpd.ca.gov/HID/Hospital-Utilization.html#Complete

COMMUNITY-BASED AND SPECIALTY CLINICS

There are six organizations providing community clinic services in Lake County: Mendocino Community Health Clinic, Lake County Tribal Health, Sutter Lakeside Hospital, St Helena Hospital Clearlake, Planned Parenthood, and San Francisco Veterans Administration Medical Center. Each of the agencies provides primary care services and many offer mental health, dental care and specialty services. Clinics are located primarily in Clearlake and Lakeport.

Mendocino Community Health Clinic: Lakeview Health Center[229]

Previously named the Lakeside Health Center, the Lakeview Health Center was opened in 1999 by Mendocino Community Health Clinic, Inc. Located in Lakeport, the health center advocated for a public transit bus stop at the clinic site and provides a van to assist patients in accessing services. Services are provided for individuals regardless of their ability to pay.

The health center provides medical, dental and counseling services. The clinic reports that almost one-third of its patients have some form of chronic illness and the overwhelming numbers of these individuals have multiple disorders.[230] Services include: comprehensive primary care medical services including physical exams, chronic disease management services, health maintenance support, vaccines, immunizations, incision/drainage of cysts, outpatient HIV testing and care, well-child care, CHDP exams, addiction medicine, screenings for anemia, lead, vision, hearing and tuberculosis. Additionally, the clinic provides services offsite to seniors in skilled nursing facilities and to the homeless.

Lakeview Health Center's program continues to integrate primary medical care and behavioral health counseling for patients with difficult problems like addiction, mental illness and chronic pain, tobacco use and obesity.

Comprehensive dental care is provided by dentists on site. Special programs include HIV dental care, oral health care for pregnant women and oral care for the developmentally disabled.

Table 67 displays clinic utilization from 2010 to 2014. The number of annual encounters has increased an average of 7% each year since 2010.

Table _67. Mendocino Community Health Clinic-Lakeview: Clinic Utilization Data, 2005-2014

	2010	2011	2012	2013	2014
Annual encounters	30,410	32,693	31,923	34,357	39,159

Source: http://oshpd.ca.gov/HID/PCC-Utilization.html#Complete

Lake County Tribal Health Consortium[231]

Lake County Tribal Health Consortium (LCTHC) provides necessary and culturally appropriate health services to all Native Americans. Services are available to the local community and Native American patients from the six local tribes (Big Valley Rancheria, Elem Indian Colony, Habematolel, Middletown

[229] Information for this section accessed at https://www.mchcinc.org/locations/lakeport/
[230] MCHC Health Centers: Primary Care: https://www.mchcinc.org/services/primary-care/
[231] All information for this section was accessed at http://www.lcthc.com/

Rancheria, Robinson Rancheria and Scotts Valley Rancheria) who are living in Lake County are eligible for all of the clinic's services and supports.[232]

The organization accepts Medicare, Medi-Cal, private insurance, and cash, and offers a sliding fee scale to those who qualify. Eligible Native American patients of the LCTHC have access to transportation services provided by the health center.

Primary care services include routine care and screenings as well as treatment for chronic medical needs, acute illness and injuries. The clinic has an array of services available to those impacted by diabetes. Medical services also include the following specialties: Pediatrics, Obstetrics, Chiropractic Medicine, Acupuncture, Podiatry, and Pain Management.

Dental care includes preventative and routine dental care as well as oral surgery services. Same day emergency dental care is available.

Human Services are available "to provide culturally relevant comprehensive services including the incorporation of traditional practices, adult and family behavioral health counseling and support, alcohol and other drug services, and children's treatment services to Native American and Alaska Native persons within the context of a community based primary care health center".[233]

Specific services include:

- Alcohol and Drug Services
- Clinical counseling services for individuals, families, children and adolescents
- Case management
- Support groups to address parent, child and adolescent needs, anger management and life skills and addiction recover
- Cultural programs focused on wellness for both men and women

Table 68 displays clinic utilization from 2010 to 2014. The number of annual encounters increased an average of 25% during this period with the largest jump reported from 2012 to 2013 (49%).

Table 68. Lake County Tribal Health Consortium, Inc.: Clinic Utilization Data, 2010-2014

	2010	2011	2012	2013	2014
Annual encounters	15,728	16,880	19,886	29,622	N/A[1]

Source: http://oshpd.ca.gov/HID/PCC-Utilization.html#Complete

[1]There were no data available from OSHPD for Lake County Tribal Health in 2014.

Sutter Lakeside Hospital

Sutter Lakeside Hospital operates a community clinic and a family medicine clinic.

Community Clinic

The community clinic in Lakeport provides comprehensive primary care for adults and children. Preventative care, vaccinations and physical exams are provided as well as more specialized services including osteopathic care, cardiology, sports medicine, obstetrics and gynecology and integrative medicine. The clinic also cares for those with long-term medical conditions such as diabetes, arthritis,

[232] http://www.lcthc.com/site/assets/files/1033/2015_patientbenefits_11x17_pg.pdf
[233] http://www.lcthc.com/services/human-services/

and heart disease.[234] The community clinic opened in 2014 and reported 5,762 patient encounters for that year.

Family Medicine Clinic

The Family Medicine Clinic is located in Lakeport at the site of Sutter Lakeside Hospital. Currently the clinic provides cardiology, podiatry, family practice and employee health. Clinicians also offer general medical care including physicals, general illness care, vaccinations, and wellness visits. The Family Medical Clinic is open from 8 am to 5 pm on weekdays.

St Helena Hospital Clearlake[235]

The hospital provides medical, dental and mental health services at family health centers located in Clearlake, Middletown, Kelseyville, Hidden Valley Lake and Lower Lake (Konocti Wellness Center School-Based Clinic, onsite at Konocti Unified School District). In addition to physicians, services are provided by a certified nurse-midwife, nurse-practitioners, licensed clinical psychologists and clinical social workers. The 3 clinics combined provided 81,269 patient encounters in 2014 (Table 69).

Table 69. St Helena Hospital Clearlake, Family Health Centers: Clinic Utilization Data, 2010-2014

	2010	2011	2012	2013	2014
Annual encounters	65,902	78,632	92,266	65,550	81,269

Source: St Helena Hospital Clearlake.

Planned Parenthood Northern California: *Clearlake Health Center*[236]

Planned Parenthood provides free or low cost reproductive health care services in Clearlake four days a week. Services include well-woman care, contraception, HIV testing and services, LGBT services, men's health care, morning after pill (emergency contraception), pregnancy testing and services, testing, treatment and vaccines for sexually transmitted infections and vaccines and abortion services. The clinic accepts some insurance plans and also offers services on a sliding scale or at no cost. In 2014, the clinic reported 2,191 encounters.

Clearlake Veterans Affairs Outpatient Clinic

According to spokespersons for the Department of Veterans Affairs, more than 60% of all veterans in the U.S. are estimated to live in rural counties. Approximately 8,000 veterans live in Lake County and make up close to 13% of the county's population. Although young veterans come back home, most do not stay because of the lack of jobs and/or lack of skills and education to fill the available jobs, according to observers.

After many years of advocacy by Lake County Veterans Services, the VA received Congressional authorization to establish a new medical facility in the City of Clearlake that opened on November 1, 2010. The closest VA facilities currently had been in Ukiah and Santa Rosa. The Clearlake VA Clinic currently serves 3,000 local veterans for general medical and mental health services. The following exclusions apply:

[234] http://www.sutterlakeside.org/pat-services/community-clinic.html
[235] Information for this section accessed at: https://www.adventisthealth.org/clear-lake/pages/services/family-health.aspx
[236] Information for this section was accessed at https://www.plannedparenthood.org/health-center/california/clearlake/95422/clearlake-health-center-4068-90200

- Dependents are not eligible to receive services from the clinic except when as a spouse to a veteran receiving mental health services it is necessary to treat the couple.
- Emergency services are generally not covered (veterans in Lake County are expected to use the VA Hospital in San Francisco) except for "life and death" situations and for veterans with a service-related disability that has no other coverage.
- Dental services are not available except when treatment is a) necessary to "alleviate pain and suffering" (i.e., they can pull teeth but not restore cavities), b) for a condition requiring hospital dental treatment when a veteran is already hospitalized, and c) needed for a veteran who has a service-related disability who is enrolled in a vocational rehab program.

The medical clinic is open Monday-Friday from 8:00 a.m. – 5:00 p.m. Appointments as a new patient are generally within 30 days; patients with health problems are scheduled within 2-3 days, though walk-ins can sometimes be accommodated.

The clinic is staffed by 3 physicians along with nursing and other general clinic support staff. Medical specialty services—generally limited to dermatology and podiatry—are provided by rotating on-site specialists from the San Francisco VA Hospital (which has jurisdiction over the Lake, Ukiah and Santa Rosa facilities). Other specialty consults, including mental health, are now available at the clinic via telehealth to the San Francisco VA. The clinic has a full-time tech and all of the necessary hook-up equipment to provide this service. Mental health services are provided by a psychiatrist, a medical social worker and a licensed clinic social worker.

The VA clinic has services for women, including offering prenatal care. The clinic in Clearlake has a current enrollment of 100 women patients.

Except for a modest co-pay of $8 for a 30-day prescription, all services are free to single veterans making less than $30,000 a year, and married veterans with an annual family income less than $35,000. Veterans with higher incomes will pay a full co-pay for all services. The clinic will bill private insurance but not Medi-Cal. Veterans with service-related disabilities are the priority in the VA's current prioritizing system of 1 through 8.

The clinic has had an average of 29% growth in annual encounters since 2011 (Table 70). The largest change occurred from 2011 to 2012 with a 94% increase in visits.

Table 70. Clearlake Veterans Affairs Outpatient Clinic Utilization Data, 2011-2015

	2011	2012	2013	2014	2015
Patients	1,268	1,704	1,844	1,977	2,080
Annual Encounters	5,532	10,714	13,181	13,832	12,826

Source: Data provided by Judi Cheary, Director of Public Affairs, San Francisco VA Medical Center, March 22, 2016.

Table 71 that begins on the following page provides an overview of health services available in community clinics in Lake County.

Table 71. Overview of Health Services Available in Community Clinics: Lake County, 2016

Clinic Name	Clinic Location	Primary Care	Mental Health	Dental	Case Management and Support for Chronic Illnesses	Specialty Services	Language	Transport
Mendocino Community Health Clinic Lakeview Health Center	Lakeport	Yes M-F: 9-5	Yes Primary Care Consultation and Psycho-therapy	Yes M, W, F: 9-5 T: 9-7	HIV Care	Pediatric, Women's Health, On-site Pharmacy, HIV Care, Psychiatrist services, Dermatology, Chiropractic, Gastroenterology, Orthopedics	English Spanish	Van available Bus Stop
Lake County Tribal Health Consortium	Lakeport Satellite clinics in Clearlake and Middletown	Yes Lakeport: M-F: 7:30-5:00 Clearlake: T: 9-3:45 W: 1-4 F: 9-3:45 Middletown: 2nd and 4th Wednesday: 9-11am	Yes *LCHTC uses the term Human Services to describe Mental Health Care*	Yes Lakeport: M-F: 7:30-5	Yes Specialized program for diabetes	Podiatry, Chiropractic, Acupuncture, Pediatrics and Obstetrics, Pain Management, Nutrition Therapy, Support groups for youth, women and men	English Spanish	Van available for eligible Native American Lake County residents Escort funds for eligible patients
Sutter Lakeside Community Clinic	Lakeport	Yes M-F: 8-5	No	No	No	Osteopathic Care, Sports Medicine, Cardiology, Integrative Medicine, Gynecology	English Spanish	Yes For qualified residents of Kelseyville, Upper Lake, Lucerne, Lakeport, Nice and Finley[237]
Sutter Lakeside Hospital Family Medicine Clinic	Lakeport	Yes M-F: 8am-5pm	No	No	No	Cardiology, Podiatry, and Family Practice, Employee Health	English Spanish	

[237] From "Sutter Lakeside partners with Lake Transit for new nonemergency medical transportation option" Lake County News, 5/17/15. Accessed at: http://www.lakeconews.com/index.php?option=com_content&view=article&id=41814:sutter-lakeside-partners-with-lake-transit-for-new-nonemergency-medical-transportation-option&catid=48:health&Itemid=296, 03/30/16

Clinic Name	Clinic Location	Primary Care	Mental Health	Dental	Case Management and Support for Chronic Illnesses	Specialty Services	Language	Transport
St Helena Hospital Clearlake Family Health Centers	Clearlake Middletown Kelseyville Hidden Valley Lake Lower Lake (Konocti Wellness Center School-Based)	Yes	Yes	Yes	Yes (Live Well Program in Clearlake)	Family Practice, Pediatrics, OB/GYN, Podiatry	English	No
Planned Parenthood Clearlake Health Center	Clearlake	Yes M-T, Th-F: 8:30-5	No	No	No	Men and Women's Health care STI, HIV, birth control, pregnancy and abortion services LGBT services	English Spanish	No
San Francisco VA Medical Center Clearlake Veterans Administration Outpatient Clinic	Clearlake	Yes (for eligible veterans) M-F: 8am-4:30pm	Yes (for eligible veterans)	None	Yes (for eligible veterans)	Tele-audiology; behavioral health services; podiatry (currently vacant); laboratory (draw station only): telehealth various clinics: palliative care	English	Shuttle van provides twice daily service to Santa Rosa Shuttle to SFVA available in Santa Rosa

Community Clinic Dental Services

Community-based dental services are provided by Mendocino Community Health Clinic's Lakeview Health Center, Lake County Tribal Health (LCTHC), and as part of St. Helena Hospital Clear Lake's Family Health Center.[238] Table 72 below provides an overview of the dental services available in community clinics in Lake County.

[238] https://www.adventisthealth.org/clear-lake/pages/services/family-health.aspx,

Table 72. Availability of Dental Services at Community-Based Clinics in Lake County, 2016

Clinic Name	Location	Dental Services	Languages	Transportation
Mendocino Community Health Clinic Lakeview Health Center	Lakeport	▪ Preventative and routine care ▪ HIV dental care ▪ Oral Health for pregnant women ▪ Specialize in serving developmentally-disabled	English Spanish	Van available Bus Stop
Lake County Tribal Health Consortium	Lakeport M-F: 7:30-11:40am, 12:30-5pm	▪ Preventative and routine care ▪ Children's dentistry ▪ Oral Surgery	English Spanish	Van available for eligible Native American residents of Lake County
St Helena Hospital Clearlake Clearlake Family Health Center: Dental Clinic	Clearlake	▪ General Dentistry	English	No

Additional community oral health-related activities are funded through First 5 Lake County and Lake County Division of Public Health. The Lake County Office of Education's Children's Oral Health Project partners with First 5 Lake, Lake County Public Health, the community clinics and the school districts to provide dental screenings and education for preschoolers and their parents. The project also provides referrals for dental treatment and transportation assistance.[239] In 2014-15, 766 children age 0-5 were screened at the preschool site.[240]

Table 73 on the next page shows the number of dental visits provided by Lake County community-based clinics in 2010-2014. For example, Lakeview Clinic increased patient visits by an additional 15% in 2014.

[239] http://www.lakecoe.org/departments/program_subpages/lake_county_office_of_education_healthy_start/555,
[240] Ferron, Cathy, MBA, Ferron & Associates. "First 5 Lake County Evaluation Status Report for Funding Year 2014-15, October 2015 ,Page 24. Accessed at http://www.firstfivelake.org/resources/FINAL%202014-2015%20Annual%20Evaluation%20Report%20First%205%20Lake.pdf

Table 73. Dental Visits at Community Clinics: Lake County, 2010-2014

Service Location	Number of Annual Dental Visits				
	2010	2011	2012	2013	2014
Lake County Tribal Health	5,466	4,980	5,569	8,143	N/A[1]
Mendocino Community Health Clinic: Lakeview Clinic	6,480	6,149	5,845	9,570	11,000
St Helena Hospital Clearlake: Clearlake Family Health Center	7,269	7,146	7,210	6,387	7,265

Source: http://oshpd.ca.gov/HID/PCC-Utilization.html#Complete
[1]There were no data available from OSHPD for Lake County Tribal Health in 2014.

PHYSICIAN AND DENTIST SUPPLY

The local supply and ratios of licensed primary care physicians and licensed dentists to the total population are core indicators for community health service availability. However, the supply of physicians and dentists is only one component of access to medical and dental care services. The ratios do not indicate which providers serve low-income persons or those without insurance, or indicate how much time providers spend in active practice; some only work part-time, for example. The data also do not address geographic distribution and provider willingness to accept Medi-Cal—or the presence of community clinics providing dental services and medical services—factors that influence adequate and timely access to services within a county.

Physicians in Active Practice[241]

The adequacy of physician supply is generally evaluated based on the number of physicians per 100,000 civilian population, a useful benchmark for gauging adequacy. According to the Council on Graduate Medical Education (COGME), the national commission that publishes ranges for physician supply requirements, an appropriate range for *overall* physician supply adequacy is 145-185 patient-care physicians per 100,000 population.[242] According to the California Medical Board, there are 69 physicians in Lake County with a current and renewed license, excluding those in active, retired or disabled licensed status.[243] Assuming these 69 physicians are all *patient-care* physicians (which cannot really be assumed), the county had 106 patient-care physicians per 100,000 population and thus ranks extremely low relative to the physician requirements estimated by COGME.

Workforce studies and projections show that the physician workforce is aging, and a large number of physicians are nearing retirement, at the same time that a large proportion of the population is aging, contributing to a growing demand for physician services.[244] Applying national estimates for California to Lake County,[245] 31.5% (or 22 of the county's 69 active physicians) is 60 years of age or older.

[241] The data in this section are for MDs only and do not include DOs (Doctors of Osteopathic Medicine) which are licensed by their own medical board. In 2013, DOs represented 7.7% of all licensed physicians in California; they accounted for 6.9% of those licensed to practice in Lake County. There were 5 DOs listed for Lake County according to the Osteopathic Medical Board of California, March 6, 2013; 4 in Clearlake and 1 in Kelseyville.
[242] Council on Graduate Medical Education, 1996; Council on Graduate Medical Education, 1995.
[243] http://www.mbc.ca.gov/Publications/Annual_Reports/annual_report_2014-2015.pdf
[244] *The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand.* U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions. December 2008.
[245] *The Aging Physician Workforce: A Demographic Dilemma.* AAMC 2013 State Physician Workforce Data Book. http://www.hasc.org/sites/main/files/link1mhawhitepaperaging.pdf

According to the March 2016 Partnership Healthplan Provider Directory for Lake County, the only medical providers accepting new Medi-Cal patients are community health centers, including the 2 hospitals' community clinics. Tribal Health, along with the 4 private physician practices in the county that take Medi-Cal, are accepting *current* patients with Medi-Cal only.

Dentists in Active Practice

According to currently available data, there are 28 licensed dentists in active practice in Lake County, the majority located in the City of Lakeport. There are also 78 Registered Dental Assistants and 25 Registered Dental Hygienists. It is important to note that of these 28 dentists, more than half (53.6%) are nearing retirement age (Table 74); the average age of the dentists is 56.1.[246]

Table 74. Number of Dentist Providers in Lake County by Age Group, February 2016

Age 25-34	Age 35-44	Age 45-54	Age 55+	Not Reported	Total
2	3	8	15	0	28
7.1%	10.7%	28.6%	53.6%	0.0%	100.0%

Source: Office of Statewide Health Planning and Development.

Nearly the entire county is considered a Dental Health Professional Shortage Area,[247] a federal designation recognizing communities that can demonstrate they have a shortage of dental professionals.

Dentist supply, however, does not address the question of whether dentists are willing to see patients with Medi-Cal. The referral list of dentists taking new Medi-Cal patients published by the State Medi-Cal Dental program in March 2016 listed only 2 dentists (Dr. Levi Palmer, a pediatric dentist in Lakeport, and Dr. Douglas Reams, a general dentist, in Lucerne), as accepting Medi-Cal. [248] According to the 2014 state Auditor's Report,[249] the ratio of general dental office providers to beneficiaries willing to accept new Medi-Cal *child* patients for Lake County was 1:4,410. (By contrast, of the counties with dental providers—some had none—Orange County has the most favorable ratio of 1:328).

PUBLIC HEALTH SERVICES

The Lake County Public Health Department offers a variety of programs at its Lakeport office. These services and programs are described below.

California Children's Services (CCS)

The California Children's Services (CCS) program is available for children with certain physically-handicapping conditions. The program provides diagnostic evaluations, treatment, nursing case management services, physical and occupational therapy for eligible children (0-21 years of age) related to their eligible medical condition.
The CCS program also has a local Medical Therapy Unit for Physical and Occupational Therapy for eligible clients.

[246] http://report.oshpd.ca.gov/?DID=HWDD&RID=Provider_Count_and_Percentage. Last updated February 11, 2016.
[247] http://datawarehouse.hrsa.gov/tools/analyzers/HpsaFindResults.aspx
[248] http://www.denti-cal.ca.gov/provreferral/Lake.pdf.
[249] *California Department of Health Services. Weaknesses in its Medi-Cal Dental Program Limit Children's Access to Dental Care*. Report 2013-125. Sacramento: California State Auditor, December 2014.

Child Health and Disability Prevention (CHDP) Program Administration
Administrative oversight of a program that provides for free periodic medical and dental health check–ups for infants, children and youth through age 20 if program eligible. If further medical, dental, or mental health services are needed, the Department can assist with scheduling and/or transportation information.

Childhood Lead Poisoning Prevention Program
Nursing case management services are offered at no cost to a family when a child has a confirmed elevated blood lead level. Other program activities include community outreach and provider education.

Clinical Services
There are no clinical services currently available at Public Health.

Communicable Disease
Communicable Disease Surveillance services are conducted to collect reports and monitor reportable communicable disease data to identify local needs and to control disease outbreaks.

Dental Disease Prevention
One of the Public Health Nurses helps to convene the oral health advisory committee.

Emergency Preparedness
Lake County Public Health prepares for natural and human causes of disasters and disease threats, working collaboratively with other emergency responders, healthcare facilities, and local citizens in order to serve the community.

Lake County's Public Health Preparedness and Response program focuses on planning the response to disease threats, such as influenza pandemics, bioterrorism, and health hazards associated with natural disasters (earthquakes, floods, wildfires and others).

HIV/AIDS
HIV/AIDS education, drug assistance and case surveillance services are offered by the County. Evaluation for the AIDS Drug Assistance Program is arranged on an appointment basis and anticipates future adjustments in the program with health reform. Public Health makes pamphlets available, but otherwise does not actively provide community education on HIV/AIDS. (Note: Community Care HIV/AIDS Program—CCHAP—provides a range of services, including case management, to people who have been diagnosed as living with HIV or AIDS.)

Immunization Program
Public Health offers immunizations for children and adults typically by appointment. Program funding includes Vaccine for Children program, private pay, and Merck vaccine assistance program.

- Vaccines for Children (VFC) provides vaccines to children who otherwise may not be able to afford them.

- Merck Vaccine Assistance Program is available for low income uninsured adults.
  Public Health Immunization Program participates in the California Immunization Registry (CAIR). A voluntary confidential, computerized information system designed to provide authorized entities immediate access to a patient's immunization history.

Immunization Assistance Program (IAP) provides funding for an immunization coordinator to work with medical providers, local schools, and the State Immunization Branch.

Seasonal Flu Clinics provide influenza vaccines to at-risk populations at a variety of locations in Lake County during flu season.

Maternal Child and Adolescent Health Program (MCAH)

The Maternal, Child and Adolescent Health (MCAH) programs accepts referrals for prenatal, parenting and child health issues. MCAH Home Visitation Program is available for pregnant women and/or families with health-related risk factors.

Medi-Cal Administrative Activities

Assist Medi-Cal eligible persons to learn about, enroll in, and access services of the Medi-Cal program.

Medical Marijuana Identification Card Program (MMID)

The Medical Marijuana Identification Card program is voluntary for Lake County residents. Applications are accepted by appointment on Tuesdays and Thursdays.

Nutrition Education or SNAP-Ed

The Nutrition Education Obesity Prevention is a public health effort working with local schools and organizations to empower low-income Lake County residents to live healthier lives through good nutrition and physical activity through programs such as:

- Harvest of the Month youth classes featuring local produce taste testing
- Rethink Your Drink classes
- School District Wellness Committee support

Targeted Case Management Program

Home visitation program that provides nursing case management services to specific target populations: (1) Children at risk under 21 years of age; (2) Individuals at risk of institutionalization; (3) Individuals with a communicable disease; (4) Medically fragile individuals; or (5) Individuals in jeopardy of negative health or psycho-social outcomes.

Tobacco Prevention Program

The focus and activities are centered around four main goals: (1) to build the capacity of the tobacco use prevention community; or, to increase the number of organizations and individuals involved in tobacco prevention efforts; (2) to prevent the initiation of tobacco use among young people; (3) to promote quitting among all age groups; and (4) to eliminate exposure to second hand smoke.

MENTAL HEALTH SERVICES[250]

Behavioral Services are provided by the county mental health department, the county office of education, non-profit providers, and community clinics.

Lake County Behavioral Health

Lake County Behavioral Health operates two clinics, one in Lucerne and one in Clearlake, and four peer support recovery centers to promote wellness and provide mental health and substance abuse

[250] Information for this section accessed at: http://www.co.lake.ca.us/Government/Directory/Behavioral_Health.htm, and reviewed, edited and approved by Kevin Thompson, Lake County Behavioral Health, April 7, 2016.

services. The peer support recovery centers are located in Clearlake, Lakeport, and Lower Lake and serve niche populations, promote cultural competency through program design, and allow access to resources and linkage to needed services.[251] Two centers are designed to specifically serve the Tribal and Latino communities; another is designed to serve transition aged youth.

The Mental Health Services Act funds Full Service Partnerships (FSPs) and services for individuals of all ages who meet the eligibility requirements. FSPs support treatment and recovery for individuals with serious mental illness by providing funding for basic needs, housing, health care as well as educational and vocational resources. Specialized mental health supports are available for seniors and individuals who have legal involvement. Peer supports are available for families, transition aged youth, adults and seniors who are involved with community mental health.

Crisis mental health services are also available. The crisis services are intended to increase access to supports as early as possible to prevent a crisis. The services include a hotline, a warm line and outreach to individuals who have recently received treatment or evaluation for a mental health crisis. Mental health prevention and early intervention services are offered to children, youth, pregnant and postpartum women, and older adults. These services support individuals who are vulnerable to mental health concerns and provide direct services for those who have been recently diagnosed with mental illness. Services are available in English and Spanish.

Lake County Office of Education[252]

The Lake County Office of Education (LCOE) provides school-based counseling in five of the seven school districts in Lake County. The Safe Schools Health Students Program offers an array of services for students, family and school staff. Services include: assessments to determine treatment needs, therapy with a clinician or clinical psychologist for higher need students, behavior rehabilitation for lower need students, after school group counseling and individual therapy, and additional support for significant adults in the students' lives. LCOE's program staff also collaborates with school staff by participating in team meetings and is available to triage issues that may come up and fall outside a clinician's set caseload.[253]

Students who have an individualized education plan are assessed by LCOE staff and offered Educationally Related Mental Health Services (ERMHS) depending on their needs. Services include, school-based therapy, family therapy, parent counseling and training, behavior support and case management.[254] All ERMHS services are offered at the school site.

Lake Family Resource Center[255]

The behavioral health services at the Lake Family Resource Center have been developed specifically to address violence and abuse. A treatment program is offered to children and caregivers to prevent and address child abuse, and therapy services are available for clients who have experienced rape or domestic violence. Therapy is available by appointment. Support groups are provided for individuals, families and children.

---

[251] "Lake County Behavioral Health: Mental Health Services Act Annual Update 2015-2016", November 19, 2015. Accessed at http://www.co.lake.ca.us/Assets/Mental+Health_AODS/docs/MH/MHSA+Programs+in+Lake+County+FY15-16.pdf,.
[252] Information for this section accessed at : http://www.lakecoe.org/programs/safe_schools_healthy_students
[253] http://www.attendanceworks.org/wordpress/wp-content/uploads/2014/10/Connecting-Students-to-Mental-Health-Services_FINAL.pdf
[254] http://www.lakecoe.org/programs/safe_schools_healthy_students
[255] Information for this section was accessed at: http://www.lakefrc.org/programs-services/mental-health/

Community Mental Health Clinic Services

Table 75 below summarizes the availability of mental health services provided in community clinics. (More information about overall community clinic services can be found above in Table71.)

Table 75. Availability of Mental Health Services at Community Clinics in Lake County, 2016

Clinic Name	Location	Mental Health Services Available	Languages	Transportation
Mendocino Community Health Clinic Lakeview Health Center	Lakeport	▪ Integrated primary care/behavioral health program ▪ Psychotherapy	English Spanish	Van available Bus Stop
Lake County Tribal Health	Lakeport	▪ Clinical Counseling ▪ Prenatal Counseling ▪ Men and Women's Wellness Groups ▪ Youth Empowerment and Support Groups ▪ Relapse prevention ▪ Cultural Programs	English	Van available for eligible Native American Lake County residents
St Helena Hospital Clearlake Family Health Centers	Clearlake Middletown Kelseyville	Behavioral Health	English	No
SF VA Medical Center: Clearlake VA Outpatient Clinic	Clearlake	Outpatient Mental Health Services	English	Bus Stop

Section IV. Local Perspectives about Needs and Solutions

"There's a sense of community here [Lake County] that you feel better when people know you and help each other." -Focus Group Participant

"A place like this can wear on you if you don't ever see the good things." -Focus Group Participant

Communities have an important role to play in achieving shared community health improvement goals. New requirements as a result of the Affordable Care Act expanded the concept of community engagement and encourage community members to provide input about the health-related needs in their communities and make suggestions for how to address them.

Obtaining community input is essential to creating a health improvement plan that reflects the varied values, needs and interests of the community. To gain insights into the county's unmet health needs, Lake County residents were offered structured opportunities to participate in this Community Health Needs Assessment. They did this through membership on the CHNA Steering Committee, a countywide Community Health Survey, Community Focus Groups, and the Key Informant Interviews that are described in the next section of this report.

INPUT FROM THE COMMUNITY SURVEY

"Remind myself of what I have and be grateful."
– Survey Respondent on what they do to maintain mental well-being

"My daughter and my two dogs."
– Survey Respondent on what motivates them to take care of their health

Description of Respondents

The *Lake County Community Health Survey* was distributed in various community locations throughout Lake County in hard copy and online in an attempt to reach a wide sample of residents. Only the paper copy of the survey was available in Spanish.[256] A total of 768 surveys were completed, 67% online and 33% on paper (Figure 72). Five (1%) of the hard-copy surveys were completed in Spanish. These percentages are within 5% of the 2013 community health survey responses.

Figure 72. Community Health Surveys Received by Type of Response (n=768)

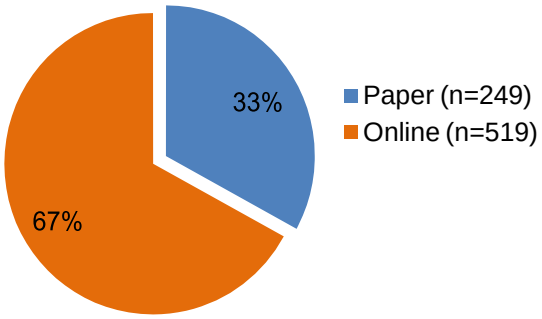


Table 76 on the next page displays the characteristics of the survey respondents. The survey is generally reflective of Lake County residents. The respondents were most likely to report their race/ethnicity as White (75%), and over half (51%) were ages 40-64. Of the individuals who answered the question about income, 32% reported incomes below 200% of the Federal Poverty Level (FPL), 47% as above. Residents of the Clearlake and Lakeport areas completed about 60% of the surveys and the remainder came primarily from the Kelseyville and Middletown grouping of areas.

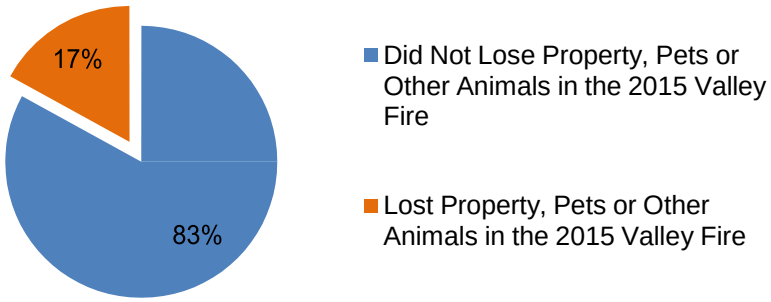
[256] Prior experience with Lake County CHNAs has indicated nearly no use of Spanish versions of the online survey.

Table 76. Characteristics of the Community Health Survey Respondents (n=768)

Characteristic	Respondents	
Race/Ethnicity	Number	Percent
White	498	75%
Hispanic/Latino	56	8%
American Indian	40	6%
Multiracial	40	6%
Asian	14	2%
Black/African American	14	2%
Total	664	100%
Age	Number	Percent
Under 21	13	2%
Age 21-39	206	30%
Age 40-64	350	51%
Age 65-84	117	17%
Age 85+	6	1%
Total	692	100%
Income	Number	Percent
<200% Federal Poverty Level (FPL)	187	32%
>200% Federal Poverty Level (FPL)	275	47%
Undetermined Income Level *(insufficient response)*	119	20%
Total	581	100%
City or Community in Lake County	Number	Percent
Lakeport, North Lakeport, Upper Lake, Nice, Lucerne, Parramore Springs	187	30%
Clearlake, Clearlake Oaks, Glenhaven, Spring Valley, Lower Lake, Clearlake Riviera	176	28%
Kelseyville, Finley, Soda Bay	122	20%
Middletown, Hidden Valley Lake, Cobb, Loch Lomond, Whispering Pines	116	19%
Other	20	3%
Total	621	100%

An additional demographic question was asked to understand how residents had experienced losses in the Valley Fire. Overall, about one in five (17%) indicated they had personally lost property, pets or animals in the fire.

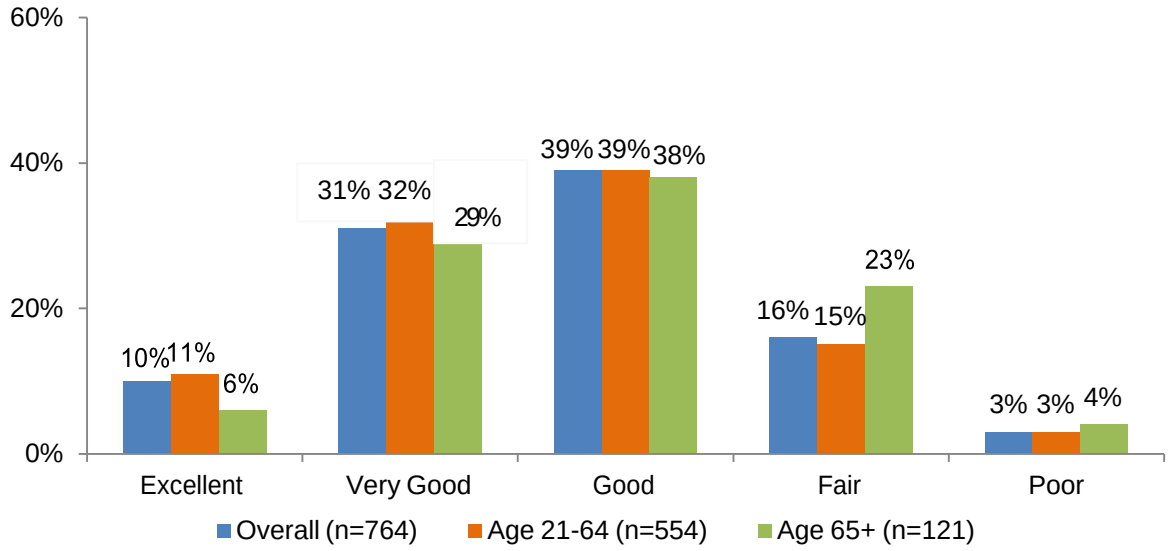
Figure 73. Percentage of Survey Respondents Reporting Loss in Valley Fire (n=690)



Personal Health Rating

Survey respondents were questioned about their own health. As Figure 74 shows, almost three quarters rated their health as Very Good (31%) or Good (39%). The remainder was divided between Excellent (10%) and Fair or Poor (16% and 3%). There was some variation by age. Residents age 65 or above were more likely to report their health as "Fair" or "Poor" when compared to younger residents (27% vs. 18%)—a finding that is slightly at odds with the 2014 CHIS findings in which there was little difference the in Fair/Poor ratings between seniors and non-seniors.

Figure 74. Respondents' Rating of Personal Overall Health, Community Health Survey



The personal health ratings did not vary much by community. Residents of the Clearlake community were slightly more likely to indicate their health was Good rather than Excellent or Very Good. Residents of Lakeport areas were the most likely to report their health was Very Good (Table 77).

Table 77. Respondents' Rating of Personal Overall Health by Community, Community Health Survey (n=764)

City or Community in Lake County[1]	n	Personal Health Rating				
		Excellent	Very Good	Good	Fair	Poor
Lakeport, North Lakeport, Upper Lake, Nice, Lucerne, Parramore Springs	185	16%	35%	30%	17%	3%
Clearlake, Clearlake Oaks, Glenhaven, Spring Valley, Lower Lake, Clearlake Riviera	175	7%	21%	47%	19%	6%
Kelseyville, Finley, Soda Bay	122	6%	37%	43%	13%	2%
Middletown, Hidden Valley Lake, Cobb, Loch Lomond, Whispering Pines	115	10%	37%	34%	17%	3%
All Communities	764	10%	31%	39%	16%	3%

[1]Community groupings were developed by the Steering Committee for purposes of this survey.

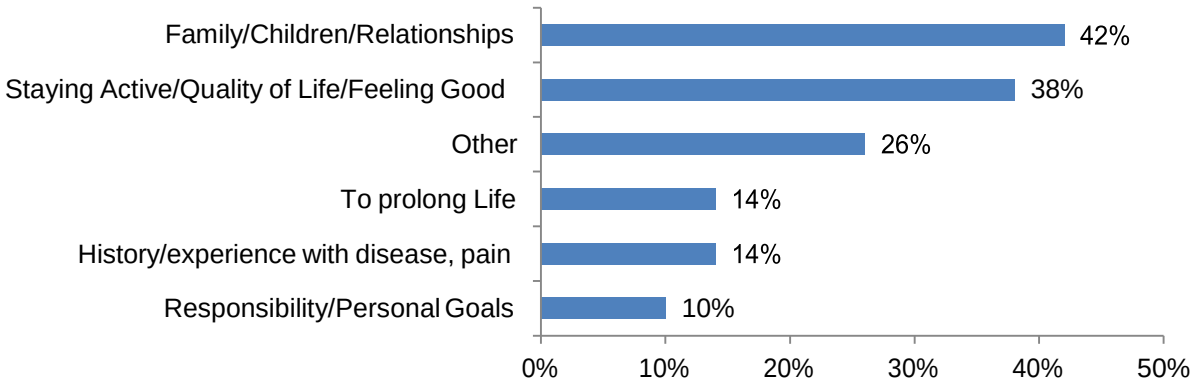
Personal Health Motivation

Individuals were asked to share one or two things that prompted or motivated them to take care of their own health. Most people identified their relationships with their Family/Children (42%), and their desire to Stay Active and have a good Quality of Life (38%). Some noted that having experience with poor health motivated them to take care of their health now (14%), and some simply stated they wanted to live "for a long time" (14%). Typical comments included the following:

- *"I want to feel better and be here for my kids and grandkids."*
- *"Live longer to enjoy life and cherish time with family."*
- *"Looking forward to retirement and my grandkids."*
- *"Importance of staying physically strong and self-sufficient."*
- *"Be able to do the sports I enjoy and summit mountains."*
- *"Staying healthy, avoiding medication, relieve chronic pain to keep moving, maintain an excellent quality of life."*

Other motivators included personal issues (Aging, Appearance, Weight, Nutrition/Eating Well, and Independence), professional motivators (Jobs and Careers that require vigor and health), health care motivators (Good Access to Care) and health care concerns (High Cost of Care, Poor Access to Care). Each of these areas was noted by less than 5% of the respondents and are included in the Other category in Figure 75.

Figure 75. Respondent's Personal Health Motivation, Community Health Survey (n=678)



Respondents who reported an income below 200% of the FPL were less likely to indicate that Staying Active/Quality of Life/Feeling Good was a motivator when compared to the respondents reporting income above 200% FPL (27% vs 43%). All other responses were within 10% variation when compared by reported income level.

Maintaining Positive Mental Well-Being

Respondents were asked to describe the main ways they maintained positive mental well-being. The most popular responses were Exercise (38%) and maintaining relationships with Friends and Family (26%) (Table 78 below).

Table 78. Respondents' Methods for Maintaining Mental Well-Being, Community Health Survey (n=627)

Method	Frequency	Percent
Exercise	237	38%
Friends/family	161	26%
Positive outlook	105	17%
Hobbies	99	16%
Religion/prayer/attend church	98	16%
Meditation/mindfulness/quiet/breathe	97	15%
Go outdoors/nature	72	11%
Nutrition	56	9%
Help others/participate in community	48	8%
Maintain physical health	37	6%
Other	39	6%
Work/financial stability	32	5%
Play or listen to music	24	4%
Use mental health services	20	3%
Sleep	14	2%
Avoid drugs/maintain sobriety	11	2%
Total	627	

Note: Respondents could describe more than one method.

Typical comments from respondents who included Having a Positive Outlook (17%), were the following:

- *"Block out all negative people. Speak my mind."*
- *"I believe in self-respect and a positive outlook in life."*
- *"You are in control of your own destiny, make something out of it."*
- *"Always look for the good in things."*
- *"Remind myself what I have to be grateful for."*

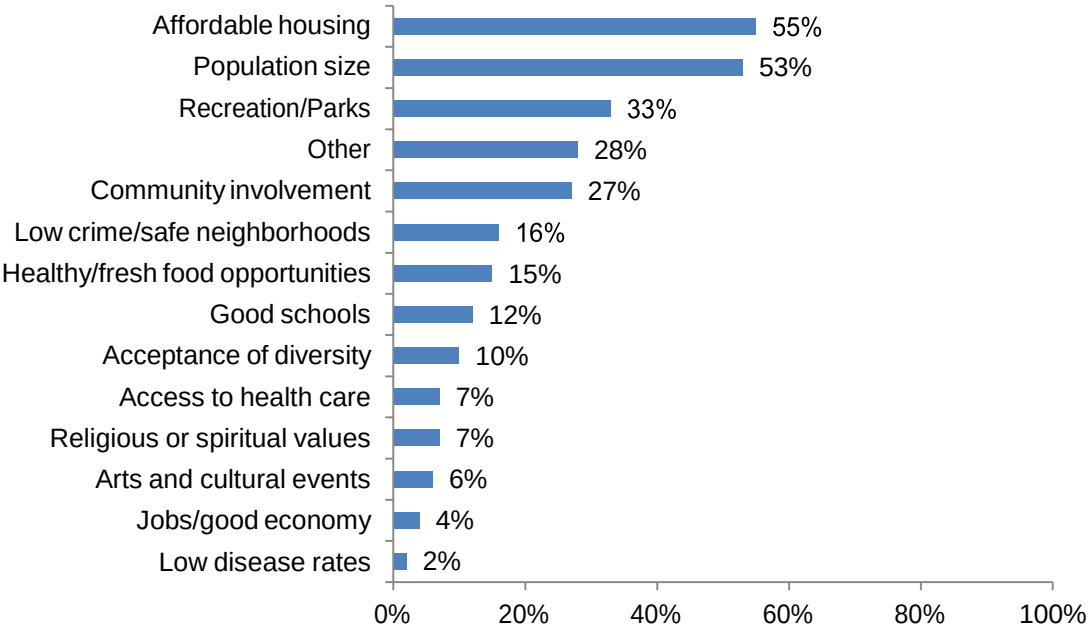
Having hobbies and a religious affiliation or spiritual belief system *("Go to church, read my Bible and pray")* also figured importantly for 16%, respectively, of the responses.

There were no differences by income level when the respondents who reported income below 200% of the Federal Poverty Level and those above were compared. In addition, the responses were examined to see if there were any differences for those who lost property, pets or animals in the Valley Fire. Those who experienced a loss were less likely to indicate that they used Religion/Prayer/Attend Church to promote their emotional health than those who didn't mention this source (8% vs. 17%). All variation was less than 5%.

Healthy Community Attributes

To understand the strengths and assets that contribute to making Lake County a good place to live, respondents were asked to choose the 3 most important community attributes from a list of 15. Over half of the responses commented on Affordable Housing (55%) and Population Size (53%). About one third indicated access to Recreation/Parks (33%) and Community Involvement (27%) (Figure 76 below).

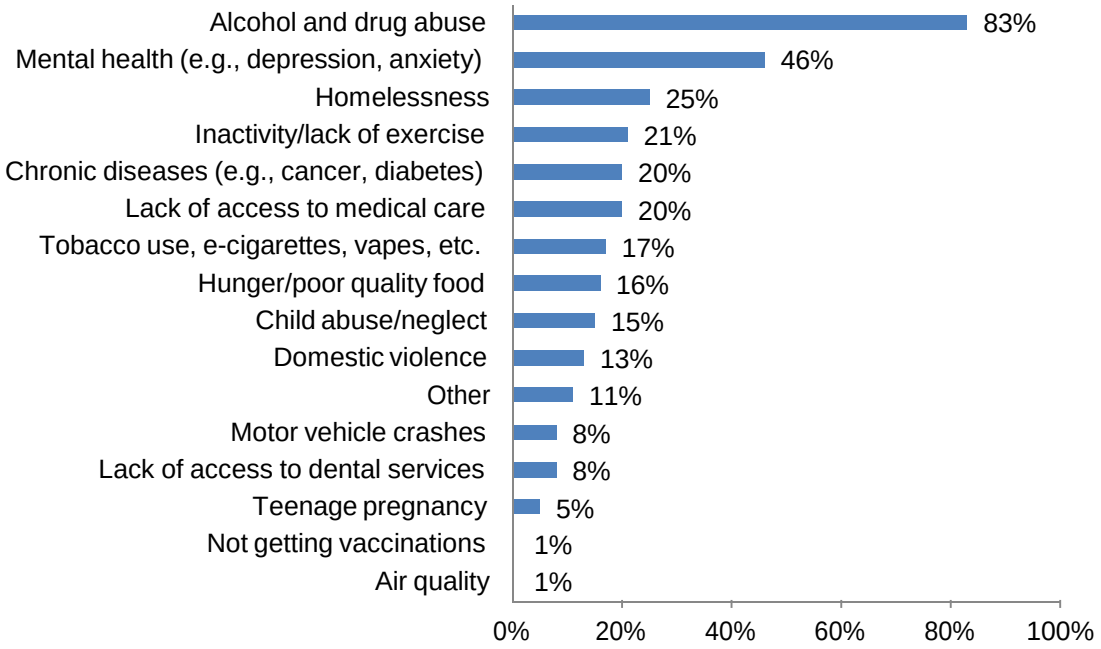
Figure 76. Healthy Community Attributes of Lake County, Community Health Survey (n=737)



Most Important Health Challenges

The respondents were also asked to choose the 3 challenges they felt had the greatest negative impact on overall community health. Consistent with community input from the focus groups and key informant interviews, Alcohol and Drug Abuse (83%) was the most commonly chosen concern, followed by Mental Health (46%). The problem of Homelessness was the third most common concern mentioned (25%).

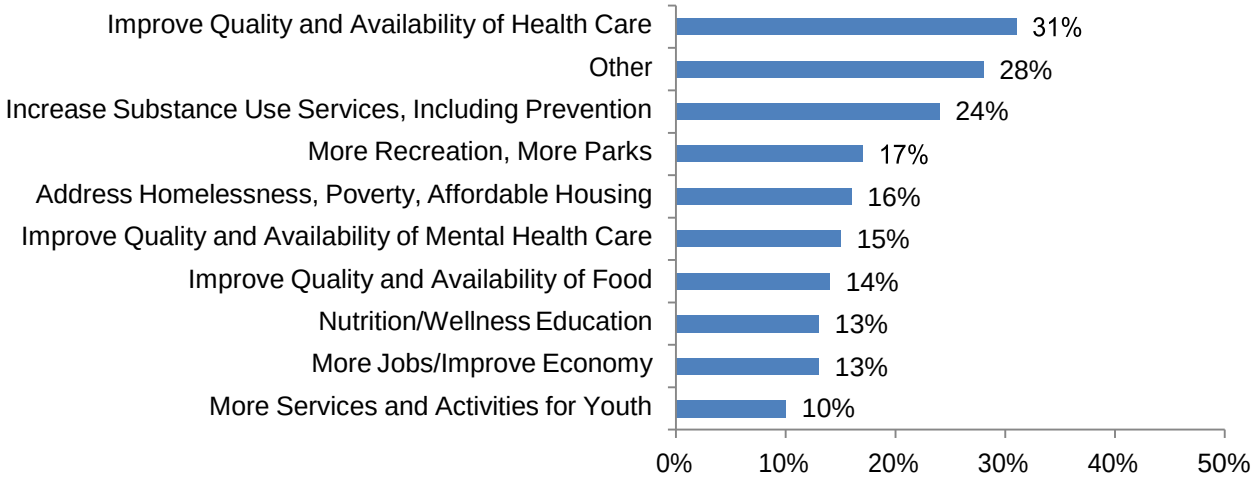
Figure 77. Most Important Health Challenges in Lake County, Community Health Survey (n=746)



Suggested Community Health Improvements

To address the identified concerns, survey respondents were asked to describe "the 2 most important actions that should be put into place to improve health and well-being in Lake County over the next 5 years." As Figure 78 shows, the top suggestion was to Improve the Quality and Availability of Health Care in the county (31%), followed by the need to Increase Substance Use/Abuse Services, Including Prevention (24%).

Figure 78. Suggested Community Health Improvements, Community Health Survey (n=629)



The top five suggestions mostly matched the health-related challenges people had described, but the need to Improve Quality and Availability of Health Care took precedence in this question over the need to Improve Quality and Availability of Mental Health Care (31% vs. 15%), which was emphasized as a significant community health challenge. Often the response categories were intertwined in the comments as the following comments reveal:

- *"Better access to general practitioners. I struggle to find a GP here and don't have time to take off work to go to another community."*
- *"More inclusive and accessible services in regards to mental health, physical health, substance abuse."*
- *Somehow dealing with the drug problem our county has."*
- *"We need a Kaiser and more affordable health clinics for every one …especially the homeless and mentally ill."*
- *"Better mental health care and drug treatment facilities as well as programs and housing for the homeless."*

Because improving community health recommendations was an open-ended question, the responses varied widely. All categories with 4% or fewer comments were included in Other. Within the category of Other—in which responses varied widely from "get rid of all the drug addicts" to "more access to shopping"—the most frequent responses related to Help with Transportation (3%), Improving Law Enforcement/Reducing Crime (3%) and Addressing Child Abuse/Domestic Violence (1%).

Access to and Utilization of Health-Related Services

To learn more about residents' use of health resources, the survey included questions about last medical visit (when and where), access barriers, and preferences for receiving health education information.

Routine Preventative Health Care

Overall, the majority of the respondents (69%) reported receiving a routine health visit (such as a check-up, screening test) from a doctor or clinic in the past year (Figure 79).[257] When income was taken into account, however, individuals reporting incomes of less than 200% FPL were more likely to report that their last preventative health visit was "More than 2 years ago" when compared to those reporting higher incomes (21% vs 10%), and slightly less likely to report a visit within the last year (66% vs 74%) (Table 79, below Figure 79). There were no significant differences in the frequency of medical visits based on respondents' community of residence.

Figure 79. Last Reported Routine/Preventative Medical Visit, All Respondents, Community Health Survey, (n=701)

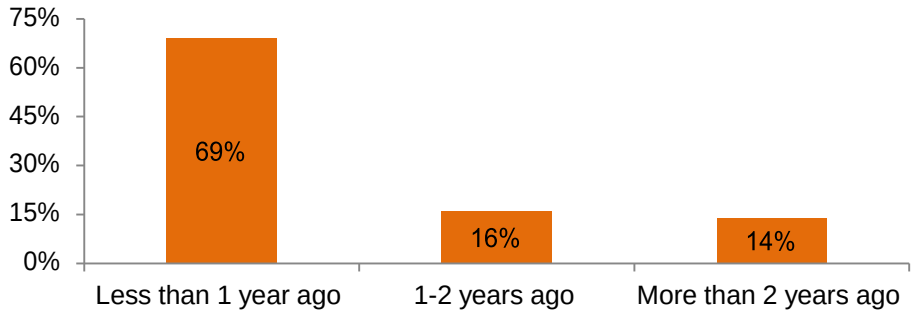


Table 79. Last Reported Routine/Preventative Medical Visit, by Respondent Income Status, Community Health Survey, (n=701)

	n	Less than 1 year ago	1-2 years ago	More than 2 years ago
Below 200% FPL	187	66%	13%	21%
Above 200% FPL	273	74%	16%	10%

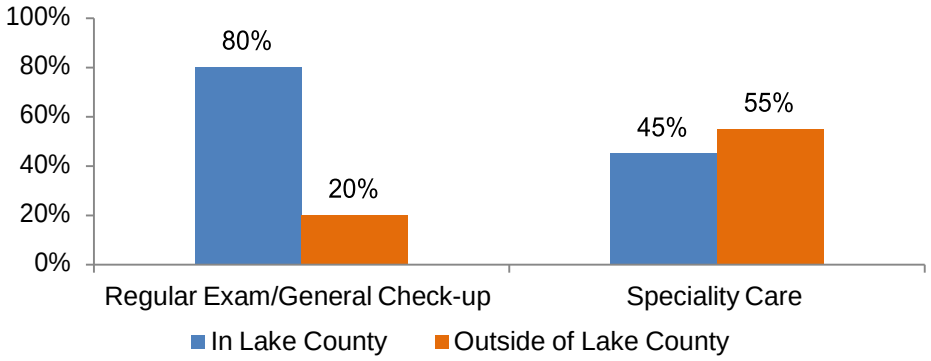
Location of Most Recent Health Care

For a regular preventive exam or general check-up, 4 out of 5 (80%) survey respondents indicated they were seen in Lake County. For specialty care, just under half (45%) were seen by a Lake County provider (Figure 80 below).

There was no significant difference in where care was last received when the responses were reviewed by the communities where respondents reported they lived. The largest variation was noted for the Kelseyville grouping of communities. They were slightly more likely to report receiving routine care within Lake County when compared to the other communities (88% vs 80% overall).

[257] According to the 2016 National Health Interview Survey, 63.3% of Californians 18-64 "saw or talked to a general doctor in the last 12 months." *State Variation in Health Care Service Utilization: United States, 2014*. http://www.cdc.gov/nchs/products/databriefs/db245.htm

Figure 80. Locations of Most Recent Routine and Specialty Care Visit, Community Health Survey (n=680)

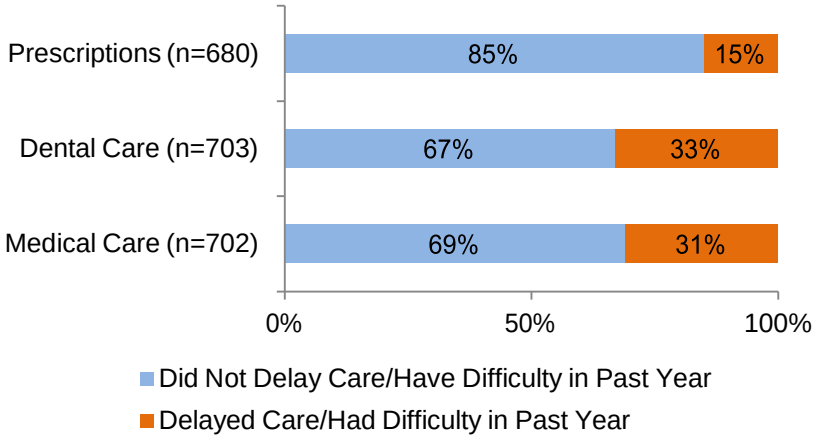


Of the 136 respondents who reported their last *routine care* visit was outside of Lake County, the most common locations were Santa Rosa/Sonoma County (43%), Ukiah/Mendocino County (12%) and Napa County (10%). For those who last received *specialty care* outside of the county (n=298), similar trends were observed: the most common location was Santa Rosa/Sonoma County (45%), followed by Napa County (18%), and Ukiah/Mendocino County (17%).

Delayed or Difficulty Obtaining Health Care

The respondents were asked whether they or a family member were unable to obtain or had delayed seeking services in the past year relative to medical care, dental care and filling prescriptions. About one-third of respondents reported delaying or having some type of barrier for medical and dental services (31% and 33%, respectively). The ability to fill a prescription was less of a problem; 15% reported some sort of barrier to getting the medications they needed.

Figure 81. Respondents Indicating Difficulties Accessing or Delayed Necessary Care in Past Year, Community Health Survey



For those who reported delays or difficulties accessing services, the most common barrier was High Cost/Lack of Insurance Coverage/High Co-Pays, followed by Long Wait for Appointment/No Appointments Available as shown in Table 80 on the next page.

Table 80. Reported Reasons for Delaying or Difficulty Getting Care/Services, Community Health Survey

Reason for Delay in Care/Service	Type of Care			Average
	Medical (n=215)	Dental (n=229)	Rx (n=103)	
High Cost/ Lack of Insurance Coverage/High Co-Pays	39%	59%	54%	51%
Wait for Appointment Too Long or No Appointments Available	26%	16%	7%	16%
Administrative Delays (Paperwork, Referrals, etc.)	5%	1%	19%	8%
Time (Work Schedule, Child Care, Elder Care, etc.)	8%	8%	1%	6%
Anxiety/Fear, Personal Reasons	3%	7%	1%	4%
No Specialist Available In Lake County	7%	2%	0%	3%
Did Not Like Providers In Lake County/Concerns about Quality of Care	4%	2%	3%	3%
Transportation	3%	2%	3%	3%
Doctors Not Accepting New Patients	3%	3%	0%	2%

The reasons respondents gave concerning High Cost/Lack of Insurance Coverage/High Co-Pays indicated some were uninsured and others had insurance but the co-pays were too high. Others said they were waiting for care until they could change health care plans. Specific comments that can inform community health improvement planning include:

Medical Care:

- *"I am still paying off medical debt from over a year ago so I can't go anywhere now."*
- *Even though I work full time, my deductible is $2000. I can't afford that. I can go to a lower deductible, but I would have to pay $800 per month for insurance through work.*
- *"I can't afford to take time off work because I'll lose pay."*
- *"We don't have the gas money."*

Dental Care:

- *"I space out my dental work by priority and cost."*
- *"Dental coverage only covers a certain amount the rest is out of pocket. One root canal will use a years' worth of dental coverage."*
- *"I have a crown that should be replaced, but my plan will not cover it for two more years, so I'm nursing the tooth and hoping it will last."*
- *'I only go when necessary, when something hurts."*

Prescriptions:

- *"Government insurance has limited prescription coverage and required medications for chronic conditions are too expensive to pay for."*
- *"Had a plan without prescription coverage and eye drops were over $100 so I couldn't get them."*
- *"My son comes first! He has six or seven meds...can get expensive!"*
- *"They [prescriptions] cost a small fortune; it's absolutely terrifying to anticipate ongoing necessity for this."*

For medical and dental care, the Long Wait for Appointment/No Appointments Available, including customer service issues, was the second most common cause for a delay in needed services.

Medical:

- *"Could not get an appointment in county for 2 months. Drove to Sacramento where I could be seen the next day."*
- *"Too many patients—too crowded and I have to wait too long."*
- *"Appointment wasn't available for three weeks for a sinus infection—ridiculous!"*
- *"The clinic books appointments months out for urgent matters."*
- *"It's a 4-month wait to get eye surgery."*
- *"I'm too busy with my elderly father and can't wait around to try to get in somewhere."*

Dental:

- *"We have to wait a minimum of three months just to get a dental x-ray, and then months for each additional appointment for our family."*
- *"I was told 6 months until next available appointment. Could this be true?"*
- *"There are always long waits for dentist visits, often cancelled by the clinic at the last moment."*

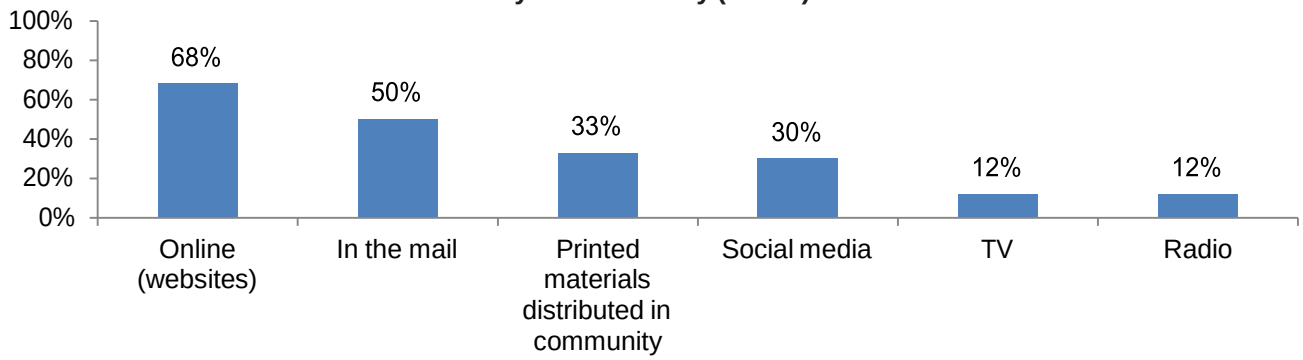
Respondents reported delays or problems with having prescriptions filled due to Administrative Delays between insurance companies, physicians/clinics, and pharmacies. For prescriptions, this was the second most frequent reason for delays after cost.

- *"I've been to 2 pharmacies since I've lived here. Both make big mistakes such as giving me other people's meds with my paperwork, or they just didn't have the medication and couldn't get it for a couple of weeks."*
- *"My husband needs triplicate scripts and there has to be a face-to-face doctor appointment each time one of these scripts is filled. This is an intolerable inconvenience."*
- *"My doctor doesn't seem to understand medication. He doesn't quickly handle "the need for referral care."*
- *I stopped taking my prescribed meds due to my Medi-Cal not transferred from Sacramento County in a timely fashion and I didn't want to go to the ER here just to get them."*

Health Education Materials

Respondents also weighed in on how they prefer to receive health education type of information. Online information was preferred by two-thirds (68%) of the respondents and half reported they like to receive information in the mail.

Figure 82. Respondents' Preferences for Receiving Health Education Type of Information, Community Health Survey (n=532)



Note: Respondents could select more than one option.

INPUT FROM COMMUNITY FOCUS GROUPS

"That was a lot of reality."
–Focus Group Participant reaction to the meeting

Characteristics of the Sample

A total of 96 individuals attended one of the 6 community focus groups. The numbering of the groups in Table 81 relates to the findings presented in subsequent tables in this section of the report. While no one group was expected to be representative of Lake County, *in the aggregate* the groups reflected a diversity of residents, particularly those with needs most often addressed by community needs assessments.[258] All of the groups were English-speaking, and overall women and men were represented in fairly equal numbers. The participants were typically 40-65 years of age, although two groups had a predominance of older adults and one was comprised mostly of young adults. The focus groups were held at a variety of host organizations.

Table 81. Lake County Community Focus Group Characteristics

	Site/City	Characteristics	Participants
1	Family Resource Center, Nurturing Parents Group, Lakeport	White and Hispanic; mostly young adult; mixed gender	8
2	Park Study Club, Clearlake	Mostly White; adults and seniors; all women	22
3	Judge's Breakfast, Clearlake	Mixed race/ethnic group; adults and seniors; mixed gender and age group	30
4	Kelseyville Rotary, Kelseyville	Mostly White; mixed gender and age group	15
5	Mother-Wise weekly group, Clearlake	White; female; young adult	3
6	Hinth'el Diabetes Action Council, Tribal Health, Lakeport	Mostly Native American; mixed gender and age group	18
	Total		96

Contributors to Good Health

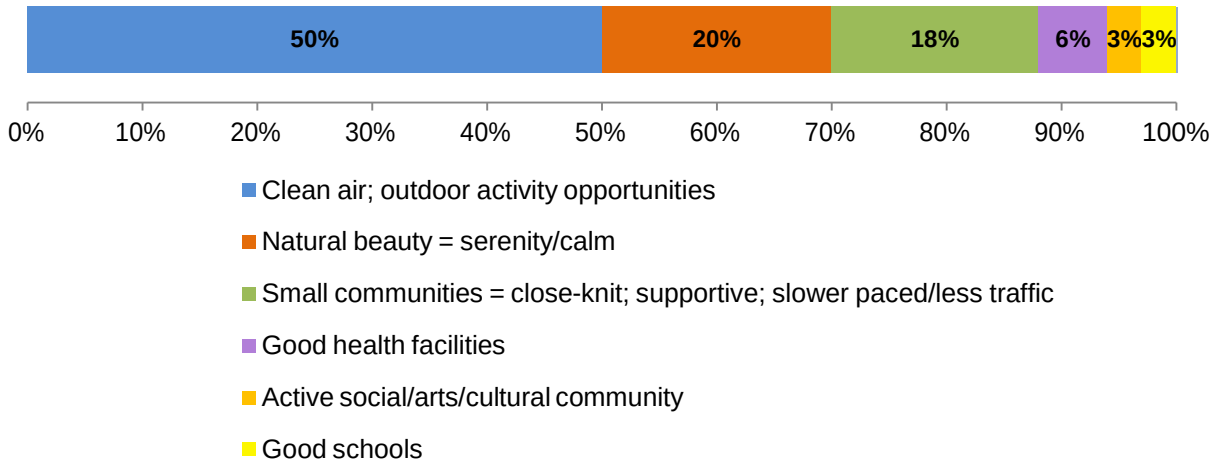
Focus group participants were asked to identify the main assets and resources that contribute to and sustain positive health in Lake County and could be used to improve community health. Recognizing

[258] As discussed earlier, these findings represent the experiences and perceptions of the people who attended a focus group; their opinions were requested to get a read on what they thought about a variety of issues, and by itself do not represent the whole picture.

existing community assets (e.g., a physical feature, the cultural environment, a community service) helps identify strengths and solutions to possible deficits within the community.

The relative importance of the 6 top-mentioned community assets and strengths can be seen in Figure 83. It was clear that focus group participants overwhelmingly recognized the value of living in an area with the natural resource—particularly clean air—and outdoor recreation attributes of Lake County for exercising and family activities and how these contributed to good health and well-being. That so many local activities such as hiking, walking, camping, parks for picnics, swimming, fishing, and bicycling were free or low-cost was seen as a real benefit. Some attendees felt that local residents were "too busy" or "too unmotivated" to utilize these assets and "mainly it's the tourists who take advantage of them," however this was a view held by a small minority. A number of people who themselves frequently walked or biked expressed safety concerns such as the lack of adequate sidewalks and lighting and the absence of good biking trails.

Figure 83. Main Contributors to Health and Well-Being in Lake County



Attendees also mentioned the benefits of living in a rural county/small community as including a sense of community; in-depth knowledge of neighbors (in many cases); sticking together/being supportive and looking out for each other; families being known to schools and businesses; and lack of traffic (in most places). These assets were recognized by a few as resources that could be mobilized to address particular issues, streamline efforts or bring the community partners together (e.g., helping in fire recovery efforts). It was acknowledged, however, that some of the features of living in a small county were relative—that is, they could also be viewed as challenges or negatives. For example, some noted that rural living may mean unwanted social isolation and limited transportation opportunities. It was mentioned that some people choose to live in a remote rural community because they do not *wish* to be known by neighbors and prefer to minimize social interactions (residents who want to be "off the grid" for various reasons). The benefit of working in a relatively small county where people tended to know one another, wished to network, tried to solve problems together non-competitively and generally felt accountable to one another was also recognized as being primarily responsible for the extensive collaboration that occurs in Lake County.

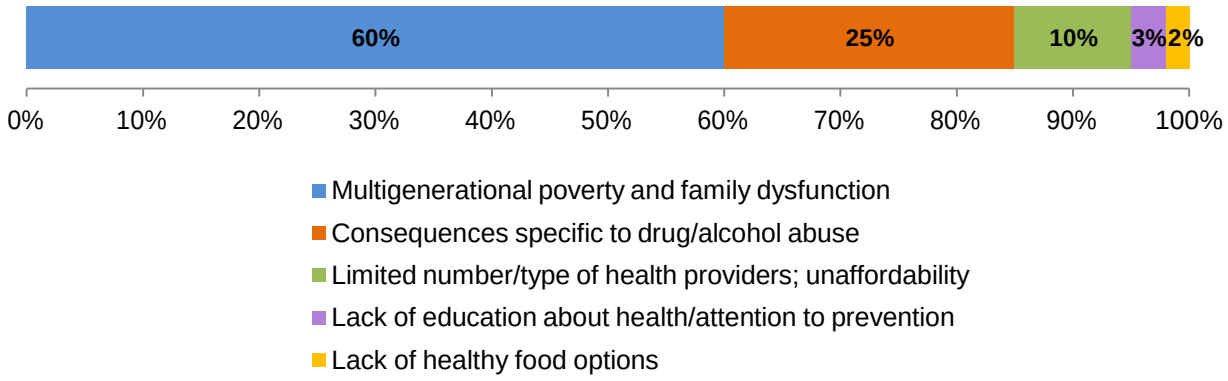
In addition to good schools, including the local trade, 2- and 4-year colleges, many participants mentioned the two hospitals as structural resources and, in a few cases, specific non-profit programs such as senior meal programs, youth sports, homeless sheltering by churches, and food banks. The relationship of available cultural and social opportunities Lake County has to offer—theater groups,

fishing contests, visiting local wineries—to positive health and well-being tended to be identified by participants at the more broadly representative meetings.

Contributors to Poor Health

The focus group participants also offered insight about the main factors they felt contributed to poor health and perpetuated health problems, and described how these factors acted as potential barriers to improving each issue. The effects of chronic and in many cases, multigenerational poverty and its causes and consequences—unemployment, apathy, anxiety and depression, failure to care for oneself and one's family—was viewed as the most important factor that contributed to poor individual and community health status in Lake County (Figure 84). While mental illness and inadequate housing were mentioned in the context of poverty and dysfunction, the specific influence of "drug use," including alcohol abuse, on community health overshadowed the relative contribution of the other specific factors participants cited. The significance ranged from poor personal health status to parenting capacity and children's ability to succeed in school to criminal behavior to ability to hold a job.

Figure 84. Main Contributors to Poor Health and Well-Being in Lake County



Barriers to Services

The participants also identified specific barriers to achieving good community health, responding to questions such as, what acts as barriers to accessing community resources that can promote and sustain good health? The reasons cited are due to a variety of overlapping factors that include both structural (the service delivery system) obstacles and personal factors that create barriers and are generally well recognized. When categorized, the participants' views, in somewhat the order in which they were mentioned, can be summarized as follows:

<u>Delivery System Barriers</u>

- Transportation – geography of the county is challenging; public transportation routes are inadequate and/or pick-up and drop-off locations are not convenient, especially for seniors.
- Lack of enough local providers for medical, dental and mental health services.
- Distribution of resources. Services not widely available in all parts of the county; some services require out-of-county transport.
- Cultural differences between providers and consumers. Language barriers.

Personal Factors Barriers

- Financial barriers/cost of care – lack of insurance/underinsured; limited scope of benefits. Unawareness that there are free and low-cost services.
- Transportation – some don't have reliable or own a vehicle; can't afford car insurance, gas.
- Lack of knowledge about prevention (*"Children are not taught because the parents don't know").*
- Attitudinal – people are too busy (*"Taking care of one's family is often a priority over one's own health");* some don't think they need routine health screenings; some don't like the way they've been treated at certain facilities so don't go back or go out of their way to access other facilities.
- Lack of understanding about the need or willingness to change behaviors to take better care of one's health ("*Finding the motivation to form new health habits and the discipline to stick with it is missing*").
- Values – such as, some parents don't recognize the importance of baby teeth to take young children to the dentist; lack of use of farmers' markets; disinterest in engaging in social opportunities.

Most-Commonly Identified Health Needs

After a discussion of the community's health strengths and the factors that challenge it, participants were asked "What do you think are the most important health issues faced by people in Lake County that need to be addressed?" Table 82 on the next page displays their responses by focus group location.

The participants were encouraged to think of health in broad terms to encompass physical, mental and environmental health issues and identify *the most important* unmet health needs. Attendees were not asked to prioritize or rank the needs once they were identified. Some of the findings make clear that although the facilitator did not limit the participants in identifying needs, and attempted to draw them out and occasionally prompt them with additional questions, some groups focused on fewer needs and issues than other groups. While the groups were asked to think broadly about the health needs of *all* Lake County residents, it was common for people to predominantly cite the needs and issues most familiar to them and their work or typical among their own acquaintances.

Table 82. Most Important Health-Related Needs/Problems Identified by Focus Group Participants

The need for….	Focus Group #					
	1	2	3	4	5	6
Mental health, primarily for help with depression, stress/anxiety, coping skills	x+	x	x+	x+	x	x+
Substance abuse, especially need for prevention, including prescriptions	x+	x+	x+		x	x
Homelessness		x+	x+	x		
Lack of medical providers, including specialists and providers taking Medi-Cal				x	x	x+
Access to dental services	x+	x				
Access to local cardiac care, specifically		x	x			
Quality of medical care at local facilities/doctors is uneven					x	x
Affordable/adequate housing for low-income	x		x			
Prevalence and consequences of diabetes/need for prevention		x				x+
Transportation challenges, limited transportation options				x		
Inadequate activities for youth			x+			
Out of county transports due to lack of local resources			x			
Too many fast food restaurants (resulting in poor nutritional choices)			x+			
Tobacco use, specifically				x+		
Viewing people as "hopeless causes" (especially in Clearlake)					x	
Lack of county-level attention on chronic disease						x+
Safety concerns (gangs, vandalism, rampant crime)					x	
Need for emotional trauma specific to impact of the wildfires	x					
Asbestos exposure due to wildfires	x					

X = the item was identified in the focus group. X+ = the item was cited and strongly resonated with the majority of the group. A blank space indicates the need or problem was not mentioned.

Focus Group Key:

1 Family Resource Center, Nurturing Parents Group
2 Park Study Club, Clearlake
3 Judge's Breakfast, Clearlake
4 Kelseyville Rotary, Kelseyville
5 Mother-Wise Group, Clearlake
6 Hinth'el Diabetes Action Council, Tribal Health, Lakeport

Mental Health Services

The need for more support for those with mental/emotional health problems was cited by all 6 focus groups as the number one unmet need in Lake County. This was not unexpected since this has been a top concern of focus group attendees in prior community health needs assessments (CHNAs). The need continues to be raised as a key issue within the county with a number of participants noting it has been a chronic problem *"that never seems to be addressed."* People felt more services were needed for those who were at the level of just barely holding it together but near the edge with anxiety, fear, worry, etc. Participants remarked in some of the groups that *"it is easier to get services the more mentally ill someone is."* The fallout to mental health and well-being from the 2015 wildfires was mentioned in two of the groups but not particularly focused on.

Mental health was also discussed as interrelated with the need for more substance abuse services, with affordable, geographically accessible resources in short supply for both. Focus group participants also noted that individuals who are receiving mental health services often have need for other services such as assistance with housing, transportation, and job skill development.

Specific comments—made across gender, age and race/ethnicity of focus group participants—that add insight, in no particular order of importance, included:

"The stress from the fires continues to add to poverty and mental illness."

"There is a lot of homelessness in our area because of mental health problems."

"We have a large veteran's population here. This contributes to the need for mental health resources."

"The hospital is overworked; they can't take on the 5150's."

"The mental placements are all out of county. Sometimes people wait for days because there are no beds in those out-of-county facilities. This leads to people using the jail or ER because there's no good system of mental health support here."

"There is a lack of stress management resources and lack of providers for treatment."

"There is the lingering effect of trauma and the very real sight of the areas that were burned [from the wildfires]."

"There is a lack of understanding—by those with mental problems and by people who judge them. Some people are afraid to call and ask for help because government will come in and take over."

Substance Abuse

The issue of substance abuse— "the blight of our community"—was identified as one of the top 3 concerns in 5 of the 6 focus groups. As in previous CHNAs, where the problem received as much attention, unmet needs ranged from more education to residential and outpatient recovery services to more enforcement. Tobacco use and alcohol abuse were recognized as substance abuse problems just as significantly as were illegal and prescription drugs. In particular, participants addressed the extent to which the use of opioids (prescription pain killers) was responsible for a variety of problems including overuse of emergency rooms. A few people distinguished medical marijuana use from recreational marijuana, citing the benefits of the former. Although the consequences of substance use and its effect on people's lives and county service delivery systems (education, police, social services, medical services and so forth) took up a good part of the focus group discussions, some of it heatedly, on some level there was a sentiment of futility about the likelihood of much change.

Homelessness

The relationship between health and homelessness was mentioned in 3 of the 6 focus groups but as a two-way street: people experiencing homelessness have higher risks of health issues (including death), and health issues and poverty can result in homelessness. The most important association participants noted was regarding mental health and the recognition that people who have a severe mental illness are over-represented in the homeless population; for example, often being released from hospital emergency rooms and the jail without proper community supports. Some participants had the sense that the problem had worsened over the last few years, independent from the displacement caused by the recent wildfires.

Access to Healthcare Services

Input about limited access to medical care was due generally to lack of specialty services within the county (cardiac rehab was offered as an example in 2 of the groups), but also included access to primary care physicians. Providers' willingness to take people with Medi-Cal was also described. Although recent enrollment of the Medi-Cal population in Lake County into managed care (i.e.,

Partnership Health Plan) is likely to reduce that problem, there were several participants with Medi-Cal membership who did not know who their doctor was. In nearly every group there was mention of and much dissatisfaction with having to go out of the county for specialist care, and several participants talked about the lack of continuity of providers because "*doctors don't want to stay here once they get here; they'd rather live in a big city*." Concerns about the quality of care from the hospitals and local physicians ("*the quality here is uneven*") were raised as an issue in 2 of the focus groups; however, the examples were based on limited personal experience. Others gave high marks for the *"two good hospitals and community clinics."*

Dental Services

Participants in the groups that identified access to healthcare services mentioned dental care as a top issue, with an emphasis on the need for more affordable dental care and more dentists to take very young children (and more parents to understand the importance of early childhood oral health). Foregoing routine dental visits and treatment because of cost were offered as examples of the impact of affordability. Very few dentists accept patients with Denti-Cal and the capacity for appointments at community clinics was said to be limited, particularly as Tribal Health is limiting new patient appointments to Native Americans.

Other Top Needs/Issues

A few of the other frequently mentioned important health-related needs included concerns about housing (the need for more affordable housing for low-income, the need to address "unsanitary"/ unsafe living conditions, the need for more sheltering and more permanent solutions for homelessness) and the need for more preventive education ("*these are the first to be cut*"), especially for youth ("*they still don't understand the impact of smoking*"). Concerns about general safety were also brought up in a couple of the focus groups, typically in connection with drugs ("*gang activity, drugs, and crime are all rampant; the kids are bored and will victimize people who look weak*") but also in personal situations such as domestic violence and child abuse (elder abuse was not mentioned).

A sense of "hopelessness" and "giving up" were viewed by participants in several focus groups as many Lake County individual's reactions to chronic stress. This was generally expressed in relationship to the problems associated with chronic unemployment and poverty. However, one of the groups believed that perception was unfairly being applied *to* community residents by some people, especially to those living in Clearlake. A concern was expressed that "*the whole town and all the people are viewed as a lost cause*" ("*Clearlake is treated like the armpit of the county")*, an unfortunate and biased perception, they believed. Some felt this negative attitude resulted in condescending behavior and disinclination by health care organizations to provide help and support services. As expressed by one individual, "*Offer hope; hope goes a long way. Give people more to believe in, something beyond their current situation*."

Recommended Solutions and Other Ideas

Focus group participants were asked to make recommendations for "improving the health of people in the community," including suggestions about the kinds of services they would like to see added, expanded, or improved in Lake County. The facilitators did not prompt the responses but reminded attendees of the significant health needs they had earlier identified; in only about half of the groups the participants tied their recommendations to the top health needs. Table 83 on the next page lists focus group recommendations for improving community health. To preserve the detail, the suggestions have been grouped only where they were closely related. Consistent with the rest of this report, the statements in quotation marks are verbatim comments from the participants.

Table 83. Recommendations from Focus Groups for Improving Health in Lake County

The need for….	Focus Group #					
	1	2	3	4	5	6
Prevention education focused on nutrition/cooking classes, how to read a food label and understand what's in the food.		x				x+
Preventive education aimed at youth concerning health habits, especially concerning drugs, nutrition and exercise.					x+	x+
More children's and youth centers/activities for after school and summer ("the recreation facilities are falling apart"), including activities that are free with easy transportation logistics so kids can get there.	x+				x+	
More accessible mental/emotional health services ("counseling that can keep couples together").	x+		x+			
More inter-agency collaboration; find ways to partner without "threatening one another's territory."				x+		x
Prevention education for family planning.		x+				
A trauma center(s) at the local hospital(s)			x+			
More trade school opportunities for high-risk youth and facilitate access.			x			
More options for transportation assistance.				x		
211 or a similar service for finding human services information/answers.				x		
Children's nutrition programs that can make a difference ("parents don't value it")	x					
An epidemiologist position at Public Health to collect accurate data and track it ("this would help everyone who is planning to address needs").						x
A patient advocate at hospital admission specifically for the mentally ill			x			
Increase in salaries of physicians so they come to Lake County and stay.					x	
More resources to address the needs of people with dementia/Alzheimer's, including facilities.						x
More parenting classes.		x+				
Children's crisis centers (not just for teens) as safe places.	x+					
More of the population to become involved in community affairs/participate in decision making.	x					
Assurance that the same medications are available at all pharmacies in the county.				x		
More resources for chronic pain, including education for doctors and access to physical therapists.						x
More options for safe, clean, affordable housing.			x+			
A swimming pool put and maintained in each major community.			x			

Additional Suggestions/Comments:

- "Don't send us out of county; give us our own resources. For example, all workers comp cases have to go out of county, which is ridiculous."
- "Change focus from short- to long-term planning and funding."
- "What about putting a health educator in each hospital to give information about health and exercise?"
- "Conduct a needs assessment specific to diabetes—focus efforts on the types of services that are needed."
- "Make a bike trail all around the Lake and transportation available to it."
- "More communication between health programs is needed, particularly about what is offered and who is eligible ("there are lots of services, but they don't feel coordinated").

X = the item was recommended in the focus group. X+ = the item was recommended and strongly resonated with the majority of the group. A blank space indicates the recommendation was not made.

Focus Group Key:

1 Family Resource Center, Nurturing Parents Group
2 Park Study Club, Clearlake
3 Judge's Breakfast, Clearlake
4 Kelseyville Rotary, Kelseyville
5 Mother-Wise Group, Clearlake
6 Hinth'el Diabetes Action Council, Tribal Health, Lakeport

There was little consistency in the above listing of recommendations among the groups: 5 of the 22 ideas were made by 2 of the 6 focus groups; the remainder of the ideas was suggested by only 1 group. The 5 common recommendations related to:

- Preventive nutrition-related education
- Preventive health education aimed specifically at youth
- Activities to involve and engage children and youth
- Mental/emotional health counseling
- Inter-agency collaboration

What was given little attention across the focus groups in the recommendations, given the importance of the needs the participants had identified earlier, and that might have been expected to be advocated for (and which were also significant concerns in the last CHNA), were recommendations related to:

- Alcohol and other drug treatment and recovery services.
- Dental services for low-income, especially limited scope of adult Denti-Cal benefits.
- Affordable wellness centers, particularly with closure of Sutter Lakeside Hospital's Wellness Center mentioned by several participants in a couple of the groups.
- Transportation challenges and its impact on ability to get to work, keep medical appointments, and engage in social and recreational opportunities.
- Medical provider recruitment and retention, particularly for more in-county medical specialist services.

INPUT FROM KEY INFORMANT INTERVIEWS

"The community and providers work very cohesively. If that's harnessed in the right way it can be an asset; I think we're moving in the right direction here."
– Key Informant Interviewee

"Basically one thing: we have to be intentional about creating communities and families again."–Key Informant Interviewee on what it's going to take to improve community health in Lake County

Characteristics of the Sample

Sixteen key informants were identified by the Steering Committee, and 12 (75%) agreed to participate in an interview.[259] The interviews, which were conducted by telephone, generally lasted an average of 45 minutes. Attachment 3 lists the individuals who completed an interview. (Other persons contacted for a substantial amount of certain information are also listed.)

The key informants generally represented a cross-section of the Lake County health and human service community that in addition to health care professionals from public and community-based organizations also included policy makers, administrators, and other individuals with an informed perspective about unmet health needs. While most of the interviewees spoke to the issues they knew best from their professional roles, many were also able to consider and describe additional health-related needs when prompted with questions to help them think about population characteristics, geography, political landscape and other factors that influence community health and access to services.

Community Characteristics that Influence Health

Every county or community has distinct characteristics—physical, structural, political, economic, cultural—that promote or hinder health. The key informants were asked to identify unique characteristics or factors (both positive and negative) that affect health and well-being and quality of life in Lake County. Their perceptions are summarized in Table 84 below. The perceived *strengths* are assets that should be maximized when developing strategies to implement the CHNA. The perceived *challenges* are important to be mindful of to work around when they cannot be modified or eliminated.

[259] Prospective interviewees, including members of the Board of Supervisors who were non responsive, were contacted up to 3 times by email and telephone and invited to participate in the CHNA.

Table 84. Perceived Factors that Influence Health and Well Being in Lake County, Key Informants

Assets and Strengths
▪ Beautiful/serene natural environment conducive to sense of peace/calm/well-being. ▪ A natural physical environment that supports healthy lifestyle/encourages outdoor activities ("*It doesn't cost anything to walk").* ▪ High level of collaboration and community engagement around health issues. ▪ Close-knit communities; ability to know and care about one another ▪ Sense of self determination/self-reliance. ▪ Reasonable cost of housing. ▪ Commitment to community of the major health providers.
Challenges
▪ Multi-generational poverty and dysfunction, leading to hopelessness. ▪ Difficulty for many to find employment or meaningful work. ▪ Stigma associated with asking for help "(revealing one's need for mental health therapy"). ▪ Acceptance of some substance use (marijuana), and alcohol as the social norm in some cases ("our drug culture"); sometimes lax enforcement. ▪ County government attitude about limitations on funding. ▪ Business climate and limited opportunities (lack of manufacturing and industry; resistance to "big business"). ▪ Geographic/topographical nature of the county relative to transportation. ▪ An aging community and impact on service delivery and access.

Community Strengths

Nearly every interviewee pointed to the spectacular scenic beauty ("if we could only bring it into our soul") and physical environment of Lake County as a unique contributor for promoting community health. In addition to exceptionally fresh air, what was mentioned included the serenity of the natural setting and availability of bike and pedestrian trails, hiking, fishing, boating, agritourism and other recreational activities that encourage a more active or at least an outdoor lifestyle. Some key informants observed that the recreation and healthy lifestyle opportunities draw new and recurring residents to Lake County. A couple of interviewees noted that while the natural environment prompts walking and biking, the built environment in some places discourages it by being unsafe (uneven pavement, no sidewalks, few street lights). One individual remarked that "even though they come and go," there are many local organizations that take advantage of the outdoor recreational offerings to provide programs and put on events "that foster community for those who want to benefit from it."

About two-thirds of the key informants had observed organizations and volunteers increasingly working together in a more collaborative manner to address health needs and reduce health disparities. Efforts of coming together around the fire recovery were the most common example offered, followed by mention of Hope Rising and establishing common goals through the Road Map which is the foundation on which it is doing its work to support public health efforts to reduce chronic diseases and promote health. Another example of collaboration referred to the effort inter-faith groups have made to shelter the homeless during the winter months. A couple of people commented that it was easier in smaller counties to know one another and form social networks to help people stay connected, as well as to establish the types of informal relationships that promote business and serve clients better.

A couple of the non-healthcare providers identified the 2 local hospitals as offering many—but not all—specialty areas, and perceived them as trusted community assets, highly regarded, stable and committed to working for the community benefit. They also commented on the importance of the community clinics such as Lakeside Family Health Center (especially noting the dental services), Tribal Health and the Veteran's Clinic, recognizing some of their recent efforts toward integrating primary care and behavioral health.

The key informants also acknowledged the flip side to some of these positive factors. For example, the advantages that come with living in a small, unhurried rural community presents the disadvantages of limited resources, such as lack of certain medical specialties, and challenging transportation logistics.

Challenging Factors

The challenges associated with multi-generational family dysfunction and poverty were cited by a number of the key informants in identifying factors that prevented people from taking more charge of their own personal health and being willing to make needed lifestyle changes. As one respondent noted, "How can you parent effectively when you had parents who didn't teach you how to be a parent?" Pervasive hopelessness among more people in recent years—or a view of certain people and communities as "hopeless cases"—was again believed to be a significant negative attribute, hanging over Lake County since the last CHNA. At least 7 interviewees mentioned this tendency, offering comments such as "People get stuck here because they can't leave and do anything anywhere else and they give up;" "People leave but return because they don't fit elsewhere;" and "There is overall apathy—we'll never turn this wagon around." One of the service providers believed there was an observable decline in personal motivation among some community members since the wildfires, along with increased levels of worry about the future and an increased sense of instability.

The lack of jobs and un-employability of many Lake County residents—reported to be related to substance abuse issues and consequent problems in many cases ("the availability of meth is crippling our community")—was noted by about two-thirds of the interviewees. Although poverty is not unique to Lake County, the problem was believed to have a greater impact here than in other places in the state. The lack of much industry and manufacturing, a business climate that is not conducive to growth—which could stimulate the county's economy and provide jobs—and low wages with few opportunities for upward socioeconomic mobility for some groups was cited but thought by some interviewees as "not likely to change much in the future." One individual observed that county government was "so focused on economic issues with an attitude of poverty"— "we don't have the money instead of we don't have the political will"—that it obscured the real reasons for inadequate progress in improving health conditions. Another believed "the powers that be in the county aren't focused enough on health and don't even understand the critical role of each of their departments to be supportive."

A number of individuals who commented on the challenges related to substance abuse mentioned the conflict between those who "want to be punitive about drugs" rather than help with prevention and treatment, and offered as examples the connection with violence (though these are not always linked) and turning to crime to support addiction. Several interviewees commented on the increasing problem of opioids as a challenging community factor and the negative consequences related to their abuse such as increased number of emergency department visits.

Another aspect of a community that is self-reliant and "takes care of its own"—expressed as one of the strengths in Lake County—is that such independence may also hinder buy-in from populations who could benefit from services but are hard to reach and may not embrace programs and services to which they're entitled. A couple of the interviewees cited this as a factor in working with families who

choose to live in isolated communities (*"some people come here on purpose to try and hide, whether it's domestic violence or a drug problem or both").*

Highest Health Needs

Interviewees were asked what they thought were the 3 most significant health problems/needs in Lake County that needed more attention. They were not prompted with a list of top-ranked needs from the previous CHNA or from regional and local statistical data but asked for their perspectives about this as an open-ended question.

The interviews yielded fairly consistent results with the community survey and focus group responses conducted for this assessment except for transportation, which received more attention as a problem by the key informants. Most of the identified needs directly tied to the perceived challenges in Lake County they described. Nearly all of the items had been identified as problems in the previous 2 CHNAs. Two of the highest need issues—substance abuse and community-based mental health services—received mention by at least three-quarters of the interviewees (Table 85). Food (as a resource issue for low-income families) and nutrition and affordable health care for non-insured/under-insured were not indicated in the list of significant needs this time.

Table 85. Most Significant Health-Related Needs Identified by Key Informants (n=12)

Issue	Frequency of Mention
Substance abuse (including tobacco and alcohol and Rx) prevention and treatment	10
Mental health support for counseling, non acute, non mental illness	8
Preventable health problems (especially obesity and diabetes); prevention education	4
Lack of in-county providers: medical specialists	4
Lack of in-county providers: primary care capacity	4
Transportation	4
Violence (not necessarily related to drugs)	2
Lack of jobs	2
Dental services for low-income, screening for children	1
Isolation/lonely seniors (geographic, generally tied to transportation)	1
Teen pregnancy	1
Affordable, safe, clean housing	1
Defeatist attitude that keeps people from changing/moving forward	1
Poor safety associated with road conditions	1
Low educational status in the community; poor quality of schools	1
Consequences of adverse childhood experiences (and leaving them unaddressed)	1

Substance Use/Abuse

Key informants identified substance abuse as across the board needs for: prevention education (e.g., school children and youth, parents); training (e.g., medical providers who over-prescribe painkillers); stronger enforcement (including of growing and selling); treatment and recovery services; and efforts to change societal norms and make it "not OK" concerning underage drinking, tobacco use, alcohol abuse and legal and illegal drugs. When asked, most interviewees perceived the problems to have worsened ("the problem is severe") and tolerance higher ("people do these things for a reason. What are they trying to self-medicate from?"), despite various programs, services and campaigns.

Mental Health

Community-based mental/emotional health services received the second-most common attention as a serious unmet health need in Lake County. As in the last CHNA, the observations included the lack of *affordable* individual and family therapy and support groups for people experiencing chronic stress, anxiety, depression and poor coping skills. It was also noted that some of these mental health situations that end up in the emergency department could have been avoided with adequate access to community-based therapist services. For those with more acute needs, the lack of local inpatient placement beds continues to require out-of-county placement, generally by ambulance (impacting local availability for ambulance services). The association between mental health problems and substance abuse ("there is a mental health component as an underlying cause") was noted by 3 of the interviewees. A couple individuals remarked that more support was needed to support children continuing to experience emotional stress from the 2015 wildfires.

Further comments that highlight the needs and system deficiencies included:

- "Mental health is missing so many people because of the funding structure."
- "It's painful to watch people deteriorate to the level where they're eligible for the County's mental health services." (The County's funding for mental/behavioral health services is understood to be available only for the most severely mentally ill.)
- "County Mental Health won't accept some of the severe mentally ill. It's almost useless to refer."
- "Lots of single parent families could sure use even a little help [with coping] to get over a hump."
- "A significant percentage of the law enforcement calls are related to mental health."

Preventable and Chronic Health Conditions

Getting people to adopt healthier habits was mentioned by 4 individuals as one of the top health needs in the county, with the problems of obesity and diabetes as the most common examples. A couple of people commented that it was hard to get some people, including "those who need it most," to attend health education sessions/events ("the population is so diverse, not everyone wants to take advantage of free programs;" "they aren't interested unless it benefits them;" "people are too busy raising kids").

Health Access

Despite greater access to health *coverage* for more people (through the Affordable Care Act and enrollment of Medi-Cal beneficiaries into managed care [Partnership Health Plan]), provider *capacity* because of unwillingness to accept public insurance continues to be a concern.

Key informants described the access problem relative to physicians as retention as well as recruitment. The problem, similar to other small counties, is largely due to the attractiveness of cultural opportunities and greater earning potential in larger cities ("despite the county's lower cost of living"), a wish to practice nearer a university medical center, and a desire to live elsewhere because of the "lack of professionalism" and "poor reputation of the county." In addition to medical services, one of the key informants identified the need for affordable dental services among the county's highest health priorities.

Although all of the interviewees understood that Lake County's economic base could not support all or a sufficient range of specialty services, those who ranked this a top concern believed more should be

done to attract and retain the most critical specialists, which in their view included orthopedic surgery, ENT and psychiatry.

Transportation

The need for better transportation options, mainly concerning client travel to medical appointments ("the routes aren't user friendly for medical services access"), seniors' access to social opportunities, and young people to recreational and other activities, was identified as a top priority by 4 of the 12 key informants. (Note: transportation challenges were perceived to be a top concern in only 1 of the 6 focus groups.) Concern was also expressed about health and safety in relation to "dangerous road conditions". One interviewee pointed out that the public transit system "takes all day if you're going to use it" as the reason there were "no takers for the bus passes some organizations give out."

Additional Comments Related to Significant Health Needs

Additional input from the key informants that did not always tie to specifically identified need issues but expressed themes that would be important to consider when prioritizing implementation strategies include the following:

- "It's not necessarily that the problems are getting worse, it's that we're running out of time to address them [losing a whole generation of children in the meanwhile]."
- "The Tribal groups struggle with all of these health issues the most."
- "Lack of jobs is a huge issue equating to hopelessness."
- "It's a vicious cycle: people don't have the skills, have difficulty finding work, can't find work that is meaningful, can't keep the job, get discouraged and lack motivation to try again, and the cycle starts all over again. It starts with doing what it takes to keep children in school, motivated, engaged, healthy."
- "There's a defeatist attitude because of gangs and crime in Clearlake so we write them off. How do you re-enfranchise them? How do you break this cycle?"
- "There's a large subset of anti-establishment/anti-government types—a whole cultural and support network of these people—that are more apparent in rural areas because of small population size, and this bleeds over into people's perception of Lake County."

Existing Resources Already Working to Address the Issues

Key informants were asked what resources or assets were already working well to address the issues they'd identified as significant health needs. Three individuals explicitly stated they could think of no resources to mention to respond to this question. The following were mentioned as working well though not always addressing the problems to the extent they should be and in some cases still leaving major gaps:

- Behavioral Health's Latino Wellness Center that provides a positive and supportive environment for people diagnosed with mental illness to help with recovery;
- Behavioral Health's suicide preventing training;
- The service clubs;

- The wine industry's increasing investments to support the community in ways they hadn't before ("this is the silver lining to the devastation of the fires");
- Hilltop residential alcohol and substance abuse treatment and recovery services (28-bed men's facility in Clearlake Oaks, intensive outpatient services and a small 6 bed women's facility in Lucerne), considered as being "stable and successful;"
- Mother-Wise, a grant-funded program of support groups and other social opportunities for new mothers;
- First 5's support for parent education;
- Efforts "in some schools" to provide preventive health education;
- Lake Transit's attempts to be more responsive to the needs for public transportation;
- The collaborative work in response to the opioid crisis "that is "ravaging the county;" e.g., directing efforts at doctors who overprescribe pain medication;
- Veterans Administration's telehealth for over 40 specialty medical services consults in San Francisco for VA patients;
- The work that has been done to establish various partnerships, such as the Health Leadership Network, as well as attempts to not duplicate each other's efforts.

When key informants were asked whether there were any health resources in the county that were *under*-utilized, nearly everyone had a similar reaction: "Hardly; with such limited capacity, how could that be the case?" Only one resource was specifically mentioned: teen parenting programs offered through Lake County Family Resource Center. One individual suggested that we are not optimally using the resources we have when certain centers/businesses are closed that could be used during off hours as places to build community (by socializing, increasing opportunities for inter-generational interaction), having cooking classes, dancing and so forth.

Evidence of Progress Since the Last CHNA

The interviewees were also queried about how individual organizations or community partners responded to the priorities in the immediately preceding CHNA, to the extent they were aware. A few had observed what they thought might be a direct relationship between the CHNA findings and the changes described below,[260] although most were unsure if the improvements would have occurred anyway ("some things happened organically"):

Healthy Choices/Behaviors. Several key informants pointed to the "great deal of effort" to raise public awareness involving healthy eating they felt was making a difference in Lake County. Examples included North Coast Opportunities and Be Fresh demonstrations at Grocery Outlet in Lakeport.

Mental Health. Examples of improvement included telepsychiatry services now available 1 day/week at Tribal Health, and services available from Beacon Health for people with Medi-Cal through Partnership Health Plan's contract.

Substance Abuse. The collaborative work in response to the opioid crisis was mentioned by two of the interviewees.

[260] Note that some of these examples have been described in more detail beginning on page 16 of this report in the section titled Response to the Last Community Health Needs Assessment.

Collaborative Relationships/Coordination of Services. The work that was initiated by Health Leadership Network and is continuing through folding efforts into Hope Rising was felt by several to be directly linked to the last CHNA.

Perceived Forces of Change or Trends

The 12 key informants identified the following trends or factors as influencing the current and future health and quality of life of the community. These developments or "forces or change" can serve as a heads-up for effective health improvement planning and included the following perspectives:

- The move of multiple agencies toward looking at "healthier communities" and prevention before problems become an issue.
- The likelihood of legalizing marijuana and the positives associated with it: reducing criminal prosecution and raising the economy.
- The likelihood of legalized marijuana and the negatives associated with it: increased traffic deaths and increased emergency department visits, especially for youth, due to overdose.
- The aftermath of the 2015 wildfires is helping to identify the need for (and reduce the stigma of) more mental health services because of the residual trauma.
- The expectation that Hope Rising will be a force to build increased awareness, include every aspect of wellness in Lake County, and engage the community in grassroots efforts.
- The hope that the ACA (Affordable Care Act) and enrollment of the Medi-Cal population in Partnership Health Plan will expand access to care and manage wellness (with an understanding of the needs the new enrollees have brought with them, e.g., mental health concerns).
- Increased personal responsibility for managing health, chronic health conditions, and changing unhealthy behaviors. Understanding that the healthcare delivery system, including the public health system, has only so much capacity to help, and that dollars and human resources are finite.
- The potential for a "super agency" that combines County Health and Human Services to keep a tighter rein on money to fail to keep an eye on specific needs and "maintain a healthy respect between the unique perspectives of each department."
- No let-up in sight for the challenge of physician recruitment.

Suggestions for Improving Community Health

The key informants were asked to think about the community at large and identify one priority recommendation for improving health in Lake County they would wanted to see implemented if they were "in charge" of committing resources (Table 86 below). Note that some of the recommendations are not mutually exclusive and support for one could positively impact another. Some are relatively low-cost items that could be undertaken even with limited dollars but good coordination and effective collaboration, while other improvements could require policy changes, more public/private cooperation and increased funding.

Table 86. Priority Health Improvement Recommendations Offered by Key Informants (n=12)

Focus on community residents and systems
▪ Community-based mental health services for individual and family therapy; hire additional case managers and therapists. ▪ Prevention and treatment services for addiction/substance abuse. ▪ Create living wage jobs by becoming more business friendly. ▪ Clean up efforts across the county ("the highways look awful"); pave every road. ▪ Recruitment and retention of health professionals. ▪ Affordable housing including some to attract recruitment of more professionals, e.g., nurses. ▪ Use more schools as Hubs[261] and expand the concept around the Lake (funding is the main barrier). Use all of the Senior Centers as Hubs for transportation services. ▪ A better paper referral process among providers so that referrals go to the provider who needs to connect with the person being referred. ▪ Education programs on healthy lifestyle changes by trained community leaders who have a support group of peers; evidence suggests this is more effective when the leader is someone who struggles with the same issues. ▪ Focus on what Hope Rising expects to achieve as it engages every aspect of health and wellness. ▪ Inform the Board of Supervisors leadership of the critical roles played by County mental health, social services, public health and alcohol and drug services, arrange for a walk-through of services, including talks with providers and clients. Re-orient after each election when there are changes. ▪ Strategies to restore hope, but on a one-to-one basis ("the only thing to work is one-on-one to make a personal connection").

Note: Not in any particular order of importance. Some overlapping recommendations are listed separately to emphasize varying ideas about similar suggestions.

The Hospitals' Role in Improving Community Health

Since charitable hospitals are explicitly charged with implementing health improvement plans in the communities they serve, key informants saw the local hospitals' role in community health improvement as described in Table 87 below. Two interviewees (note: not the two hospital administrators) remarked that "both do a good job now, each in their own way."

Table 87. Key Informants' View of Hospitals' Role in Improving Overall Community Health (n=12)

Access to Care	▪ More community education so people use local services and referrals more effectively; making sure people are getting connected to care to avoid unnecessary emergency department use. ▪ Blanket the general public with blasts that promote healthy lifestyle choices (e.g., like the messages from the Sutter Lakeside administrator shown at local movie theaters). ▪ Recruit collaboratively for each system or service they can't support on their own ("cooperate to achieve the same goal").

Table continues on next page

[261] A place in the community, such as a school, with integrated services that serves as a place for the entire community to gather and learn.

(Continued)

Access to Care	▪ Use their access to specialty care to facilitate recruitment of providers into the county to reduce the number of out-of-county transfers. Arrange for these providers to rotate through the rural and community health centers, including the hospital's own outpatient clinics, to expand access. ▪ Work closely with primary care providers to build more capacity in this area. ▪ Support health screenings.
Collaboration/Leadership	▪ Hospitals are pivotal for having a collaborative role. ▪ Tighten up the relationship between hospital leadership and County health leaders, especially concerning mental health services ("it's easy to not take responsibility for some of these cases"); decrease the gulf between them. ▪ Lead the wellness/Hope Rising efforts; support each other's efforts in this ("as they are currently doing").
Scope of Involvement	▪ Broaden their role ("there's no area they should be left out of;" "they do this well now"). ▪ Step up their role in prevention of violence and substance abuse, not just related to medical issues.
Community Involvement	▪ Fund and be physically present in the community, e.g., tree planting, community gardens, leading a hike. ▪ Reach out to the high schools with support for direct screening and education services.
Other	▪ Support community wellness centers ("restore Sutter Lakeside Wellness Center"), especially for seniors and lower-income residents.

Note: Not in any particular order of importance. Some interviewees offered more than one suggestion. Some overlapping comments are listed separately to emphasize varying ideas about similar statements.

CONCLUSIONS AND PRIORITIES

"There is a generational acceptance of social position—this is how it is—that some people don't try to overcome."– Focus Group Participant

"Some people are afraid to call and ask for help because government will come and take over."– Focus Group Participant

The Community Health Needs Assessment was a dynamic and ongoing process that was undertaken to identify the health needs of Lake County and the existing resources and assets that contribute to health and well-being of residents. The CHNA relied on the collection and analysis of health data relevant to the community and input by the community with expressed needs and suggestions for improvements to address the identified needs.

There were few surprises in the 2016 CHNA. The continuing need for mental health support—non-acute, individual, couples and family therapy—again rose to the top of every group's ranking of major community health gaps. Ongoing concerns associated with substance abuse—ranging from health effects to costs in violence and crime to the impact on children's ability to succeed in school—once more yielded priority attention by survey respondents, focus group participants and key informant interviewees. The county health rankings on major factors like length of life and quality of life remain troubling. They fluctuated only slightly between the prior and current CHNAs and overall have not changed considerably—trading off between 56th and 57th at the bottom of California's 58 counties. Most Lake County health leaders, policymakers, providers, advocates and stakeholders are aware of these statistics though some still seem to find it difficult to fully acknowledge. However, positive change takes time and it is clear that a considerable amount of collaborative effort has occurred in Lake County since 2013; it is also evident that this momentum and commitment is ongoing.

It is intended that the 2016 CHNA findings will have a practical application. The next step is to operationalize them in organizational community health improvement plans (CHIPs) such as Public Health's planned CHIP, the Wellness Roadmap and future hospital implementation strategy plans that can track and measure health improvement progress in Lake County.

PRIORITIES

Guided by the findings from the community health needs assessment process, the Collaborative identified 4 priority areas for focus over the next 3 years. The group agreed an important opportunity exists in Lake County for all health partners—regardless of their own organization's mission and priorities that continue to go forward—to give greater attention to these priority areas to maximize the collective impact. This could mean a re-direction of existing dollars, identifying new funding and other assets (grants, private donations, in-kind), greater investment in infrastructure including human capital, more creative uses of current resources, identifying non-traditional allies and a greater commitment to volunteerism.

With so many competing needs, priority was given in the selection process to the needs that continue to rise to the top while considering additional criteria such as impact, feasibility and urgency. The group intentionally framed the priorities by issue rather than by population group (e.g., certain age or community locations) since *all* Lake County residents are affected by these issues whether directly or indirectly. The Collaborative recognized the overlap among the 4 priorities, and how multiple priorities can be covered with single interventions.

Priority Mental Health

While risk and protective factors vary, individuals, families and communities are impacted by mental disorders in endless ways—health status, income, family stability, suicide risk, to name the more important ones. People have different ways of coping with mental and emotional distress—some healthy (exercise, worship), some not (drug use)—and different extents of support systems. Social and economic determinants of mental health demand public health and population-based strategies to prevent and manage common mental disorders in the community.[262] Suggested strategies for Lake County could include:

- Primary prevention such as teaching emotion-regulation skills to teens (which could be expanded through School Hubs). Primary prevention examples in the context of physical health include maintaining a healthy diet and exercise regimen (where various community food harvests, pantries, farm-to-school and other nutrition projects can help) and avoiding smoking (tobacco cessation efforts).

- Early intervention counseling (such as post-traumatic stress associated with the wildfires) to foster coping skills and minimize the mental health impact, as well as one-to-one counseling and support group services that are open in the evenings and reach out to vulnerable populations such as seniors living alone, single parents and the LGBT community.

- Substance use/addiction services (tobacco cessation, residential drug treatment, AA groups) to reduce the long-term negative consequences for mood and emotional health.

- Promoting volunteerism (transporting seniors, literacy programs for young children, fishing excursions for disadvantaged youth) as being useful to others and being valued for what a person can do can help build self-esteem.

- Home visits to those who are chronically ill or socially isolated.

- Caregiver respite to maintain the health and well-being of family care providers.

---

[262] Thangadurai P, Jacob KS. Medicalizing distress, ignoring public health strategies. *Ind J Psychol Med.* 2014 Oct-Dec; 36(4): 351–354.

- Public education through social media and other means to continue to reduce stigma.

Priority Substance Use Disorders

Experts indicate that an optimal mix of prevention interventions, as well as treatment resources, are required to address substance use issues in communities, because they are among the most difficult social problems to prevent or reduce.[263] Suggested strategies for Lake County could include:

- Primary prevention approach examples include creating environments that make it easier to act in healthy ways (after-school programs that appeal to all kinds of youth where transportation is provided, free community concerts in the park), social marketing with appropriately tailored key messages, and school-based programs that aim to prevent alcohol, tobacco, and marijuana use and violence by targeting the major social and psychological factors that promote the initiation of substance use and other risky behaviors and build resiliency.

- Alternatives to substance abuse that are attractive, fun and affordable such as crafting, healthy food community cooking contests and ethnic food fairs, and bike and swimming races that are beneficial to improving emotional well-being.

- Continuation and expansion of the Opioid Coalition (Safe Rx Lake County).

- Public policies that result in fewer places for young people to purchase alcohol and stricter community monitoring and enforcement (such as neighborhood watch programs that partner with law enforcement).

- Supportive interventions to address disparities in smoking rates, such as for those with poor mental health and adolescents, and reducing tobacco exposure to secondhand smoke where community members live, work, and play.[264]

- Affordable and accessible gym memberships and other physical activity opportunities such as safe senior walking and hiking opportunities. Physical activities that help decrease pain can help reduce opioid use/misuse, for instance.

Priority Access to Programs and Services

This priority area addresses a range of access concerns from inadequacies in infrastructure to lack of community awareness. It was clear from the community input to the CHNA that so many people in Lake County were unaware of the many health, educational, and social services and programs that are already available (though not always affordable or convenient). Suggested strategies for Lake County could include:

- Information distributed through up-to-date, user-friendly resource guides (English/Spanish), social media, flyers and other print media (at supermarkets, senior centers, hair salons, schools, places of worship) to inform residents at all income levels of services and programs.

---

[263] *Prevention of Substance Abuse and Mental Illness*. http://www.samhsa.gov/prevention

[264] Effective June 9, 2016, individuals must now be at least age 21 to buy tobacco products in California.

- Transportation assistance (shuttle services, vehicle rides, bus passes, taxi vouchers), including wheelchair-accessible transportation, to in-county as well as out-of-county locations for dental and medical services as well as to social services and programs.

- Expansion of workforce capacity through recruitment and retention of medical, dental, and therapist/counselor professionals to address specialty and geographic gaps, providing incentives to attract candidates whose attitudes and practice styles align with the culture of Lake County.

- Community awareness that informs residents about the availability of various types of health insurance coverage (and other available programs), and enrollment of eligible individuals using health system navigators.

- Community cooking demonstrations and healthy recipes that promote and maintain a healthy diet tailored to low-income individuals and families, seniors living alone, people with chronic health conditions and others.

- Policy and system improvements such as integration of primary health care with behavioral health, oral health, social services, specialty care, and public health.

- Meaningful community leader input and engagement and closer alignment of goals between Public Health and Behavioral Health, the hospitals and sectors outside of these organizations such as transportation, business and education.

Priority **Housing and Homelessness**

The vast majority of homeless individuals and families fall into homelessness after a housing or personal crisis. These households may require only short-term assistance to find permanent housing quickly and without conditions. Others fall into homelessness after release from institutions, including jail and the foster care system. Still others come to homelessness from mental health programs and other medical care facilities. Early intervention to prevent homelessness is a critical component in treating mental illness before it can cause serious results like unemployment and chronic homelessness. Suggested strategies for Lake County could include:

- Year-round sheltering that includes families with children.

- Social programs that connect vulnerable populations with emergency services, temporary cash assistance, and case management, many of which already exist in Lake County. By and large, homeless individuals can access mainstream programs, including Temporary Assistance to Needy Families (TANF), Supplemental Security Income (SSI), Medi-Cal and other existing federal assistance programs.

- Financial and other support or assistance to achieve housing stability and individual well-being. This can also minimize the length of stay in shelters and reduce repeat homeless episodes.

- Housing locator services that include incentives to landlords to rent to homeless households, creative uses of housing vouchers and subsidies to help homeless individuals and families afford their rental unit, and links to resources to help clients maintain their housing.

- Low-demand housing that does not mandate sobriety or treatment. It is well recognized that many people living on the streets exhibit mental illness, substance addiction, and other negative behavior patterns.

ATTACHMENTS

"Don't send us out of county. Give us our own resources." – Focus Group Participant

"We have such a beautiful environment here; if only you could bring this into your soul."– Key Informant Interviewee

ATTACHMENT 1

2016 CHNA approval

This community health needs assessment was adopted on October 18, 2016 by the Adventist Health System/West Board of Directors. The final report was made widely available on December 31, 2016.

CHNA/CHP contact:

Shelly Mascari
Director of Community Wellness

Phone: 707-995-5656
Email: shelly.mascari@ah.org

St. Helena Hospital Clear Lake
15322 Lakeshore Drive, Suite 201
Clearlake, CA 95422

Request a copy, provide comments or view electronic copies of current and previous community health needs assessments: https://www.adventisthealth.org/pages/about-us/community-health-needs-assessments.aspx

ATTACHMENT 2

LAKE COUNTY COMMUNITY HEALTH NEEDS ASSESSMENT

STEERING COMMITTEE MEMBERS

(In Alphabetic Order by First Name)

Jennifer Dodd, Executive Director
Lake Family Resource Center

Karen Tait, MD, Health Officer
Lake County Health Services

Kimberly Tangermann, Clinic Director
Lakeview Health Center

Shelly Mascari, Director of Community Wellness
St. Helena Hospital Clear Lake

Susan Jen, MPH, MA, Director
Health Leadership Network

Tiffany Ortega, MHA, Assistant Administrator
Sutter Lakeside Hospital

Todd Metcalf, Program Manager
Lake County Department of Social Services

Tom Jordan, Executive Director
First 5 Lake County

ATTACHMENT 3

COMMUNITY FOCUS GROUP QUESTIONS[265]

1. What do you think are the main health-related strengths/assets that contribute to health in Lake County?
2. What do you think are the main factors that contribute to poor health in Lake County?
3. What do you think are the most important health issues faced by Lake County residents?
4. What do you think are the main reasons for why these are health issues or problems?
5. What one or two things would you recommend as priorities for improving health in Lake County?

[265] These were the primary questions that were used to identify specific issues and various themes. The facilitators also asked clarifying and probing questions to solicit fuller discussions.

ATTACHMENT 4

KEY INFORMANT INTERVIEWS AND OTHER CONTACTS

(In Alphabetical Order)

Person Contacted	Agency/Organization
Key Informant Interviews	
Brian Martin, Sheriff	Lake County Sheriff's Office
Brock Falkenberg, Superintendent of Schools	Lake County Office of Education
Carol Brown, Nurse Manager	Veteran's Services Administration, Lake County
David Santos, Vice President of Operations	St. Helena Hospital Clear Lake
Ernesto Padilla, Executive Director	Tribal Health
Gloria Flaherty, Retired Executive Director	Lake Family Resource Center
Jaclyn Ley, Director	Mother-Wise Program
Jim Brown, Director	Lake County Health Services Department
Lyn Scuri, Health Planner	Partnership Health Plan
Marc Shapiro, MD, Chief Medical Officer	St. Helena Hospital Clear Lake
Paul Hofacker, PhD, Psychologist	Lake County Behavioral Health
Siri Nelson, Chief Executive Officer	Sutter Lakeside Hospital
Interviewed/Consulted for Specific Data or Information	
Miles Gordon, Food Systems Director	North Coast Opportunities
Rebecca Holton, Physician Recruiter	St. Helena Hospital Clear Lake
Sherylin Taylor, Director of MCAH and Public Health Nursing	Lake County Public Health Department

KEY INFORMANT INTERVIEW QUESTIONS[266]

1. What do you believe are the unique characteristics or strengths of Lake County that contribute to people's health and well-being/quality of life?

2. What do you think are the 3 biggest health-related challenges in the county that need more attention?

    a. Have these problems gotten worse in the last 3-4 years (not exclusively tied to the 2015 wildfires)?
    b. Are there specific locations that struggle with these health issues the most?
    c. What specific populations or groups struggle with these health issues the most?

3. What do you see as the main barriers to addressing these issues? Why?

4. What resources/assets in the region are already working well to address these issues? Are there any health resources in the region that are *under*utilized?

5. In the last needs assessment, the health collaborative group identified 4 priority areas (below). What evidence have you seen of progress on these?

    a. Promotion and support of healthy choices/healthy behaviors.

    b. Promotion and support of emotional and mental health and well-being.

    c. Prevention and treatment of use/misuse of legal and illegal substances, including prescription drugs and medications.

    d. Promotion of collaborative relationships and coordination of services among Lake County health and human services providers.

6. What "forces of change" or trends do you see coming in the next 3-4 years that could positively or negatively affect the community's health in this region?

7. What role do you think the Lake County hospitals should play in addressing community health?

8. If you had just one suggestion for improving the health of the community, what priority would it be? How would it work to see it implemented? For example, are there organizational or policy changes that would have to happen at the local or regional level to implement your suggestion? What would it take to make those changes?

9. Additional comments?

[266] Not all individuals were asked all of the questions, questions were not necessarily asked in the same order, and additional questions were asked of some interviewees to capture specific data or learn from specific expertise.

LAKE COUNTY COMMUNITY HEALTH SURVEY

Please take a moment to complete this survey. The purpose is to get your opinions and ideas about community health concerns in Lake County. We will use the results of the survey to continue to improve health in our community.

1. I consider my own personal overall health to be_____. **[Circle only <u>one</u> answer to fill in the blank]**
   a. Excellent b. Very Good c. Good d. Fair e. Poor

2. What 1 or 2 things prompts or motivates you to take care of your own health? _____

   _____

3. What do you think are the **<u>3</u>** *most important* reasons that make Lake County a good place to live? **[Circle only <u>3</u>]**
   a. Low disease rates
   b. Jobs/good economy
   c. Good schools
   d. Access to health care
   e. Population size
   f. Affordable housing
   g. Recreation/Parks
   h. Religious or spiritual values
   i. Low crime/safe neighborhoods
   j. Acceptance of diversity
   k. Arts and cultural events
   l. Community involvement
   m. Healthy/fresh food opportunities
   n. Other (What?) _____

4. From the list below, what do you think are the **<u>3</u>** *most important* health challenges facing people in Lake County? The most important are the challenges you feel have the greatest impact on overall community health. **[Circle only <u>3</u>]**
   a. Domestic violence
   b. Motor vehicle crashes
   c. Alcohol and drug abuse
   d. Teenage pregnancy
   e. Hunger/poor quality food
   f. Child abuse/neglect
   g. Inactivity/lack of exercise
   h. Mental health (including depression, anxiety)
   i. Tobacco use, e-cigarettes, vapes, etc.
   j. Homelessness
   k. Lack of access to medical care
   l. Not getting vaccinations
   m. Chronic diseases (e.g., cancer, diabetes, high blood pressure)
   n. Lack of access to dental services
   o. Air quality
   p. Other (What?) _____

5. What do you think are the <u>most important</u> actions that should happen to improve people's health and well-being in Lake County over the next 5 years? [List **<u>2</u>** suggestions for how you would create a healthier community]

   _____

   _____

6. What do *you* do to maintain positive mental well-being? [Please describe in a few words] _____

   _____

7. When was the last time you saw a doctor for a *routine or preventive* health visit (check-up, screening test), <u>not</u> a visit for a medical problem? *[Circle only **<u>one</u>** answer]*
   a. Less than 1 year ago b. 1-2 years ago c. More than 2 years ago

8. In the last year were you or a family member unable to obtain or did you delay obtaining necessary care for any of the following?

	No	Yes		
a.	____	____	Medical care	(Why? ____
b.	____	____	Dental care	(Why? ____
c.	____	____	Prescriptions (Why? _____	

9. Where did you last see a doctor or visit a clinic for the following:
   a. For a regular exam/general check-up:____*In* Lake County____*Outside* Lake County (City?_____)
   b. For specialty care: *In* Lake County *Outside* Lake County (City?_____) *[Skip if you didn't see a specialist]*

10. How do you prefer to receive health education type of information? *[Circle all that apply]*
    a. In the mail b. Printed materials distributed in community c. Social media d. Online (websites)
    e. TV f. Radio

Please tell us about yourself:

11. Did *you* personally lose property, pets or other animals (e.g., livestock) in the 2015 wildfires? ____ No ___ Yes

12. What is your race/ethnicity? __Asian Black/AA __White Amer Ind Hispanic/Latino Multirace Other
13. What is your annual household income?_____$0-$20,000_____$21,000-$40,000 ___$41,000-$80,000 $81,000 +
14. How many people are supported on this income? _____
15. What is your age? ___Under 21 ___Age 21-39 _ Age 40-64 ____Age 65-84 ___Age 85+
16. What city or town do you live in? _____

Thank you!

Please Note: The survey ends on March 20, 2016

If you have questions or want to take this survey online, contact Tiffany Ortega at Sutter Lakeside Hospital at (707) 262-5016 or OrtegaT@sutterhealth.org