Loma Linda University Medical Center

Loma Linda University Behavioral Medicine Center

LOMA LINDA
UNIVERSITY
HEALTH

2013 | Community Health Needs Assessment

Loma Linda Universtiy Health Community Health Needs Assessment for:

Loma Linda University Medical Center

Adult Hospital

Children's Hospital

East Campus

Heart and Surgical

Loma Linda University Behavioral Medicine Center

Board approved on August 27, 2013

Prepared By:
Laura Acosta, BS, MPH(c)
Dora Barilla, DrPH, MPH, CHES
Marti Baum, MD
Monideepa B. Becerra, MPH, DrPH(c)
Tim Gillespie, DMin
Jessica L.A. Jackson, MA, MPH
Loma Linda University Medical Center
Community Health Development

Dear Community

As Chief Executive Officer of Loma Linda University Medical Center, I would like to thank you for your interest in the health of our community and allowing Loma Linda University Health to be a partner in an effort to improve the health of our region. It is my pleasure to share our current Community Health Needs Assessment with you.

We call upon you to imagine a healthier region, and invite you to work with us implementing the solutions outlined in this report. Help us continue to prioritize our health concerns and find solutions across a broad range of health needs

In 2012, we invested over $95,407,460 in community benefits. Loma Linda University Health believes, however, these investments need to be combined with attention to improving health outcomes, shared responsibility from community partners, and careful financial stewardship to ensure continued improvement in our community's health. We continue to make concentrated efforts to shift our investments to more community-based preventive interventions, rather than relying mostly on charity care in our emergency departments, or hospitalizations for advanced and unmanaged health conditions.

The Affordable Care Act has highlighted the importance of designing new and innovative approaches to improving the health of our communities with a significant emphasis on community-based prevention. Loma Linda University Health has been a trusted community asset since 1905, and we are committed to proactively meeting the diverse health needs of our region through this historic transition.

Improving community health requires expertise and engagement beyond the hospital campus and the health sector. It requires the wisdom of everyone in our community. We are committed to finding innovative ways to work with all sectors of our community to ensure our community health interventions are systematic and sustained.

We call upon you to imagine a healthier region, and invite you to work with us to implement the solutions outlined in this report. Help us continue to prioritize our health concerns and find solutions across a broad range of health needs.

We look forward to our journey together, and thank you for your interest in creating a healthier community for everyone.

Sincerely,

Ruthita Fike
Chief Executive Officer
Loma Linda University Medical Center

Dear Community

As Administrator of Loma Linda University Behavioral Medicine Center, it is my pleasure to share our current Community Health Needs Assessment. This plan outlines the opportunities to enhance physical, mental, and spiritual healing to those in need.

Optimal behavioral health occurs when individuals have hopeful and productive lives. Our approach is to address the behavioral needs of our community through whole person care, central to the mission of Loma Linda University Health.

Overcoming the stigma of mental illness and chemical dependency and improving behavioral health in our community requires partnering across multiple sectors to create a continuum of care. It requires the collaboration and social support of everyone in our community to provide hope to those in need of behavioral health services and to ensure a healthier future. We are committed to finding innovative ways to engage our community partners in creating sustainable health and building upon on our collective successes.

We hope that through reviewing this document, you find opportunities to partner with us. We aspire to create dynamic strategies aimed at improving the behavioral health of our community. Together, we can imagine a healthier community free from mental illnesses and chronic disease.

Best regards,

Jill Pollock
Administrator
Loma Linda University Behavioral Medicine Center

TABLE OF CONTENTS

EXECUTIVE SUMMARY 7

INTRODUCTION 9

COMMUNITY PROFILE 11

METHODOLOGY/REQUIREMENTS 12

Quantitative Data 12
Qualitative Data 12
Information Gaps 13

SOCIAL DETERMINANTS OF HEALTH 14

Population 15
Age 16
Gender 18
Race/Ethnicity 18
Income, Poverty, and Unemployment 21
Education 26
Primary Language 28
Health Literacy 29
Housing and Homelessness 31
Household Type 31
Underwater Mortgages 32
Homelessness 33
Violent Crimes and Child Abuse 34

HEALTH STATUS 37

Birth Indicators 38
Live Births 38
Teen Births 39
Infant Mortality Rate 40
Low Birth Weight 42
Leading Causes of Death 44
Chronic Disease Burden 45
Heart Disease and Stroke 45
Diabetes 47
Obesity 48
Cancer 51
Respiratory Diseases 52
Sickle Cell Disease 56
Behavioral Health 58

HEALTH BEHAVIORS 60
NUTRITION: FRUIT AND VEGETABLE INTAKE 60
NUTRITION: BREASTFEEDING 61
PHYSICAL ACTIVITY 62
TOBACCO USE 63
SUBSTANCE ABUSE/HEAVY ALCOHOL USE 64
HOSPITALIZATIONS 65

HEALTH SYSTEMS' READINESS 72

HEALTH INSURANCE 72
ACCESS TO PRIMARY CARE 74
HEALTH PROFESSIONAL SHORTAGE AREAS 76
MEDICALLY UNDERSERVED AREAS AND POPULATIONS 77

PHYSICAL ENVIRONMENT QUALITY 78

UNHEALTHY AIR QUALITY DAYS 79
RETAIL FOOD ENVIRONMENT INDEX 79

FAITH AND HEALTH 80

2-1-1 IN SAN BERNARDINO COUNTY 81

HEALTHY COMMUNITIES 84

THE ART OF LISTENING AND STORIES BEHIND THE STATISTICS 85

EMERGENT THEMES FROM THE COMMUNITY 88
COMMUNITY VOICES 88
THE VOICE OF OUR COMMUNITY FOR A HEALTHY LIVING ENVIRONMENT 89
THE VOICE OF OUR COMMUNITY FOR AN UNHEALTHY LIVING ENVIRONMENT 90
THE VOICE OF OUR COMMUNITY ON OPPORTUNITIES FOR IMPROVEMENT 92
NATIONAL RESOURCE CORPORATION 95

NEXT STEPS: CREATING A HEALTHIER COMMUNITY IN 2014 97

REFERENCES 104

APPENDIX A: COMMUNITY PARTNERS 106

APPENDIX B: EXISTING FACILITIES AND RESOURCES 108

APPENDIX C: KEY INFORMANTS 110

Executive Summary

In 2013, Loma Linda University Health (LLUH) completed a triennial Community Health Needs Assessment (CHNA) to gain a better understanding of health status among the residents we serve. The community health needs assessment is conducted not only to fulfill the requirement of the Affordable Care Act and California's Community Benefit Legislation (SB 697) but in response to the mission of the hospital to further the teaching and healing ministry of Christ. LLUH is rooted in promoting wholeness and the resulting CHNA was modeled after such a value. This Whole Community Care Model (LLUH, 2013) integrates social determinants of health, health status and behaviors of our community, the environment, and the health systems' readiness to provide services. Accordingly, LLUH worked closely with community partners to identify collective evaluation measures to work towards key health indicators as a region and not in isolation.

This document outlines the major indicators of health in San Bernardino and Riverside Counties and identifies priority areas. It represents a collaborative process that views health as a result of intersecting factors; as such a collaborative process will be necessary to overcome identified barriers.

Key Findings:

- Our assessment highlights that heart disease and stroke remain the leading causes of deaths in the Inland Empire followed by cancer.
- Sickle cell disease was also a health issue that emerged during our assessment.
- Childhood obesity rates remain high in inland Empire.
- Our community also suffers from high rates of poverty (especially among children), low educational attainment, and low social stability (low housing and high violence) making the physical environment less conducive to healthy outcomes.
- The Inland Empire also has one for the poorest air quality indices and poor access to healthy food.
- Our community members know the importance of healthy lifestyle, but often lack adequate resources.

After conducting the CHNA we asked the following questions: ***1) What is really hurting our communities? 2) How can we make a difference? 3) What are the high impact interventions? 4) Who are our partners?*** And ***5) Who needs our help the most?*** From this analysis, several priority areas were identified:

- Children's Health
- Chronic Disease with a special emphasis on Heart Disease
- Sickle Cell Disease
- Aging Care
- Behavioral Health

Moving forward, these priority areas will be used to guide the development of a Community Health Plan, with initiatives designed to address these concerns. Building a healthy community requires multiple stakeholders working together with a common purpose. We invite you to explore our health challenges in the Inland Empire outlined in this report. More importantly though, we hope you use the findings in this report to conceptualize collective solutions, establish sustainable partnerships, and work towards a healthier Inland Empire.

Introduction

Where and how we live is vital to our health.
As you read this document, think about health in the Inland Empire in relation to the environment in which we live, work, and play. Economic opportunities, access to nutritious foods, green space, and the availability of social networks, are key determinants in shaping our health. Our hope is to focus beyond pressing healthcare challenges to see the resources and assets that exist in our community and how we can align them for better health outcomes.

Loma Linda University Health is leading the way forward in understanding our community by conducting a triennial Community Health Needs Assessment (CHNA). Developing priorities and targeting interventions from knowledge gained through this assessment increases our ability to improve the health of Riverside and San Bernardino Counties. Developing a shared understanding of the challenges and opportunities is a critical step in population health improvement.

Community Health Development of LLUMC has taken a unique approach to the assessment process. We will ask the questions: **1) What is really hurting our communities? 2) How can we make a difference? 3) What are the high impact interventions? 4) Who are our partners? and 5) Who needs our help the most?**

LLUH is rooted in promoting whole care and the CHNA presented here was modeled after such a value. This **Whole Community Care Model** integrates social determinants of health, health status, health behaviors, the environment, and indicators of health systems' readiness to meet community health needs. This information can provide detail at differing levels, and when aggregated, can be used to support policy and programmatic decisions.

Measuring morbidity and mortality rates while addressing social determinants of health, allows us to assess linkages between our environment and health outcomes. For example, by comparing chronic disease outcomes (e.g. heart disease) with health behaviors (e.g. physical inactivity) and environmental factors (e.g. retail food environmental index), various patterns may emerge. This allows for a better understanding of our community's needs and scopes of prioritized interventions.

Building a healthy environment requires multiple stakeholders working together with a common purpose. We invite you to explore the health status in our community, which is outlined in this assessment. More importantly though, we hope you imagine a healthier region, where we collectively prioritize our health concerns and find solutions across a broad range of sectors to create healthier communities for ourselves and our families.

Community Profile

LLUMC's market area is defined as California's Inland Empire region. The Inland Empire is comprised of the entirety of Riverside and San Bernardino Counties. According to the latest Census report, the Inland Empire is home to over 4 million people. This region contains the census-defined metropolitan statistical area of Riverside-San Bernardino-Ontario, as well as cities in the High Desert extending into the Mojave, the Coachella Valley, and Southwest Riverside County. In the year 2012, 92.8% of LLUMC's inpatient cases originated from the Inland Empire.

For the purposes of community health development a "service area" for LLUH includes the geographic area where the medical center deploys its free and under-reimbursed services in an effort to improve population health and quality of life.

- LLUH secondary service areas include Palm Springs and Victorville.
- LLUH is located in the heart of Southern California and is the only tertiary care center and Level I Trauma center for 25% of Californians.
- LLUH continues to serve the diverse geographical region which includes some of the largest rural, urban, and wilderness areas in the county.
- More than 50 zip codes capture the source of the top 80% of inpatients.
- Community Health Development has chosen the following strategic locations to concentrate community interventions and service. These places are the areas with the greatest need and where the vulnerable and medically underserved are most likely to turn to LLUH as a "safety-net" for healthcare:
  - San Bernardino City
  - Riverside City

Methodology/Requirements

The CHNA is conducted not only to fulfill the requirement of California's Community Benefit Legislation (SB 697) but also, in response to the hospital's mission to further the teaching and healing ministry of Jesus Christ. The CHNA also meets the requirements of the Patient Protection and Affordable Care Act of 2010 (H.R. 3590) for not-for-profit hospitals. **This assessment was conducted in collaboration with Riverside and San Bernardino County Public Health Departments.** A system for geocoding patient utilization is being developed. Key health indicators will be geographically displayed to focus interventions in strategic locations and to identify measurable outcomes for our community benefit programs. Ultimately, this system will be used to improve the health status of our region, better manage chronic disease, eliminate unnecessary hospitalizations, and reduce readmissions. Snapshots of the technology that will be utilized in a more sophisticated manner are highlighted throughout the assessment.

Quantitative Data

- Data on health indicators, morbidity, mortality, and various social determinants of health were collected from the Census, California Department of Public Health, County Health Rankings, and other various local, state, and federal databases.
- Hospitalization and Emergency Department (ED) utilization data were collected from Office of Statewide Health Planning and Development (OSHPD) and LLUMC.

Qualitative Data

To validate data and ensure a broad representation of the community, qualitative data was collected as follows:

- Employees within both LLU and LLUMC to assess collaboration within our system.
- Physician Survey to identify areas of the health system that can support the health of their patients in our community initiatives.
- Survey of community agencies serving our primary service area to assess their needs and identify areas where LLUH can be a strategic partner.
- Key informant interviews with community leaders to engage them in the development of our interventions and elicit their input to improve the health of our region.
- Focus groups with end users of hospital services to hear directly from our patients how we can better serve their health needs.

Information Gaps

It should be noted that the key informant interviews, focus groups, and survey results are not based on a stratified random sample of residents throughout the Inland Empire or a random sample of employees in each facility. The perspectives captured in this data simply represent the community members who attended a focus group with an interest in health care. Similarly, the perspectives of community partners captured impressions of those who were invited to complete the survey on line. The key informants were not chosen based on random sampling technique, but were instead invited because their comments represented the underserved, low income, minority, and chronically ill populations. Finally, this assessment relies on several national and state entities with publicly available data. All limitations inherent in these sources remain present for this assessment.

Social Determinants of Health

"It is unreasonable to expect that people will change their behavior easily when so many forces in the social, cultural, and physical environment conspire against such change," as stated by the Institute of Medicine is reflective of the depth of needed preventive strategies to combat today's burden of chronic diseases in the United States. While traditionally preventive care has been limited to individual knowledge, attitudes, behaviors, etc., today's post health care reform era demands a paradigm shift in our preventive strategies.

Social determinants of health are the conditions in which people are born, grow, live, work, age, and the systems put in place to address illness and health. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and political.

Health starts in homes, schools, workplaces, and communities. The conditions in which people live determine, in part, why people are not as healthy as they could be and the current disparities in our health outcomes. Lack of options for healthy, affordable food or safe places to play in some neighborhoods make it nearly impossible for residents to make healthy choices. In contrast, populations living in neighborhoods with safe parks, good schools, high employment rates, and stronger social cohesion are provided with some of the key foundations for better health.

Improving the conditions in which people live, learn, work, and play and addressing the inter-relationship between these conditions will create a healthier population. Integrating health policy efforts with those related to education, housing, business, transportation, agriculture, media, and other areas outside of the health sector will ultimately improve the health, safety, and prosperity of the nation.

As such, the following indicators are provided to give an overall picture of the various social determinants of health of the Inland Empire. Understanding these factors can help us determine appropriate interventions for elevating the health status of our communities.

Population

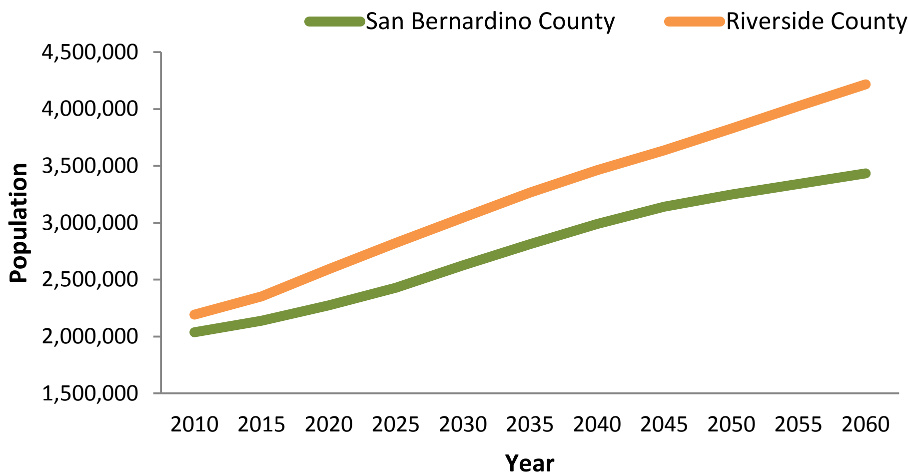
Importance to Community Health Development

The Southern California Association of Governments forecasts that the Inland Empire (Riverside and San Bernardino Counties) is one of the fastest growing areas in the state of California. Such population growth demands physical and human infrastructure. Understanding population growth trends is critical for community health development to ensure adequate health services and available resources for the community.

2006-2010 American Community Survey 5-Year Estimates

Region	Total Population
San Bernardino County	2,005,287
Riverside County	2,109,464
Los Angeles County	9,758,256
Orange County	2,965,525
San Diego County	3,022,468
Ventura County	809,080
California	36,637,288
United States	303,965,271

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



Data Source: California Department of Finance. Report P-1 (County): State and County Total Population Projections, 2010-2060 (5-year increments).

Key Findings

- The Inland Empire consists of the fourth and fifth largest counties in California, in terms of population.
- The Inland Empire continues to grow and is expected to reach approximately 7.6 million people in 2060; a nearly 45% increase from 2010.

Age

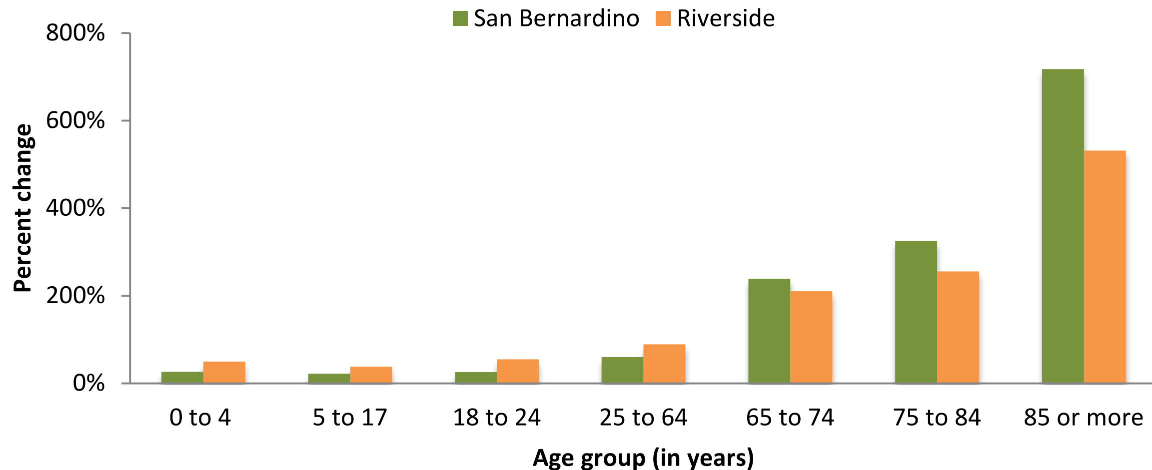
Importance to Community Health Development

Age is a critical component of understanding a community's profile and provides elements in planning for needed health services. Younger populations require more prevention and health education while Older populations are prone to certain chronic diseases and require health services in higher acuity settings. With the Baby Boomer Generation aging, chronic diseases are expected to increase. January 2011 marked the beginning stage of Baby Boomers entering the Medicare program. Having an accurate count of the age distribution of the service area is imperative in ensuring availability of adequate health care services.

Age Distribution (%), 2006-2010 American Community Survey 5-Year Estimates

Region	Age (years)							
	0-4	5-17	18-24	25-34	35-44	45-54	55-64	65+
San Bernardino County	8.0%	22.0%	11.1%	13.9%	13.9%	13.5%	9.1%	8.6%
Riverside County	7.7%	21.3%	10.1%	12.9%	14.0%	13.1%	9.3%	11.6%
California	7.0%	18.5%	10.4%	14.3%	14.4%	14.1%	10.3%	11.1%
United States	6.6%	17.7%	9.9%	13.2%	13.9%	14.6%	11.3%	12.8%

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



Data Source: California Department of Finance. Report P-1 (Age): State and County Population Projections by Major Age Groups, 2010-2060 (by decade).

Key Findings

- San Bernardino and Riverside Counties' populations are relatively young with a median age of 32 and 34 respectively, compared to 35 statewide.
- The senior population (85 and older) is expected to grow between 2010 and 2060 with an average of 624% change in the two Counties, compared to 370% in California.
- The slowest growing population is the 5 to 17 years of age in the two Counties (average = 30% increase) but still faster than the State itself (15%).

Gender

Importance to Community Health Development

Males and females have differing healthcare needs and require targeted services. Understanding gender distributions of the community can ensure appropriate healthcare delivery. Gender also has important health implications in terms of access to resources and services, engagement in risk behaviors, and environmental exposures.

2006-2010 American Community Survey 5-Year Estimates		
County	**Percent Male**	**Percent Female**
San Bernardino County	49.81	50.19
Riverside County	49.82	50.18

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

Key Findings

- Both Riverside and San Bernardino Counties have an approximately equal gender distribution.

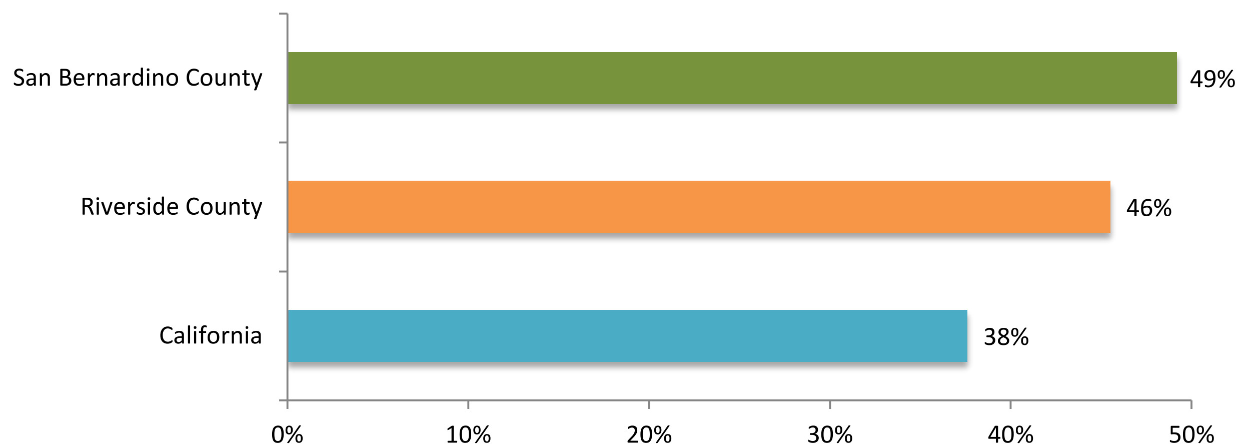
Race/Ethnicity

Importance to Community Health Development

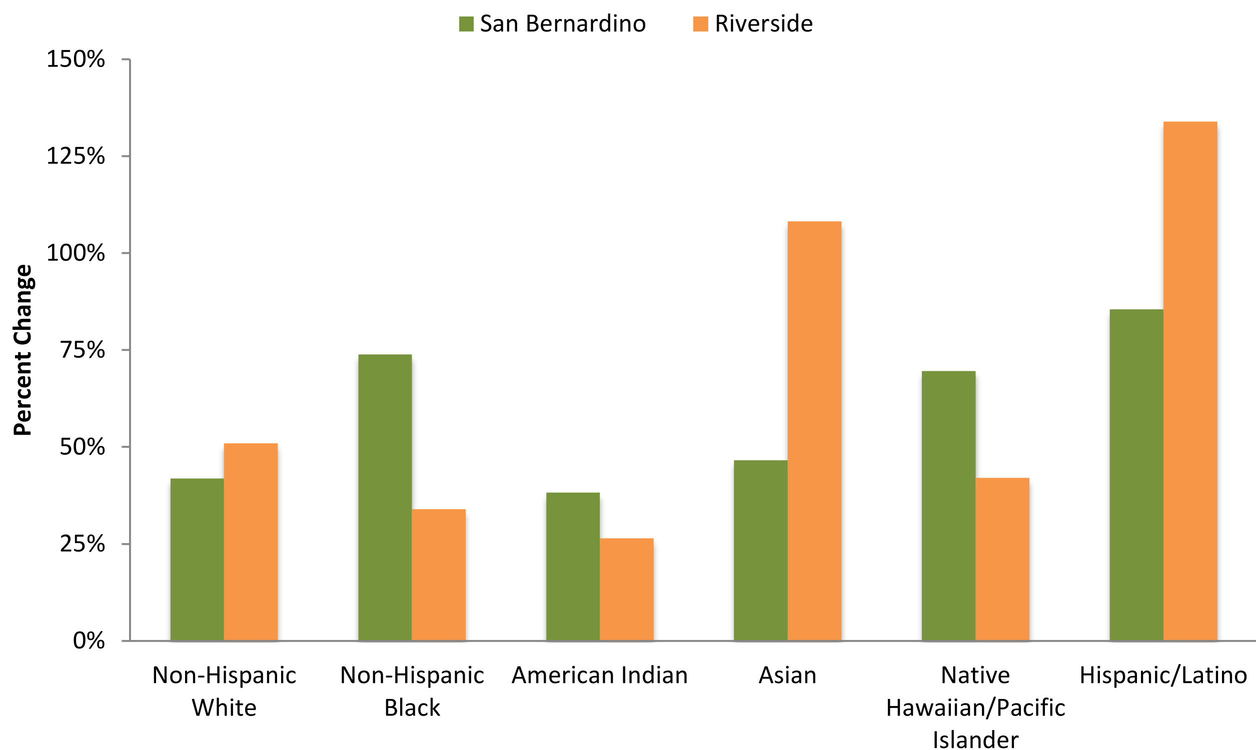
A health disparity is defined as a persistent gap between the health status of minorities in comparison to non-minorities in the United States. Despite continued advances in health care and technology, racial and ethnic minorities continue to have higher rates of disease, disability, and premature death than non-minorities.

2006-2010 Total Population, Percent by Race Alone							
Region	**White***	**Black**	**Asian**	**Native American / Alaska Native**	**Native Hawaiian/ Pacific Islander**	**Other Race**	**Multiple Races**
San Bernardino County	60.83	8.91	6.18	0.98	0.29	18.59	4.23
Riverside County	64.72	6.22	5.78	0.96	0.31	18.20	3.81
Los Angeles County	50.85	8.74	13.73	0.49	0.27	22.74	3.17
Orange County	62.04	1.63	17.58	0.44	0.32	15.22	2.77
San Diego County	71.06	5.04	10.81	0.68	0.49	7.79	4.14
Ventura County	69.20	1.80	6.89	1.22	0.17	17.01	3.71
California	61.12	6.13	12.96	0.77	0.38	14.87	3.76
United States	73.99	12.49	4.67	0.82	0.16	5.46	2.41

*White category includes non-Hispanic and Hispanic White designation. Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



Data Source: U.S. Census Bureau (2012). **Note on Race and Ethnicity:** Race and ethnicity (Hispanic origin) are collected as two separate categories in the American Community Survey (ACS) based on methods established by the U.S. Office of Management and Budget (OMB) in 1997. Using the OMB standard, the race categories reported in the ACS are: White, Black, American Indian/Alaskan Native, Asian, and Other.



Data Source: California Department of Finance. Report P-1 (Race): State and County Population Projections by Race/Ethnicity, 2010-2060 (by decade).

Key Findings

- The Hispanic population in Riverside County is 45.5% and 49.2% in San Bernardino County.
- The fastest growing population in the Inland Empire is Hispanics, projected to grow by 85% between 2010 and 2060.
- Such changing U.S. demographics are reflective of a need for culturally-tailored healthcare services.

Income, Poverty, and Unemployment

Importance to Community Health Development

Socioeconomic status is the single best predictor of a person's health status. Poverty is a particularly strong risk factor for disease and death among children. Children who grow up in poverty are eight times more likely to die from homicide, five times more likely to have a physical or mental health problem, and twice as likely to be killed in an accident. Family poverty is relentlessly correlated with high rates of school-age childbearing, school failure and violent crimes.

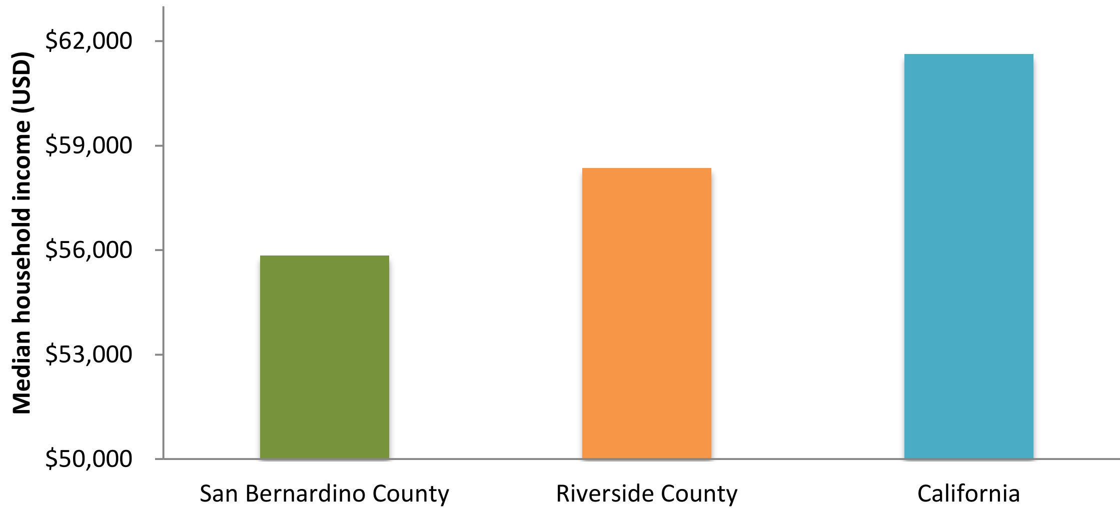
Per capita income can reflect aspects of the economic health of a community. When per capita income increases in a region, that region generates wealth faster than its population increases. A higher relative per capita income signals greater discretionary income for the purchase of goods and services.

Higher income and low poverty levels have been associated with better health outcomes, higher preventive care utilization, and lower rates of chronic disease-associated morbidity and mortality. Higher income levels are also associated with better nutrition, higher levels of physical activity, and over all better general health.

The following indicators report the median household income (USD), percentage of the population (by each geographic area) who live under 200% of the Federal Poverty Level (FPL)*, and percent of children aged 0-17 years living under 100% of the FPL. It is important to address such indicators as poverty often creates barriers to accessing healthcare services, healthy food, and other health-supporting resources, in turn contributing to poor health outcomes.

Addressing **unemployment levels** is important to community development, as unemployment can lead to financial instability and barriers to healthcare access and utilization, including insurance, access to food, etc. The following data indicates the percent of non-institutionalized population age 16 years and older that is unemployed.

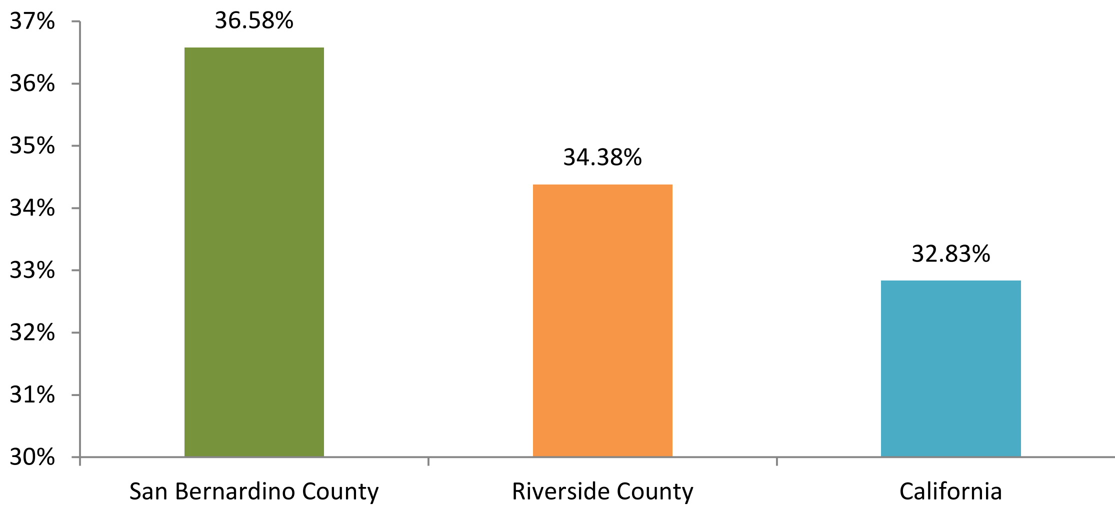
***Note**: FPL is calculated based on income and household size.



Source: U.S. Census Bureau, 2013.

2006-2010 American Community Survey 5-Year Estimates of Percent Population with Income Below 200% Poverty Level	
Region	**Percent**
San Bernardino County	36.58
Riverside County	34.38
Los Angeles County	37.63
Orange County	26.33
San Diego County	29.33
Ventura County	24.87
California	32.83
United States	31.98

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

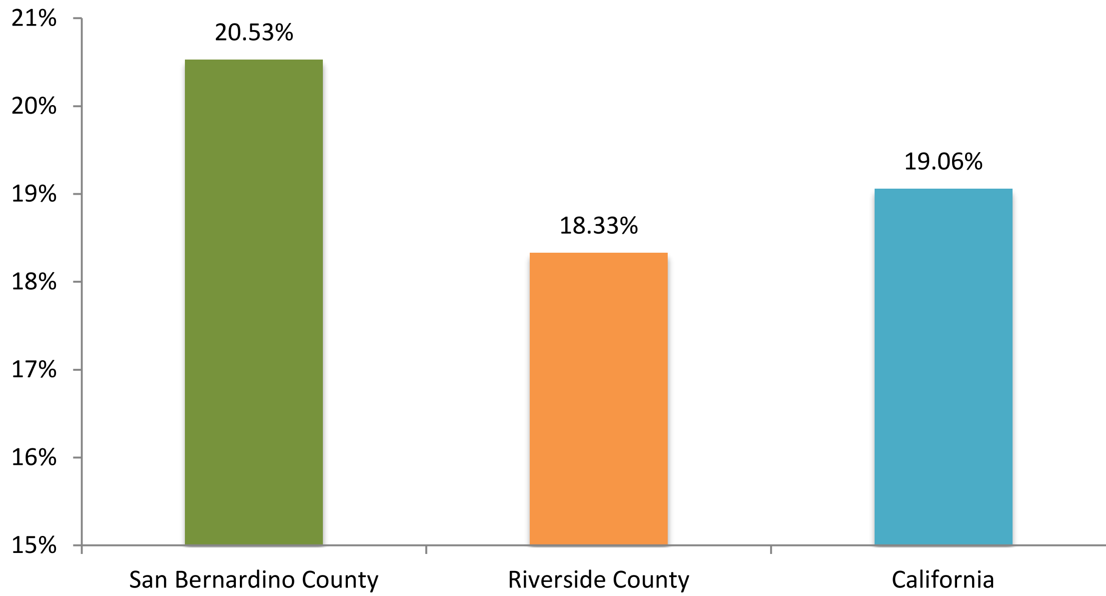


Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

2006-2010 American Community Survey 5-Year Estimates of Children Living in Poverty

Region	Children in Poverty	Percent Children in Poverty
San Bernardino County	120,971	20.53
Riverside County	110,103	18.33
Los Angeles County	543,689	22.43
Orange County	99,146	13.62
San Diego County	114,405	16.14
Ventura County	26,842	12.79
California	1,748,267	19.06
United States	13,980,497	19.19

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

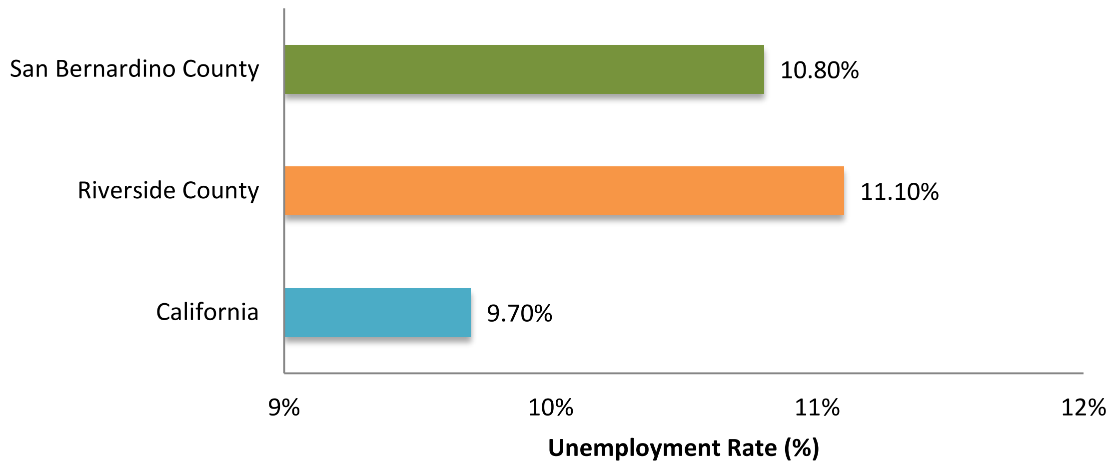


Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

Unemployment Rate by Geographic Area, 2012

Region	Total Labor Force	Number Unemployed	Unemployment Rate (%)
San Bernardino County	869,940	93,989	10.8
Riverside County	946,702	104,829	11.1
Los Angeles County	4,863,435	495,992	10.2
Orange County	1,624,162	109,668	6.8
San Diego County	1,609,454	130,210	8.1
Ventura County	442,742	37,841	8.5
California	18,489,642	1,800,445	9.7
United States	156,178,459	12,014,747	7.7

Data Source: U.S. Bureau of Labor Statistics, July, 2012 Local Area Unemployment Statistics. As presented in http://www.chna.org



Data Source: U.S. Bureau of Labor Statistics, July, 2012 Local Area Unemployment Statistics. As presented in http://www.chna.org

Key Findings

- The median household income is lower in the Inland Empire in comparison to the State, reflecting a population lacking adequate economic strength in obtaining needed healthcare services.

- Compared to California, a higher percent of the Inland Empire's population resides below the 200% FPL and have higher levels of unemployment.

- On average, the Inland Empire has higher percent of children living in poverty than other neighboring Counties.

Education

Importance to Community Health Development

Education is one of the most important determinants of health status. Independent of its relation to behavior, education influences a person's ability to access and understand health information. For example, people who are illiterate will not be helped by written educational materials produced by public health practitioners.

Just as low levels of employment impact community health, so does low educational attainment. Having a high school or college degree can increase the job opportunities. Understanding the distribution of the educational attainment levels of the community can help ensure business development and promote necessary resources.

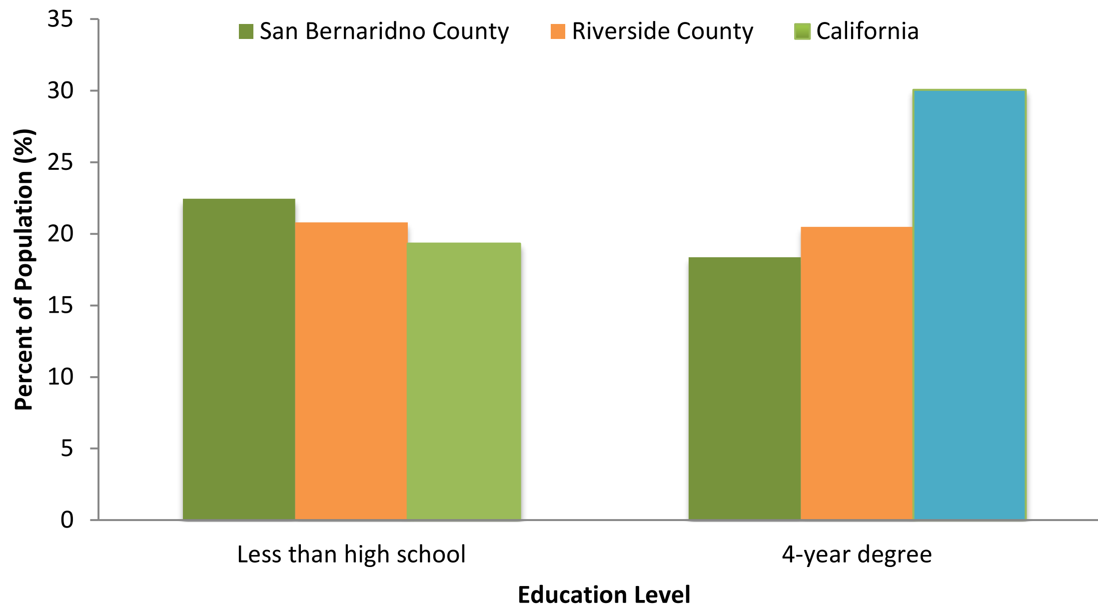
On-Time Graduation Rate*

Region	Rate (%)
San Bernardino County	69.2
Riverside County	76.3
Los Angeles County	71.2
Orange County	81.7
San Diego County	73.8
Ventura County	78.5
California	71.0
United States	75.5

*Graduation Rate = [Estimated Number of Graduates] / [Average Base Freshman Enrollment] * 100

Data Source: The University of Wisconsin, Population Health Institute, County Health Rankings, 2012 and the U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data, Public School Universe Survey Data, 2005-06, 2006-07 and 2007-08. As presented in http://www.chna.org

Education Level of Inland Empire Population, 2006-2010



Data Source: United States Department of Agriculture. Economic Research Service. Educational attainment for the U.S., States, and counties, 1970-2011

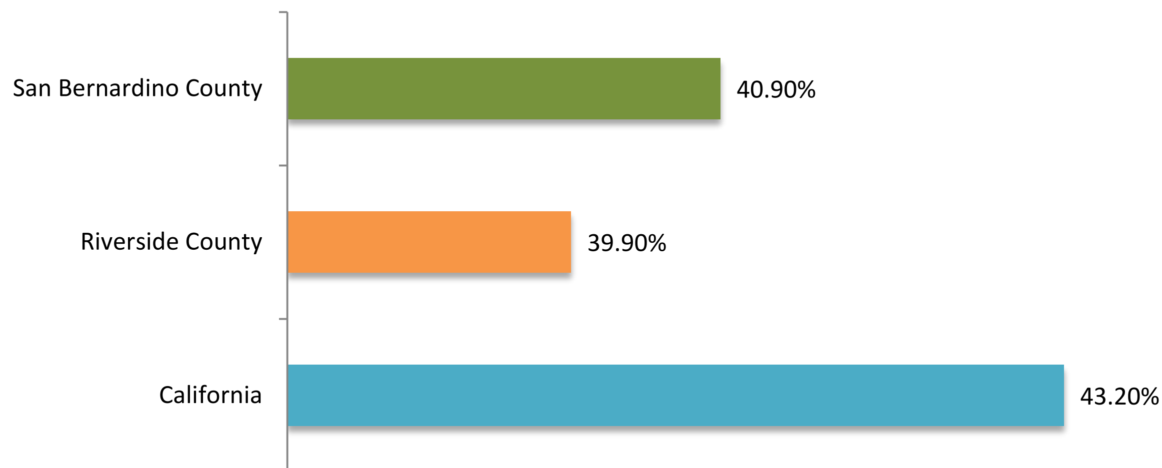
Key Findings

- The on-time graduation rate for the Inland Empire is lower than the benchmark set by Healthy People 2020 (82.4%).
- Compared to the State, the Inland Empire has lower percent of population with a 4-year degree and a higher percent with less than a high school degree.

Primary Language

Importance to Community Health Development

Access and utilization of health care services have been shown to be affected by a person's primary language. Those unable to communicate with physicians or health care providers in their language of choice are less likely to have follow up visits and adhere to medications.



Data Source: U.S. Census Bureau, 2013

Key Findings

- Similar to the State, the Inland Empire is diverse in respect to language spoken at home.
- 41% of San Bernardino County residents over the age of 5 speak a language other than English at home, among these 83% speak Spanish and 17% speak some other language.
- 40% of Riverside County residents over the age of 5 speak a language other than English at home, among these 84% speak Spanish and 16% speak some other language.

Health Literacy

Importance to Community Health Development

The Institute of Medicine defines health literacy as ***"the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."*** In addition to reading, health literacy requires a complex set of skills including listening, analytical skills, and decision-making.

The National Assessment of Adult Literacy (NAAL), conducted in 2003, is currently the most comprehensive health literacy analysis at the national level. According to this report, approximately 36% of U.S. adults have limited health literacy, 22% have basic, while another 14% have below basic health literacy levels. Moreover, only 12% reported having proficient health literacy.

The American Medical Association reports that "poor health literacy is a stronger predictor of a persons' health than age, income, employment, education level, and race." Low health literacy is associated with several negative health outcomes including lower likelihood of getting flu shots, understanding medical instructions and labels, or using preventive care services. Cumulatively, the annual cost of low health literacy to the U.S. economy is estimated to be between $106 billion to $238 billion.

To-date, limited national, state, or local databases exist on assessment of health literacy as a concrete measure making data extrapolation difficult. Yet, a plethora of research has highlighted certain factors indicative of populations who are considered at-risk of health literacy. Such at-risk groups include the elderly, immigrants, minorities, and low income populations.

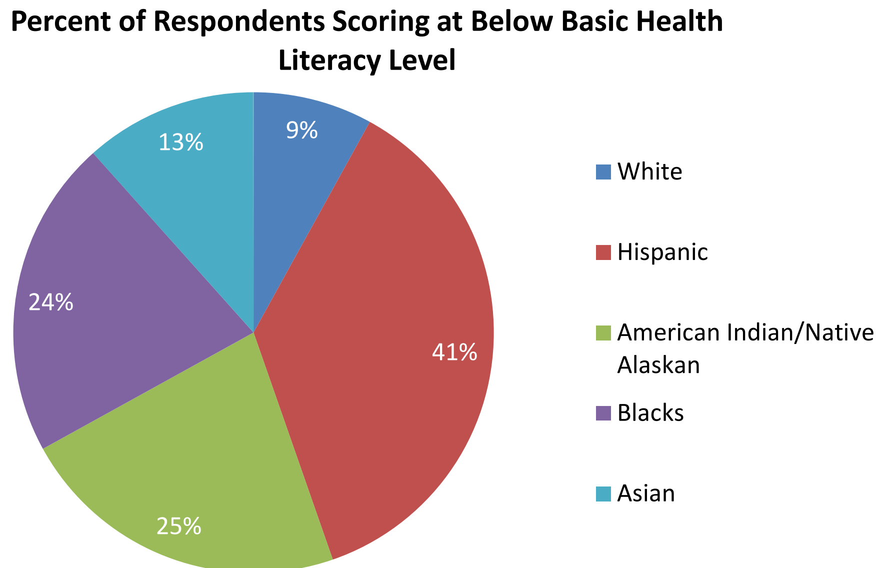
Elderly (65+ years)

- 71% of those older than 60 years have difficulty using print materials.
- 80% of the elderly have difficulty using documents such as forms or charts
- 68% have difficulty interpreting numbers and performing calculations

Those age 65 years or older are twice as likely as adults between 45 and 65 years to visit a physician's office. Yet, the majority (two-thirds) of the elderly are unable to understand prescription medication information.

Immigrant and Minority Populations

In the United States, English language proficiency has been associated with higher health literacy. This poses further barriers to immigrant and minority populations who often speak little to no English. According to the NAAL, 76% of the respondents who did not complete high school scored as below basic or basic health literacy level. The NAAL also reported that compared to White respondents, racial and ethnic minority populations were more likely to score at below basic health literacy level.



Data Source: National Network of Libraries of Medicine, 2013.

Low Income Populations

Adults living below the poverty level have been reported to average lower health literacy scores in comparison to those living above the poverty threshold.

- 30% of adults receiving Medicaid scored below basic health literacy level

Key Finding

- Given the high proportions of elderly, immigrant, minority, and low income individuals in both Riverside and San Bernardino Counties, our community can be considered as at-risk of low health literacy and poorer health outcomes.

Housing and Homelessness

Importance to Community Health Development

Homeownership is valued as a means to develop personal wealth, increase social opportunities, prevent financial insecurity, and maximize emotional and physical well-being. Homeowners have an increased emotional well-being, greater attachment to their communities, and higher levels of civic participation.

Lack of adequate and stable housing is associated with a number of chronic and severe health problems. A study published in the *New England Journal of Medicine* found that children exposed to cockroach allergens not only had higher rates of hospitalization for asthma, but also had more symptoms of wheezing, more physician visits, and more school absences than other asthmatic children.

"Underwater" mortgages or "upside down" means that borrowers owe more on their mortgage than their homes are worth. Negative equity can occur due to a decline in value, an increase in mortgage debt or both. This situation prevents the homeowner from selling the home. It also prevents the homeowner from refinancing in most cases. Consequently, if the homeowner wants to sell the home because mortgage payment is too high and is unable to pay the monthly mortgage, the home will fall into foreclosure unless the borrower is able to renegotiate the loan.

Household Type

Adequate housing provides shelter and comfort to its inhabitants, both of which impact overall well-being.

Average household size by Race/Hispanic origin of Householder

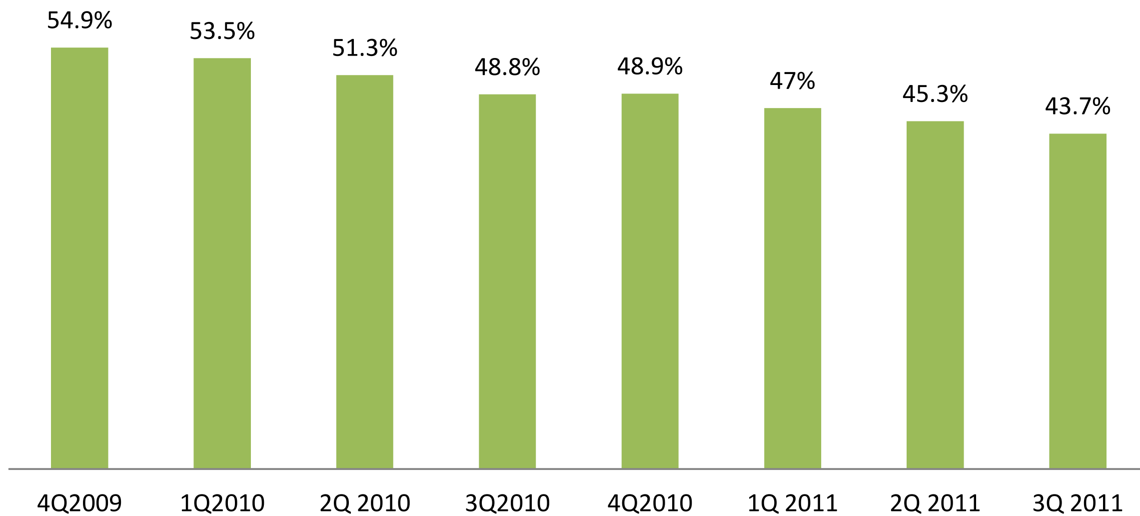
Race/Hispanic Origin	San Bernardino County	Riverside County	California
White alone	2.99	2.83	2.63
Black alone	3.02	3.06	2.61
American Indian alone	3.41	3.39	3.22
Asian alone	3.3	3.38	3.09
Pacific Islander alone	4.16	4.02	3.74
Other race	4.32	4.39	4.18
Two or more races	3.55	3.54	3.16
Hispanic	4.11	4.16	3.93

Data Source: U.S. Census Bureau, 2013

Housing Characteristics of Inland Empire, in comparision to California, 2007-2011			
	San Bernardino County	**Riverside County**	**California**
Persons per household	3.3	3.15	2.91
Homeownership rate	64.2	69.2	56.7
Median value of owner-occupied housing units	$278,400	$284,100	$421,600

Data Source: U.S. Census Bureau, 2013

Underwater Mortgages



Data Source: Economics & Politics, Inc. http://www.johnhusing.com/

Homelessness

Homelessness is associated with tuberculosis, trauma, depression, and other mental illnesses, alcoholism, drug abuse, sexually transmitted diseases, and poor nutrition. In San Bernardino County, homeless population decreased by 19% between 2011 and 2013 while in Riverside County the decrease was nearly 31%.

Homeless Population Count By County, 2011 and 2013

	2011	2013
San Bernardino County	2,876	2,312
Riverside County	4,321	2,978

Data Source: California Center for Public Health Advocacy and San Bernardino County: Our Community Vital Signs, 2013. Riverside County 2013 Homeless Count and Subpopulation Survey, May 2013.

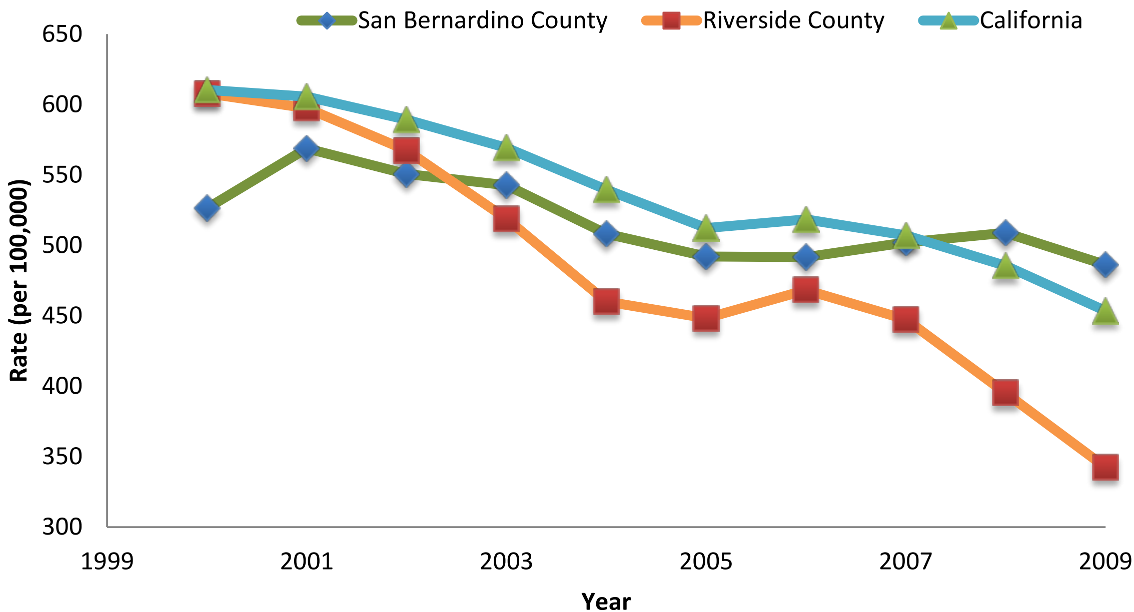
Key Findings

- The Inland Empire, in comparison to the State, has a higher number of persons per household.
- The Inland Empire also has a higher average household size for all racial/ethnic groups.
- While the homeownership rate in the Inland Empire is higher than that of California, the median value of owner-occupied housing units is at least 30% lower than the State.
- The rate of underwater mortgages in the Inland Empire has seen a decline from 54.9% in 4Q2009 to 43.7% in 3Q2011, a 11.2% decline.
- In San Bernardino and Riverside Counties, over 2,300 and 2,970 people experienced homelessness in 2013, respectively.

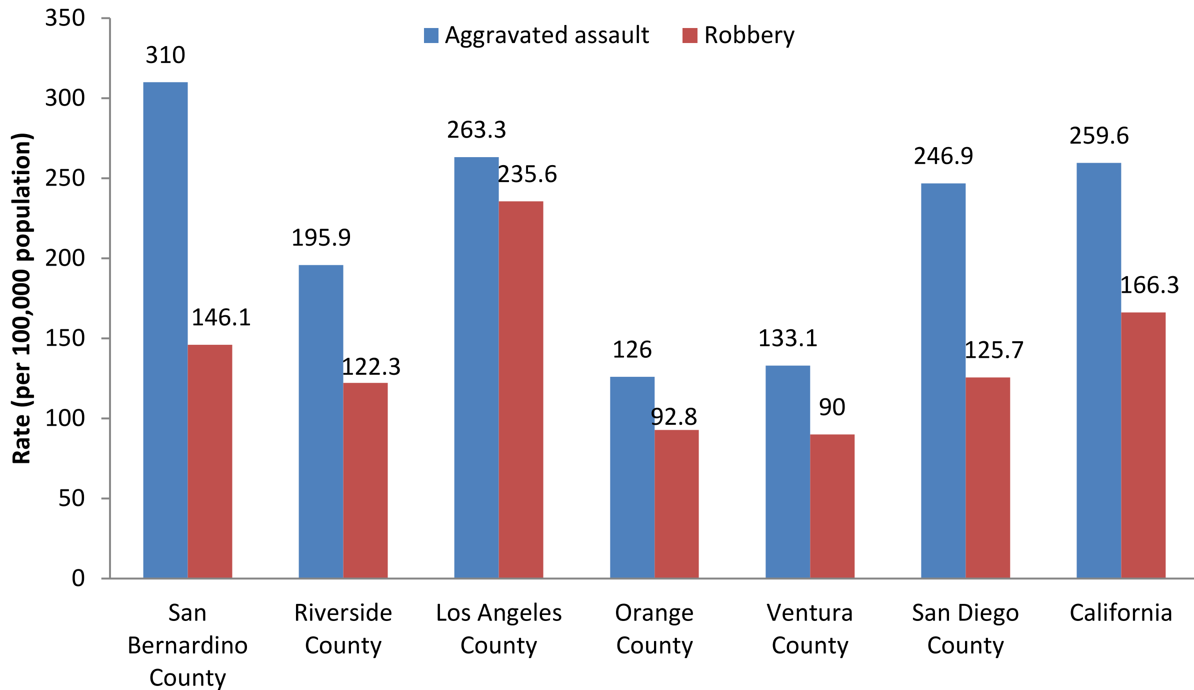
Violent Crimes and Child Abuse

Importance to Community Health Development

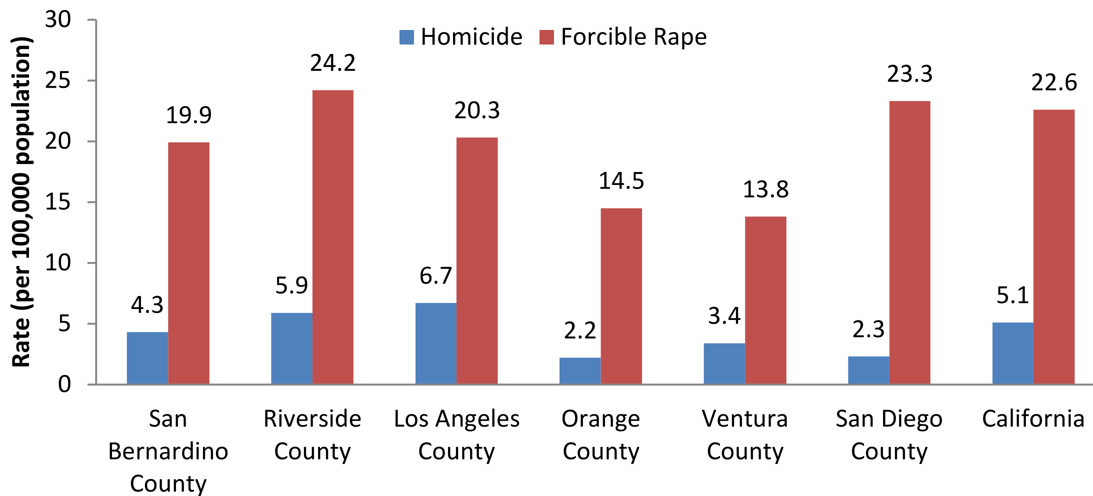
High rates of violent crimes in a community not only compromises individuals' physical safety, but can be detrimental to overall mental health. High rates of violent crimes rates can also deter residents from pursuing healthy behaviors, such as walking for leisure or to and from work or school. Fear of falling victim to violent offenses, may overall discourage residents from fully taking advantage of open spaces or pedestrian walkways from fear of harm. Violent crimes include: homicide, forcible rape, robbery, assault, and kidnapping. Other forms of crime, including child abuse and neglect are detrimental to long term heath. Child abuse has been related to premature deaths among children, substance abuse problems, and poorer health and behavioral outcomes. Though data on such crimes are often under reported, the following information on child abuse and neglect provides a glimpse of the rates in San Bernardino and Riverside Counties in comparison to the State.



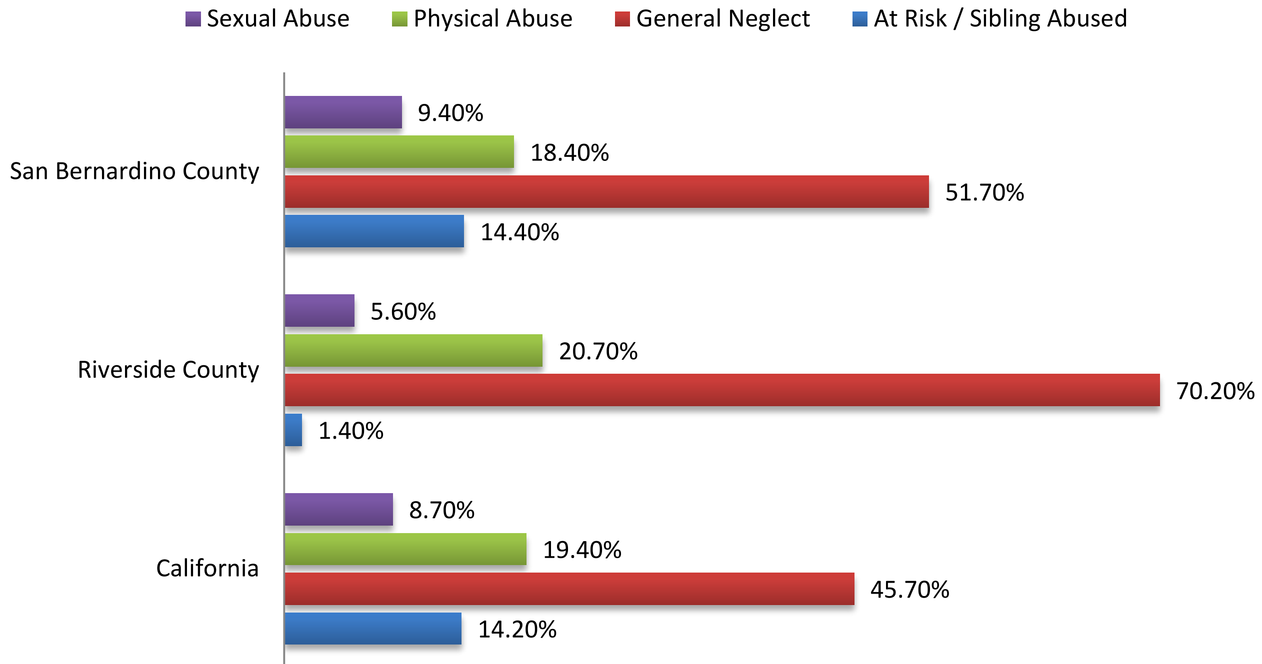
Data Source: State of California Department of Justice, Office of the Attorney General.
http://ag.ca.gov/cjsc/statisticsdatatabs/CrimeCo.php



Data Source: State of California Department of Justice, Office of the Attorney General.
http://ag.ca.gov/cjsc/statisticsdatatabs/CrimeCo.php



Data Source: State of California Department of Justice, Office of the Attorney General.
http://ag.ca.gov/cjsc/statisticsdatatabs/CrimeCo.php



Note: Data above describes the percent of each type of child abuse/neglect cases among total cases reported. Data Source: Needell, B., et al. (Apr. 2013). Child Welfare Services Reports for California, U.C. Berkeley Center for Social Services Research. As presented by http://www.kidsdata.org

Key Findings

- Since 2000, violent crime rates have decreased across California and the Inland Empire though San Bernardino remains at a higher rate than the State.
- San Bernardino County, in comparison to neighboring counties, has the **highest** rate of homicide.
- Compared to other neighboring counties, Riverside County has the **highest** rates of forcible rape and second highest rate of homicide.
- Of the two counties, San Bernardino has the **highest** rate of child sexual abuse
- Riverside County has the **highest** rate of general neglect and physical abuse in comparison to neighboring counties.

Health Status

One out of every five dollars in the United States is spent on health care and yet our nation ranks lower than most industrialized nations in major health indicators. For example, among 191 nations assessed by the World Health Organization, the United States ranked 43rd for adult female mortality, 42nd for adult male mortality, 39th for infant mortality, and 36th for life expectancy. Among 19 industrialized nations evaluated for premature deaths, we ranked last.

To improve the health outcomes of our community, it is imperative to understand its current health status and associated behaviors to create targeted interventions. Below we discuss our community's health status, summarizing key birth and health indicators, leading causes of deaths, hospitalization rates, and associated health behaviors (physical activity, dietary habits, and substance abuse) to understand how such complex factors interact to affect our community's health.

Birth Indicators

Live Births

Importance to Community Health Development

Live births are an indication of population growth and demand on a community's existing resources, infrastructure, schools, and the health care system/services. It is critical to understand current birth trends to ensure adequate availability of needed resources.

Live Births by Mothers' Race/Ethnicity, 2010

Race/Ethnicity	San Bernardino County	Riverside County	California
Hispanic	18,249	18,054	257,269
Non-Hispanic			
American Indian	120	124	1,910
Asian	1,626	1,512	60,654
Black	2,738	1,581	27,704
Pacific Islander	121	92	2,235
White	7,746	8,229	140,670
2 or more races	588	667	10,285
Other race	19	29	345
Unknown	160	371	8,907
Total	**31,367**	**30,659**	**509,979**

Data Source: California Department of Public Health, 2010.

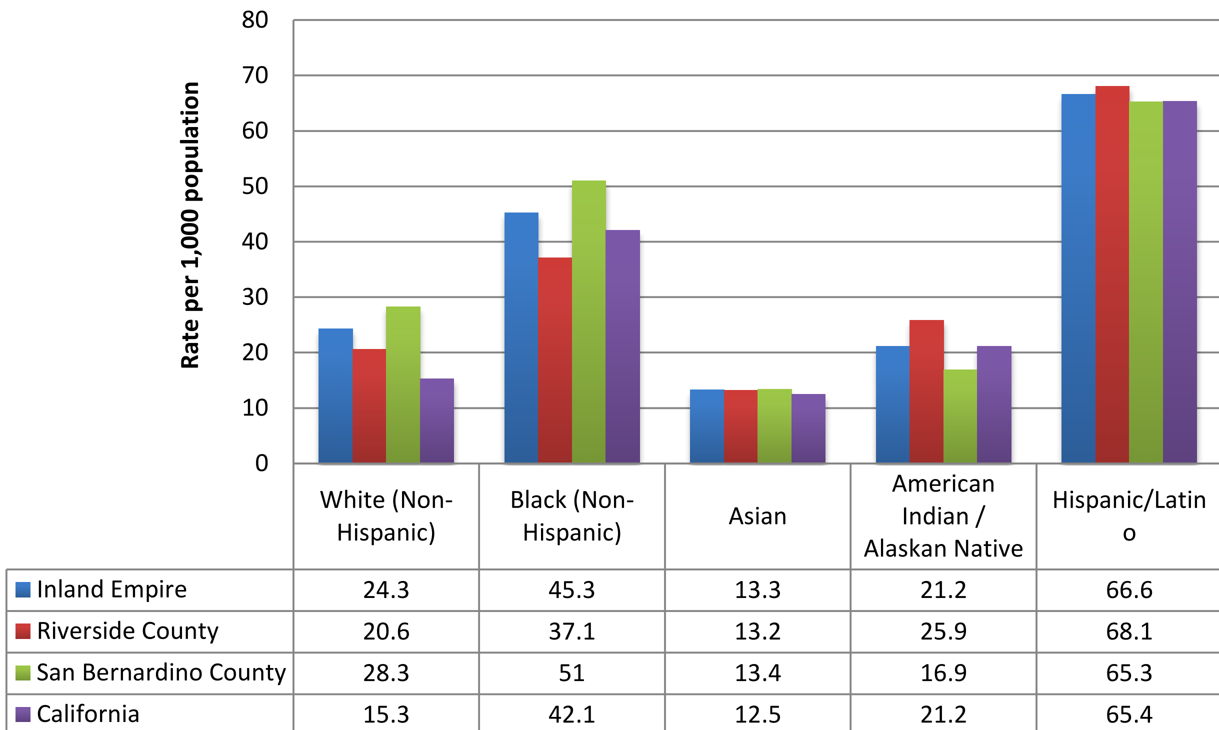
Key Findings

- Both counties have similar numbers of live births with slightly higher counts in San Bernardino County.
- The highest numbers of live births were reported among Hispanic mothers.
- Compared to the State, Inland Empire has a higher percent of Medi-Cal funded prenatal care.

Teen Births

Importance to Community Health Development

Teen parents often have a unique set of social, economic, and health care service needs. High teen pregnancy rates are also indicative of unsafe sex practices and need for interventions. The following indicator reports the rate of total births to women between the ages of 15-19 per 1,000 female.



	White (Non-Hispanic)	Black (Non-Hispanic)	Asian	American Indian / Alaskan Native	Hispanic/Latino
Inland Empire	24.3	45.3	13.3	21.2	66.6
Riverside County	20.6	37.1	13.2	25.9	68.1
San Bernardino County	28.3	51	13.4	16.9	65.3
California	15.3	42.1	12.5	21.2	65.4

Data Source: Centers for Disease Control and Prevention, National Vital Statistics System: 2003-09. Accessed using CDC WONDER. As presented in http://www.chna.org

Key Finding

- In the Inland Empire, Hispanics/Latinos have a higher teen birth rate in comparison to the State, followed by Blacks/African-Americans.

Infant Mortality Rate

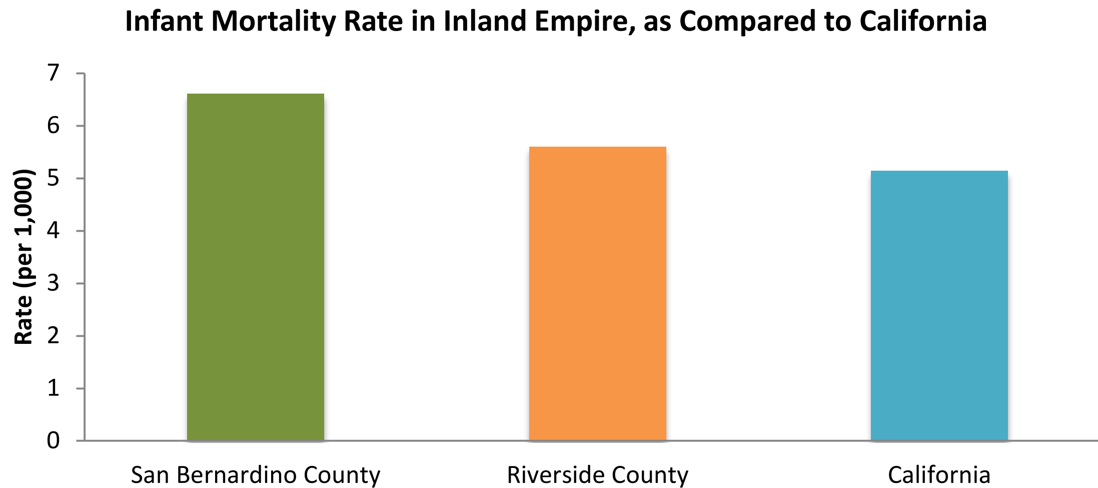
Importance to Community Health Development

Infant mortality rates (IMR) can be indicative of the existence of broader issues: access to health care, the overall well-being of mother and child, and the availability of resources (preventative and curative) in a region or area.

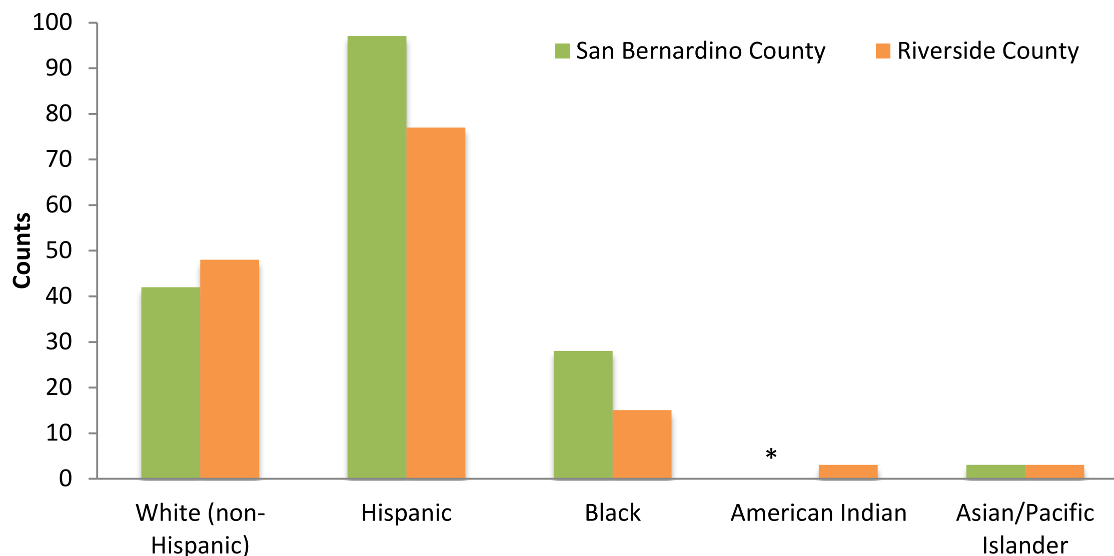
Infant Mortality Rate, 2003-2009

Region	Total Births	Total Infant Deaths	Infant Mortality Rate (Per 1,000 Births)
San Bernardino County	231,511	1,531	6.61
Riverside County	221,826	1,242	5.6
Los Angeles County	1,045,650	5,329	5.1
Orange County	305,699	1,372	4.49
San Diego County	323,271	1,579	4.88
Ventura County	84,220	491	5.83
California	3,842,375	19,756	5.14
United States	58,600,996	393,074	6.71

Data Source: Centers for Disease Control and Prevention, National Vital Statistics System, 2003-2009. As presented in http://www.chna.org



Data Source: Centers for Disease Control and Prevention, National Vital Statistics System, 2003-2009. As presented in http://www.chna.org



* Data not available. Data Source: California Department of Public Health, 2010.

Key Findings

- The infant mortality rate in the Inland Empire is higher than the State and that of the Healthy People 2020 objective (6 or less per 1,000), with San Bernardino County significantly higher than such a benchmark.

- Racial/ethnic data shows that Hispanics in the Inland Empire reported higher counts of infant mortality than other racial/ethnic groups.

Low Birth Weight

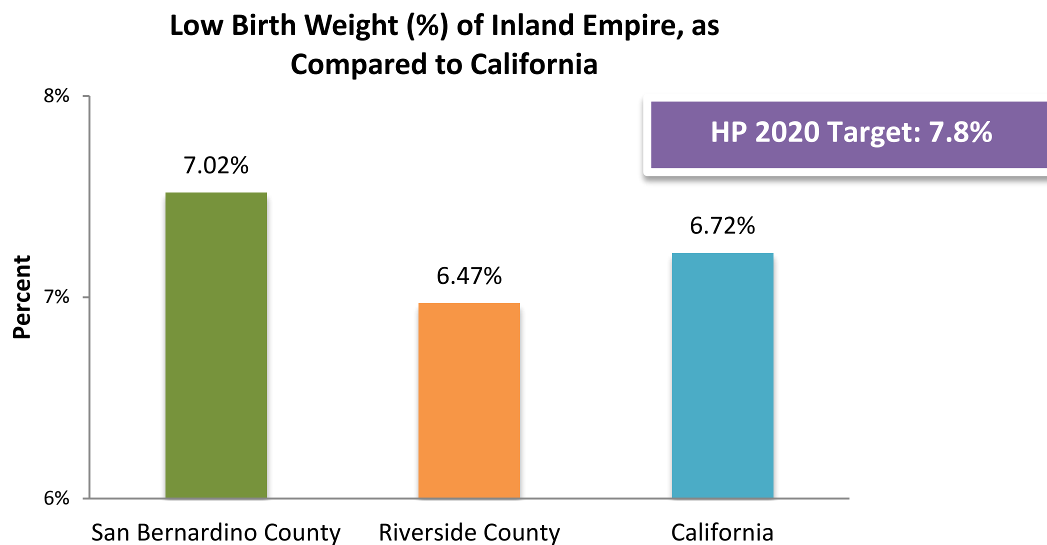
Importance to Community Health Development

Low birth weight is indicative of the general health of newborns and often a key determinant of survival, health and development. Infants born at low birth weights are at a heightened risk of complications, including infections, neurological disorders, Sudden Infant Death Syndrome, breathing problems, learning disabilities, and some chronic diseases.

Low Birth Weight by Geographic Region 2003-2009

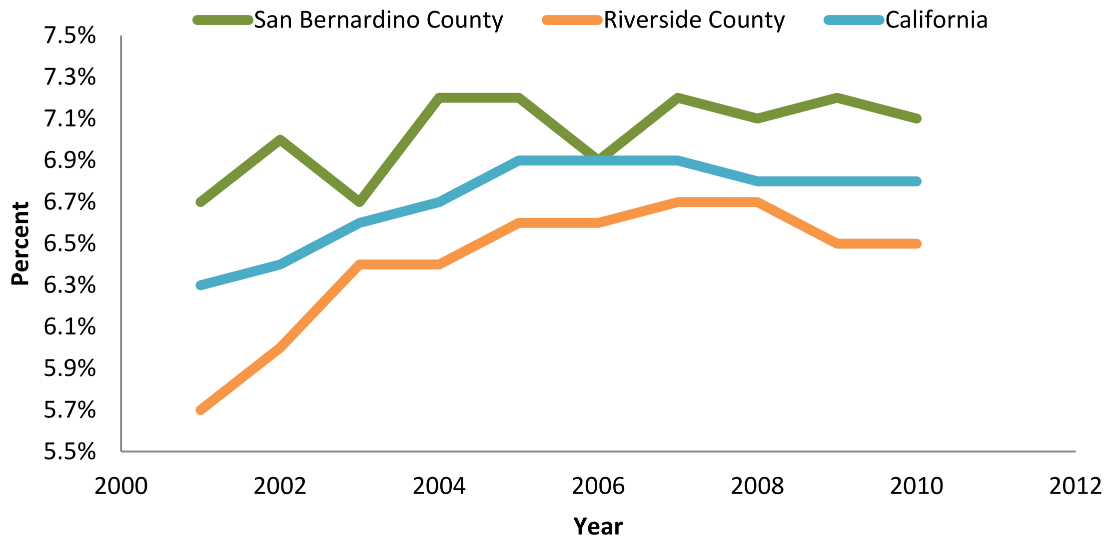
Region	Total Births	Number Low Birth Weight (< 2500g)	Percent Low Birth Weight
San Bernardino County	229,086	16,090	7.02
Riverside County	216,829	14,027	6.47
Los Angeles County	1,056,781	75,832	7.18
Orange County	310,022	19,437	6.27
San Diego County	322,127	20,909	6.49
Ventura County	84,448	5,518	6.53
California	3,843,187	258,422	6.72
United States	29,126,451	2,359,843	8.1

Data Source: Centers for Disease Control and Prevention, National Vital Statistics Systems, 2003-2009. Accessed through the Health Indicators Warehouse. As presented in http://www.chna.org



Data Source: Centers for Disease Control and Prevention, National Vital Statistics Systems, 2003-2009. Accessed through the Health Indicators Warehouse. As presented in http://www.chna.org

Trends in Percent of Low Birth Weight Births, 2001-2012



Data Source: California Department of Public Health, 2001-2012

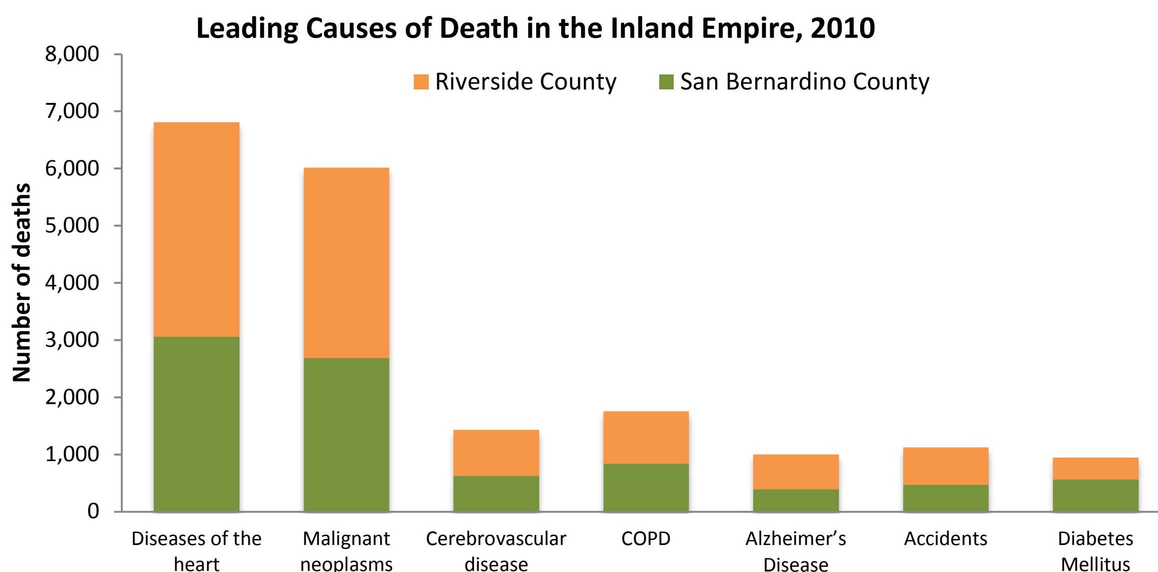
Key Findings

- On average, the percentage of babies born with low birth weights (under 2500g) in the Inland Empire is higher than California.
- Since 2000, the percent of low birth weight births has steadily increased in both the Inland Empire and California. Compared to the State, however, San Bernardino County has a higher percent of babies born with low birth weights.

Leading Causes of Death

Importance to Community Health Development

Mortality data provides the opportunity to identify conditions that pose the greatest risk to life versus those which cause illness yet pose minimal risk. Studying trends in mortality over time helps us to understand how the health status of the population is changing and assists in the evaluation of **what's really killing us?**



Data Source: California Department of Public Health, 2010.

Top Ten Leading Causes of Death (counts), 2010

Conditions	San Bernardino County	Riverside County	California
Diseases of the heart	3,054	3,753	58,034
Malignant neoplasms	2,683	3,330	56,124
Cerebrovascular disease	625	802	13,566
COPD	837	918	12,928
Alzheimer's Disease	389	611	10,833
Accidents	470	651	10,108
Diabetes Mellitus	561	381	7,027
Influenza/Pneumonia	149	224	5,856
Chronic Liver/Cirrhosis	201	233	4,252
Suicide	211	193	3,835
All causes	11,951	13,971	233,143
All other causes	2,771	2,875	50,580

Data Source: California Department of Public Health, 2010.

Key Findings

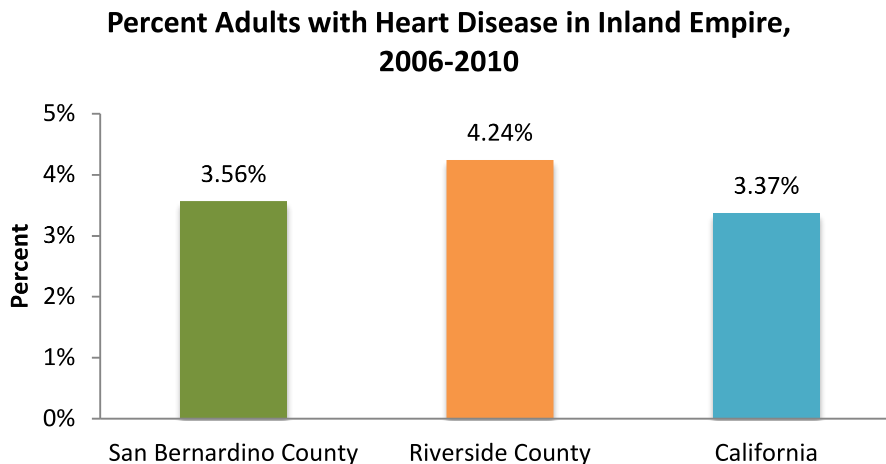
- Preventable chronic diseases are the five major leading causes of deaths in the Inland Empire, with heart disease being the primary cause of death.
- In San Bernardino County the top five leading causes of deaths are diseases of the heart, malignant neoplasms, COPD, cerebrovascular diseases, and diabetes mellitus.
- In Riverside County the top five leading causes of deaths are diseases of the heart, malignant neoplasms, COPD, cerebrovascular diseases, and accidents.
- Comparatively, in California, the top five leading causes of deaths are diseases of the heart, malignant neoplasms, cerebrovascular disease, COPD, and Alzheimer's Disease.
- Unlike previous years, an emergent Alzheimer's disease mortality is reflective of an aging population.

Chronic Disease Burden

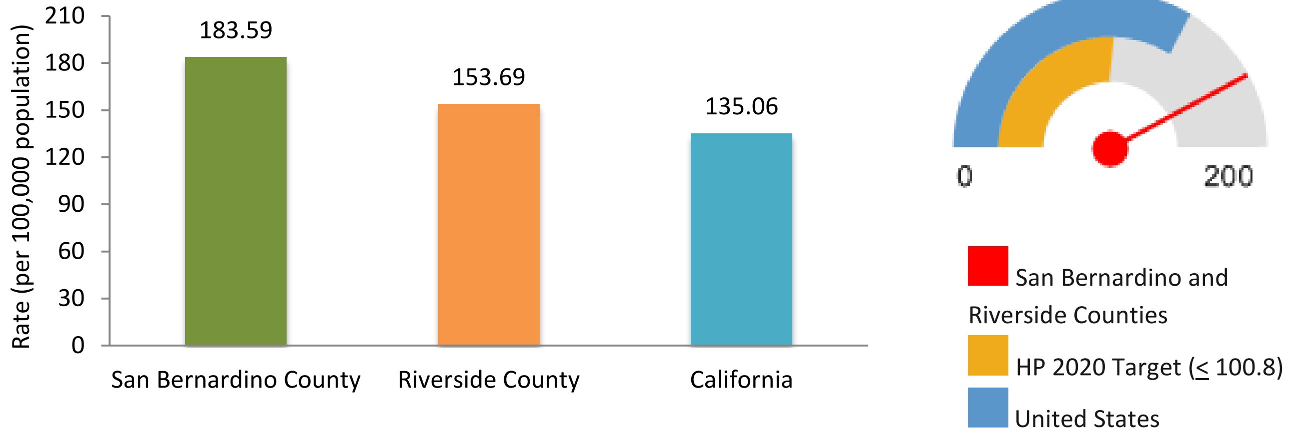
Heart Disease and Stroke

Importance to Community Health Development

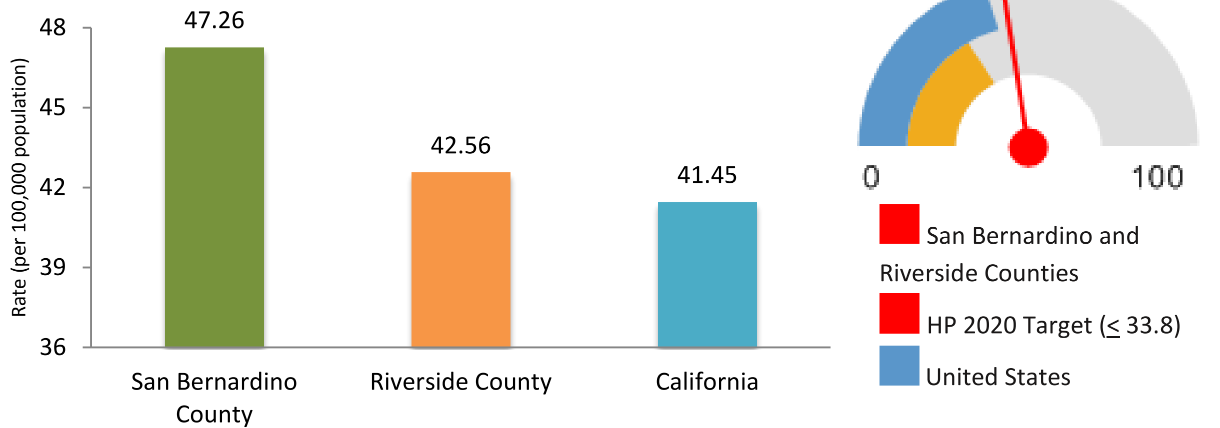
1 in 2 American adults have at least one chronic disease and 70% (1.7 million) of all annual deaths are attributable to such diseases. Heart disease and stroke are the first and third leading causes of death, respectively. According to the Centers for Disease Control and Prevention (CDC), heart disease and stroke contribute to 4 million cases of disability in the nation. Understanding the trends in our community can help create targeted interventions.



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org

Key Findings

- Compared to the state, the Inland Empire has higher prevalence of heart disease.
- The Inland Empire has higher rates of deaths due to heart disease and stroke compared to California and the Healthy People 2020 objective.

Diabetes

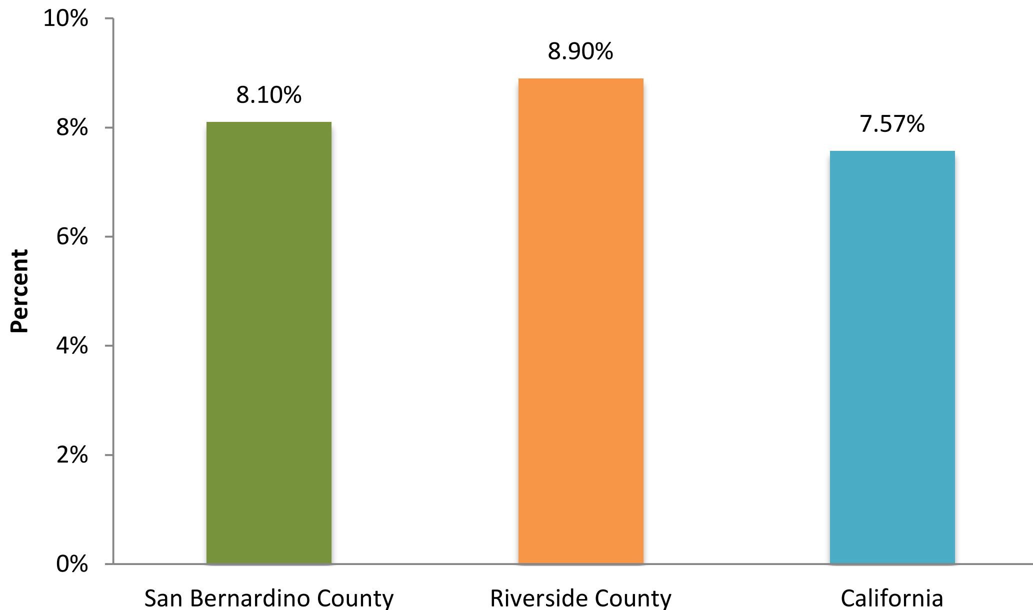
Importance to Community Health Development

According to the CDC, diabetes is currently the seventh leading cause of death in the U.S. and affects 8.3% or 25.8 million Americans. In 2010, 26.9% of the U.S. population aged 65 years or older was reported to have diabetes.

Diabetes complications include increased risk of heart disease, stroke, diabetic retinopathy, kidney failure, and heightened risk of premature death. Current empirical evidence suggests that type 2 diabetes is predominantly associated with excessive body weight and lack of physical activity. As a result, primary preventive strategies include behavioral and lifestyle changes including maintaining a healthy weight, being physically active for at least 30 minutes, adhering to a healthy diet, and lack of tobacco use.

Diabetes rates are typically higher among ethnic minority populations in the U.S. For example, compared to non-Hispanic Whites, risk of diabetes diagnosis has been reported to be 77% higher for non-Hispanic Blacks, 66% higher for Hispanics, and 18% higher for Asian Americans. Cumulatively, such rates have burdened the U.S. healthcare system with $116 in direct medical costs and another $58 billion in indirect costs.

The Healthy People 2020 target is to lower diabetes deaths rates to 65.8 per 100,000 population.



Data Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org

Obesity

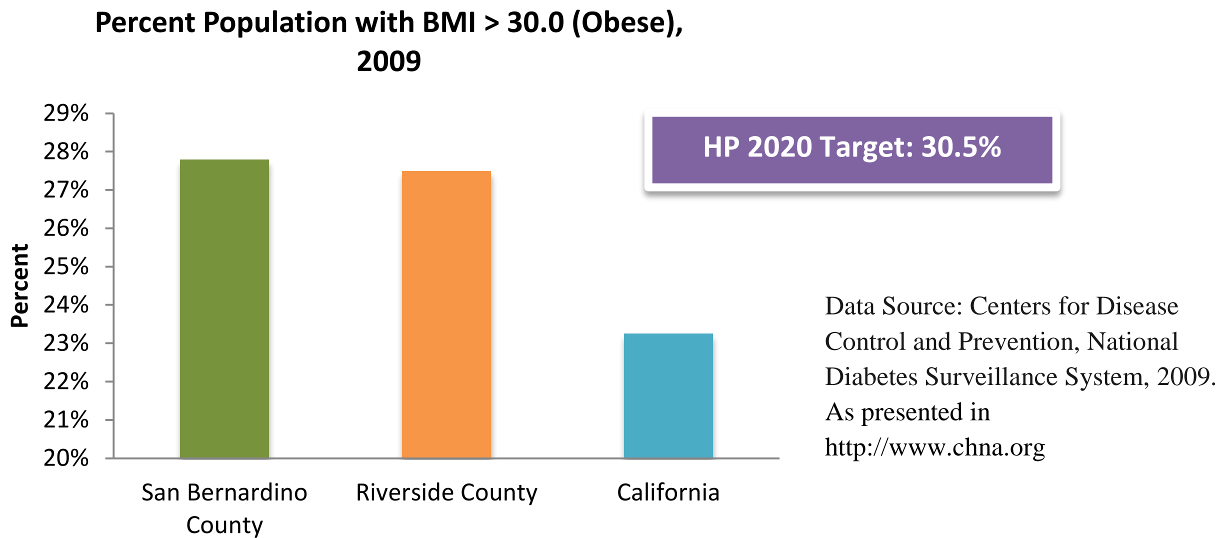
Importance to Community Health Development

Understanding weight status in a community is critical in ensuring health promotion. Diet and body weight are related to health status and overweight and obesity is associated with higher risk of heart disease and stroke morbidity and mortality.

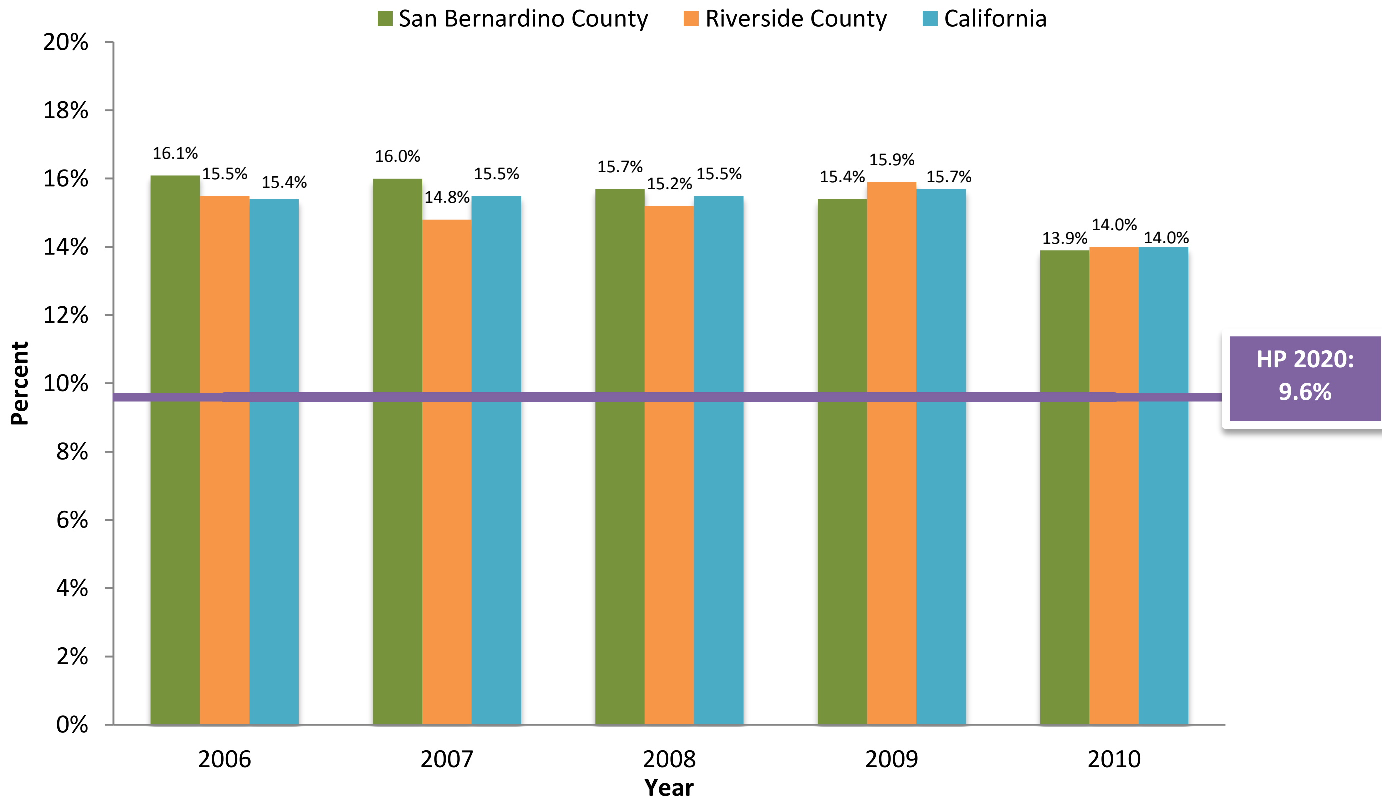
1 in 3 American adults are obese. Between 1998 and 2008 the adult obesity rate has doubled while the childhood obesity rate has tripled. Increased body mass index (BMI) has been associated with heightened risk of several chronic diseases, including heart and cerebrovascular disease. In 2008, medical costs related with obesity were estimated at $147 billion; the medical costs for people who are obese were $1,429 higher than those of normal weight. Obesity affects some groups more than others. For example, non-Hispanic Blacks have the highest age-adjusted rates of obesity (49.5%) compared with Mexican Americans (40.4%), all Hispanics (39.1%) and non-Hispanic Whites (34.3%).

In June of 2013, the American Medical Association formally adopted policy that recognizes obesity as a disease requiring a range of medical interventions to advance obesity treatment and prevention.

This action will allow physicians to better serve patients by offering more diverse options for combating obesity. The following indicator on obesity reports percentage of adults (Aged 20 or more) self-reported that they have BMI greater than 30.0 (considered to be obese).



Data Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org



Data Source: California Department of Healthcare Services, Pediatric Nutrition Surveillance System., 2013. Growth indicators by race/ethnicity and age, 2006-2010. The data are collected from participants in the Child Health and Disability Prevention Program, which serves Medi-Cal recipients and children/youth with family incomes up to 200% of the FPL.

Key Findings

- In the Inland Empire, a higher percent of adults are considered obese (BMI greater than 30.0) in comparison to the State.
- The Inland Empire has a higher percentage of low-income children aged 2-5 years who are considered obese, in comparison to the Healthy People 2020 objective.

Cancer

Importance to Community Health Development

The cancer objectives for Healthy People 2020 support monitoring trends in cancer incidence, mortality and survival to better assess the progress made toward decreasing the burden of cancer in the United States. The objectives reflect the importance of promoting evidence-based screening for cervical, colorectal and breast cancer by measuring the use of screening tests. For cancers with evidence-based screening tools, early detection must include the continuum of care from screening to appropriate follow-up of abnormal test results and referral to cancer treatment.

Cancer Mortality (age-adjusted rate per 100,000 population), 2009

Type	CA	San Bernardino County	Riverside County	Healthy People 2020
All cause	158.3	176.2	164.7	160.6
Colorectal Cancer	14.5	17.4	16.3	14.5
Breast cancer	22.2	27.3	24.5	20.6
Lung/Bronchus Cancer	37.8	41.9	40.9	45.5
Head/Neck Cancer	2.4	2.4	1.76	2.3
Prostate Cancer	22.4	24.7	23.9	21.2

Data Source: Cancer Registry of Greater California, 2009.

Key Findings

- The Inland Empire is lagging behind on several Healthy People 2020 benchmarks for cancer mortality.
- The Inland Empire has higher rates of “all cause” cancer mortality in comparison to both the State and the Healthy People objective.
- The Inland Empire also has a higher rate of prostate cancer in comparison to the State and Healthy People 2020.
- Colorectal cancer mortality in the Inland Empire remains at a higher rate than both the State and the Healthy People 2020 target.
- The Inland Empire has higher rates of lung and bronchus cancer than the State, while San Bernardino County has higher rates of gynecological cancers than California.
- In San Bernardino County, similar to the State, the rates of head and neck cancer are higher than the Healthy People 2020 benchmark.

Respiratory Diseases

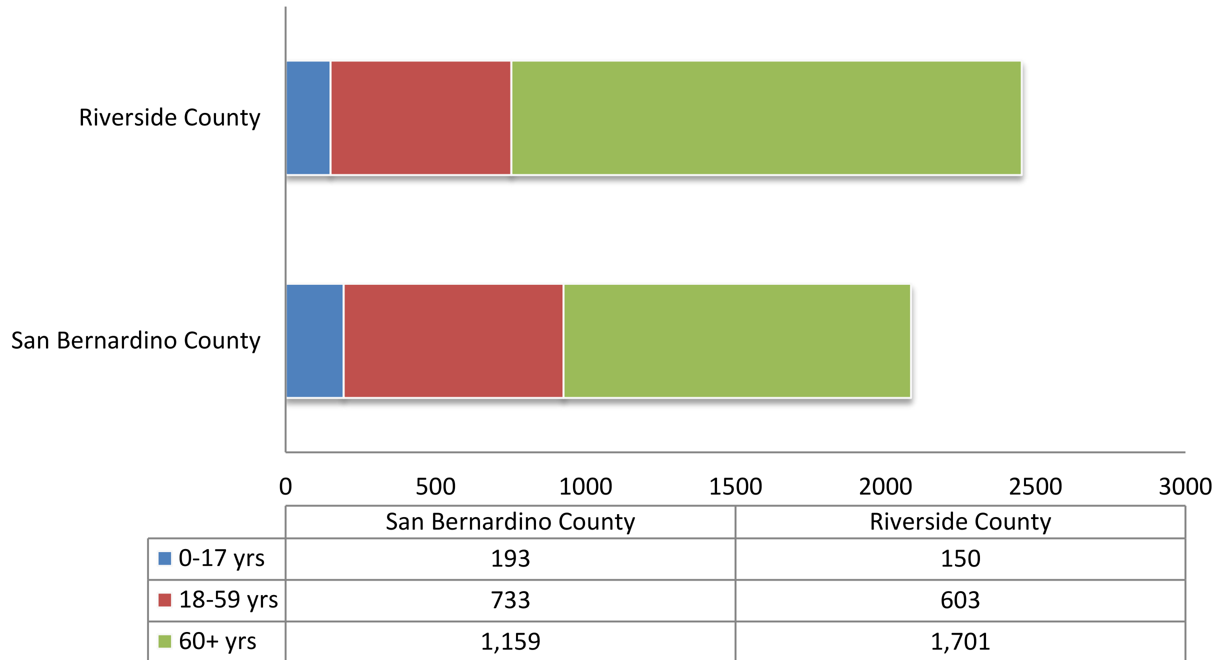
Importance to Community Health Development

Respiratory health is related to general health and can be indicative of poor air quality. Key respiratory illnesses include chronic obstructive pulmonary disease (COPD) and asthma.

COPD is characterized by narrowing of airways and loss of elastic recoil thus leading to irreversible airflow obstruction. Moreover, COPD is progressive and irreversible. In the United States, it is estimated that the cost of COPD exceeded $24 billion by the early 1990s, and within the last 40 years the incidence of COPD has experienced a sharp increase. For example, in the 1970s approximately 3% of the United States population was reported to have COPD. In the early 1990s that amount doubled to almost 6% . Furthermore, there is a strong positive relationship between COPD and age, and as our population ages, so will the estimated new cases of COPD in the near future.

In 2011, nearly 26 million Americans reported asthma, with 7.1 million being children under 18 years of age. For the last ten years, San Bernardino County has ranked second highest in California for children's asthma hospitalization and in 2009, the County had the third highest childhood asthma diagnosis rate of all counties in Southern California. Undoubtedly, asthma is a public health threat in Inland Southern California and interventions aimed at reducing asthma morbidity are of imperative need.

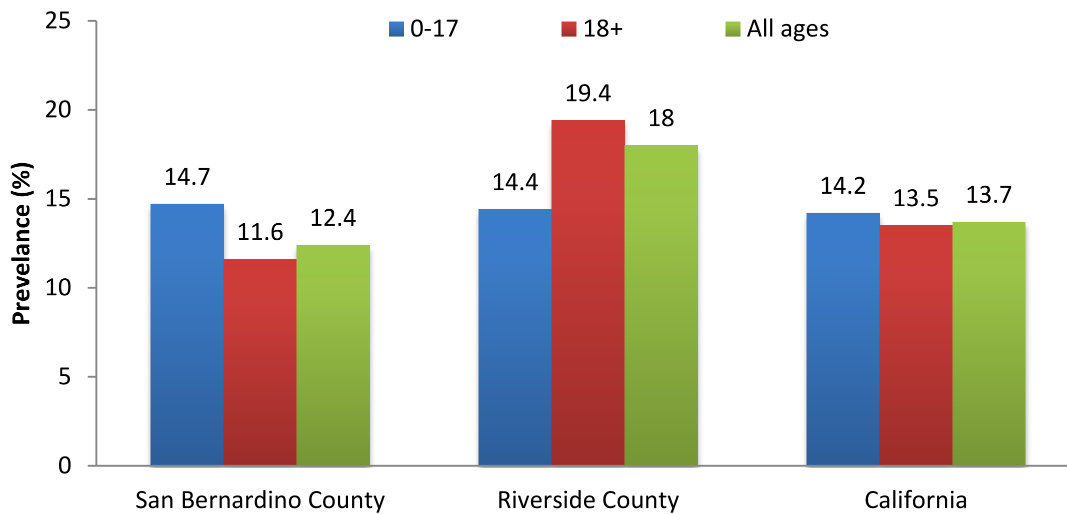
Number of Hospitalizations for All Chronic Obstructive Pulmonary Disease conditions, by age, 2010



	San Bernardino County	Riverside County
0-17 yrs	193	150
18-59 yrs	733	603
60+ yrs	1,159	1,701

Data Source: California Health Interview Survey (CHIS), 2009. As presented in California Breathing.

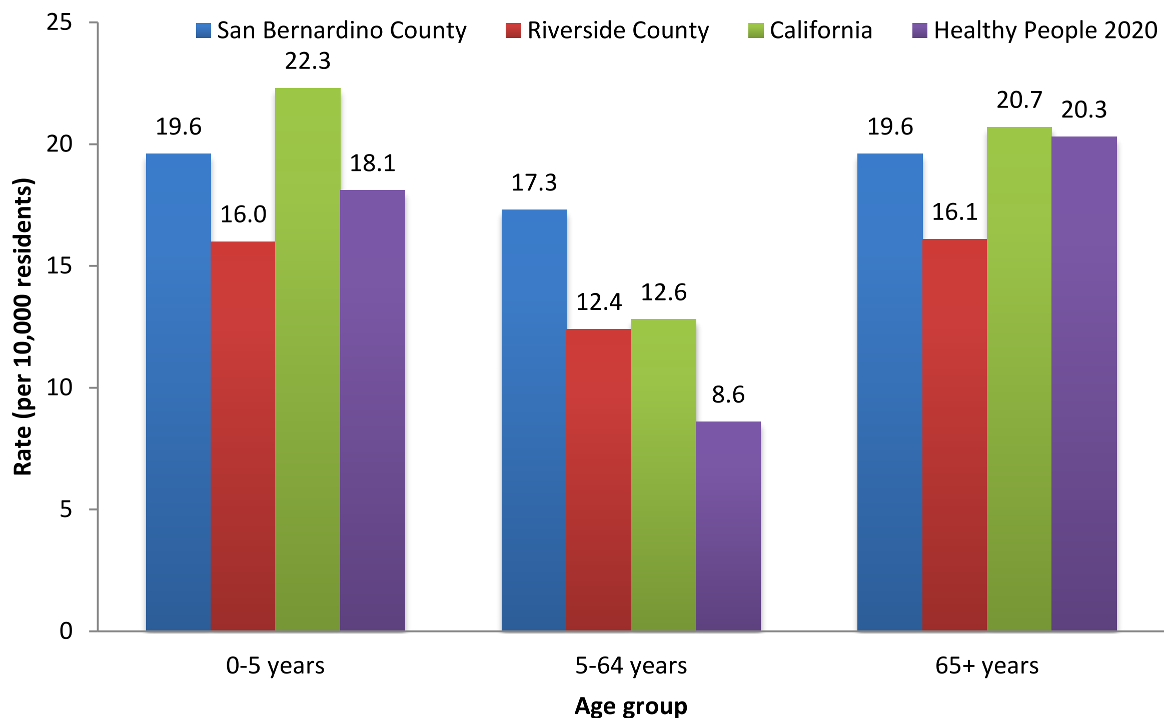
Lifetime Prevelance of Asthma, 2009



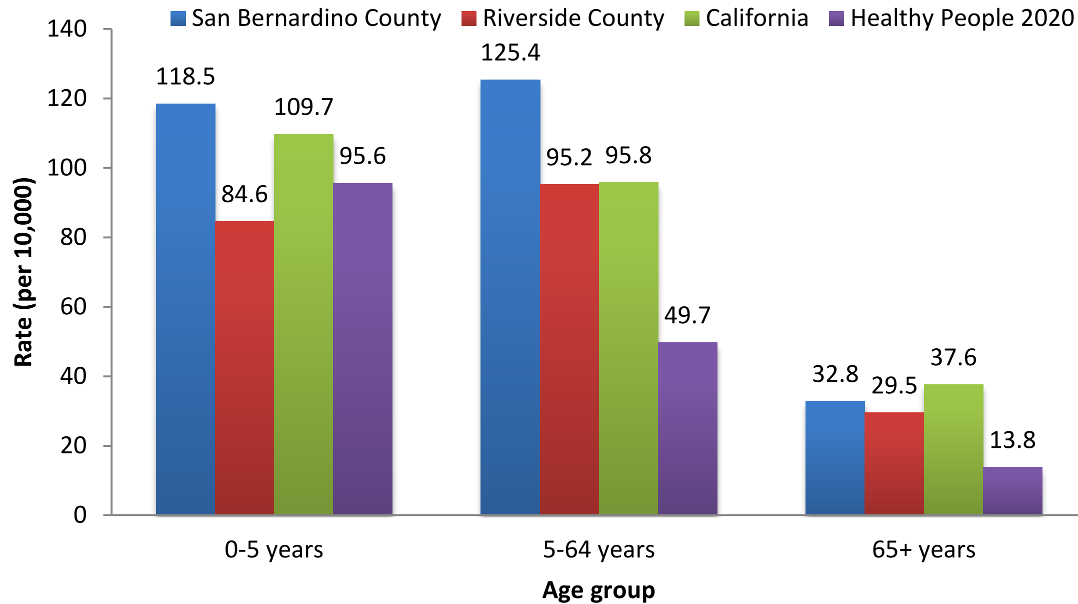
Data Source: California Health Interview Survey (CHIS), 2009. As presented in California Breathing.

Number of Deaths Due to Asthma (N) and Age-Adjusted Rate (per 1,000,000 residents)						
	San Bernardino County		Riverside County		California	
Age	N	Rate	N	Rate	N	Rate
Children (0-17 years)	9	--	5	--	57	1.9
Adults (18+)	74	19.6	48	10.4	1198	14.3
Total (all ages)	83	15.9	53	8.3	1255	11.1

Data Source: California Death Statistical Master Files, 2008-2010. As presented in California Breathing.



Data Source: OSHPD, 2010. As presented in California Breathing.



Data Source: OSHPD, 2010. As presented in California Breathing.

Key Findings

- The number of hospitalizations due to COPD is highest among the elderly (60 years or older) in the Inland Empire.
- Inland Empire has much higher rates of asthma prevalence among children in comparison to the State, with highest rates among San Bernardino County.
- Riverside County has higher asthma prevalence among adults.
- Hospitalizations due to asthma among 0-5 years age group is higher in San Bernardino County, in comparison to the Healthy People 2020 Objective.
- Asthma-related hospitalization also remains high in Inland Empire, with highest in San Bernardino County among 5-64 years age group, in comparison to the Healthy People 2020 objective.
- Emergency department visit due to asthma remains highest in San Bernardino County for both 0-5 years and 5-64 years age group, in comparison to both the State and Healthy People 2020 benchmark.

Sickle Cell Disease

Importance to Community Health Development

While sickle cell disease (SCD) may not be one of the leading causes of mortality in the nation, it remains a public health concern. It is known to affect those with ancestors from India, Mediterranean nations such as Greece and Italy, Sub-Saharan African, and Spanish-speaking nations in the Western Hemisphere such as Central and South America. In the Inland Empire, SCD affects a significant portion of the population and understanding current trends is warranted.

Current Trends in Sickle Cell Disease

- The current rates of SCD in the United States are not well understood.
- According to the CDC and other collaborative agencies, currently 90,000 to 100,000 Americans are affected by SCD and occurs in:
    - 1 out of every 500 African-American/Black births.
    - 1 out of every 36,000 Hispanic births.
- Current United States SCD estimates (after correcting for early mortality) range from 72,000 to 98,000 among adults.

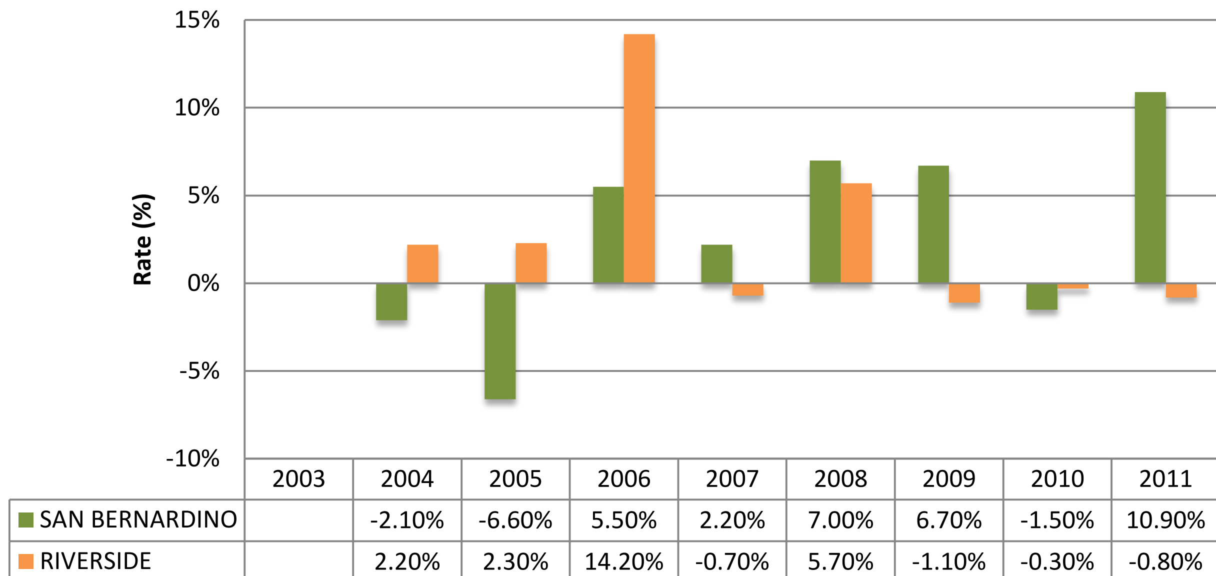
Hospitalizations for principle diagnosis of sickle-cell disease: San Bernardino County residents, 2010

Patient age	Number of hospitalizations	Total reported charges
All ages	466	$16,317,793
Unknown age	53	$1,990,205
Under 1 year	3	$61,673
1-4 years	9	$356,755
5-9 years	16	$2,093,425
10-14 years	32	$1,189,343
15-19 years	61	$1,845,204
20-24 years	66	$2,264,821
25-29 years	88	$2,712,579
30-34 years	67	$1,777,715
35-39 years	17	$534,506
40-44 years	19	$424,599
45-49 years	12	$511,627
50-54 years	14	$373,002
55-59 years	3	$37,236
60-64 years	5	$112,395
65-69 years	1	$32,708

Data Source: OSHPD, 2010. Patient Discharge Files.

Emergency department encounters for principle diagnosis of sickle-cell disease: San Bernardino County residents, 2010		
Patient age	**Number of hospitalizations**	**Total reported charges**
All ages	216	100.0%
Unknown age	5	2.3%
1-4 years	8	3.7%
5-9 years	4	1.9%
10-14 years	11	5.1%
15-19 years	28	13.0%
20-24 years	33	15.3%
25-29 years	52	24.1%
30-34 years	35	16.2%
35-39 years	17	7.9%
40-44 years	11	5.1%
45-49 years	7	3.2%
50-54 years	3	1.4%
55-59 years	1	0.5%
60-64 years	1	0.5%

Data Source: OSHPD, 2010. Emergency Department data.



	2003	2004	2005	2006	2007	2008	2009	2010	2011
SAN BERNARDINO		-2.10%	-6.60%	5.50%	2.20%	7.00%	6.70%	-1.50%	10.90%
RIVERSIDE		2.20%	2.30%	14.20%	-0.70%	5.70%	-1.10%	-0.30%	-0.80%

Data Source: OSHPD, 2011.

Key Findings

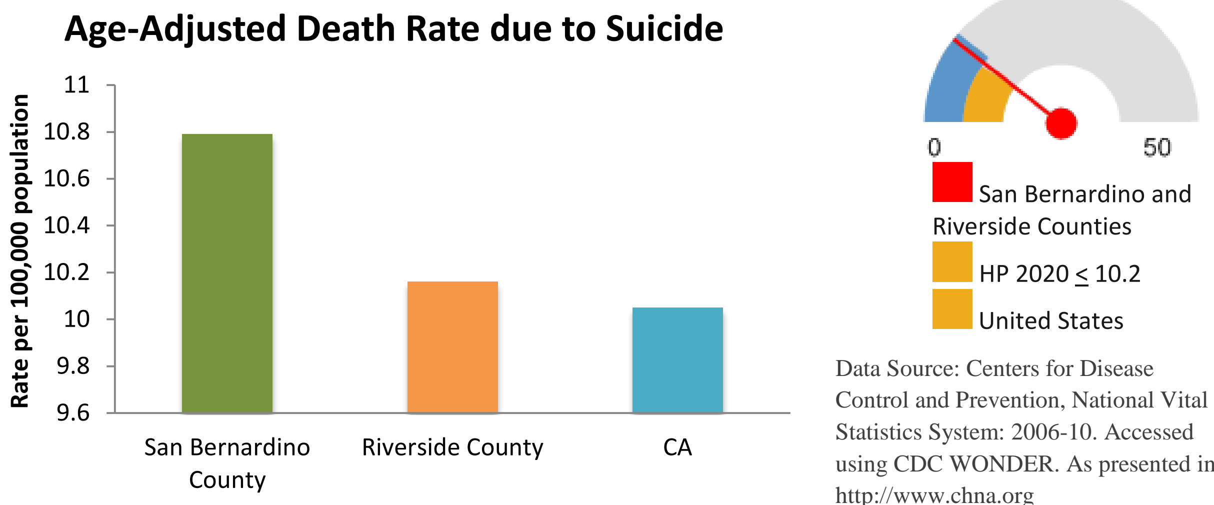
- Inpatient discharges for SCD is on the rise in San Bernardino County.
- In 2010, SCD contributed to a total of 466 hospitalizations in San Bernardino County, resulting in a total of $16,317,793 reported charges.
- The highest number of hospitalizations was among the 15 to 34-year age group.
- Emergency department encounters with principle diagnosis of SCD were highest among the 25 to 29-year age group (24% of all encounters).
- The highest number of deaths due to SCD was reported among the following age groups: 25-29 years, 35-39 years, and 45-49 years.

Behavioral Health

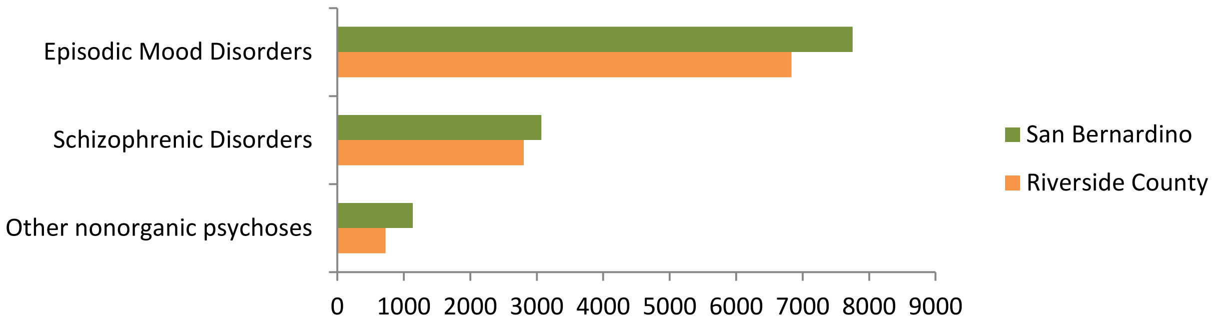
Importance to Community Health Development

Optimal behavioral health (often referred to as mental health) is a state of successful performance of cognitive and mental function, resulting in productive activities, fulfilling relationships with other people and the ability to change and cope with everyday challenges. Behavioral health is essential to personal well-being, family and interpersonal relationships, and the ability to contribute to one's community or society as a whole.

The following report provides rate of death due to intentional self-harm (suicide) per 100,000 population and the leading causes of mental health related hospitalization. Such data is relevant as suicide is known to be an indicator of poor mental behavioral status.



Data Source: Centers for Disease Control and Prevention, National Vital Statistics System: 2006-10. Accessed using CDC WONDER. As presented in http://www.chna.org



Data Source: OSHPD, 2010 as created by San Bernardino County Department of Public Health.

Key Findings

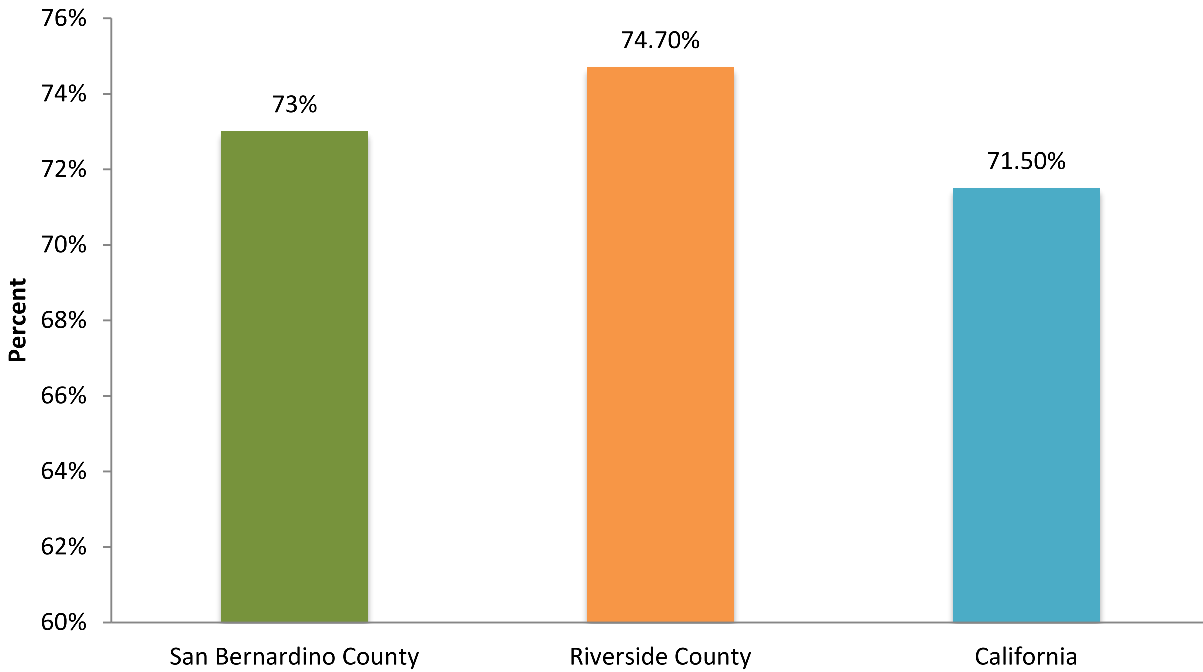
- The Inland Empire, especially San Bernardino County, has a higher rate of deaths due to suicide in comparison to California and the Healthy People 2020 objective.
- Episodic mood disorders are the leading cause of mental health related hospitalizations in the Inland Empire.

Health Behaviors

Nutrition: Fruit and Vegetable Intake

Importance to Community Health Development

Regular physical activity and a healthy diet, especially throughout life, have been shown to be important in maintaining good health, improving psychological well-being, and preventing premature deaths. The following indicator reports the percentage of adults aged 18 and older who self-report consuming less than 5 servings of fruits and vegetables each day.



Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2005-2009. As presented in http://www.chna.org

Nutrition: Breastfeeding

Importance to Community Health Development

According to the American Academy of Pediatrics (AAP), breastfeeding has health advantages for infants, mothers, families, and society. There is strong evidence that children who are breastfed have fewer infectious diseases, a lower rate of Sudden Infant Death Syndrome (SIDS), and better cognitive development. The social benefits include lower healthcare costs and parents missing fewer days of work Because of such benefits, the AAP recommends that infants should be exclusively breastfed for at least six months after birth. The term "exclusive breastfeeding" means that mothers are only breastfeeding, while "any breastfeeding" means that mothers are supplementing breast milk with infant formula. While both "any breastfeeding" and "exclusive breastfeeding" are displayed in the following pages, the text focuses on exclusive breastfeeding since it is the primary recommendation for new mothers.

In-Hospital Breastfeeding Initiation by Mother's County of Residence, 2011

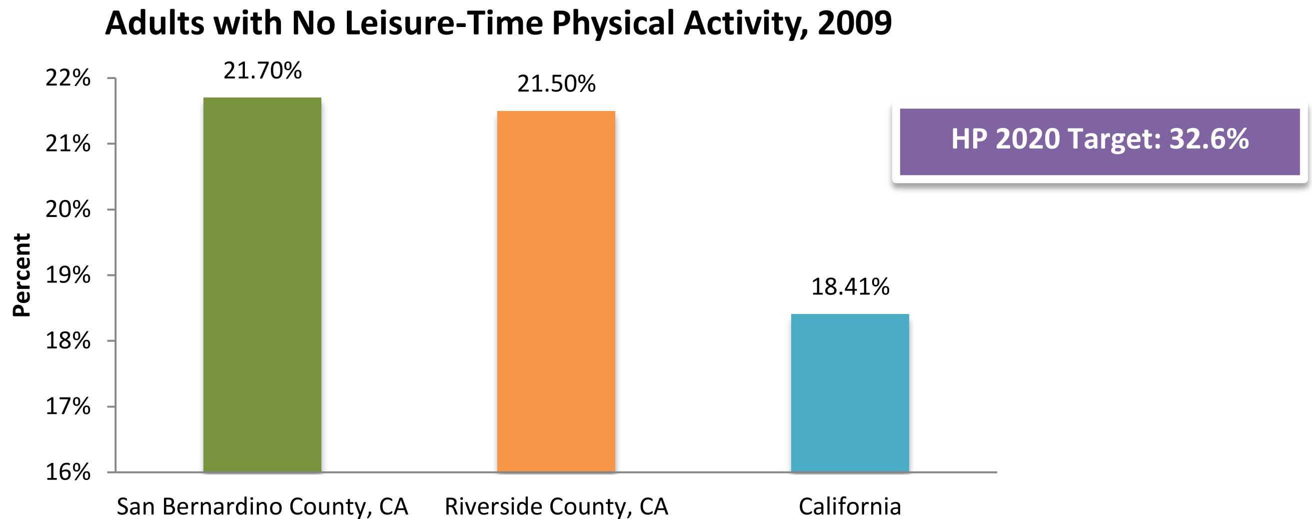
	San Bernardino County	Riverside County	CA
Total	56.8	67.3	60.6
African American	42.5	57.2	49.9
American Indian	66.7	48.1	64.1
Asian	55.8	60	59
Multiple Race	59.1	72.3	69.9
Pacific Islander	31	61.8	51.2
Other	60.1	60.6	59.4
White	68.3	74.4	76
Hispanic	54.7	65.4	53.5

Data Source: California Department of Public Health, 2011. In-Hospital Breastfeeding Initiation Data.

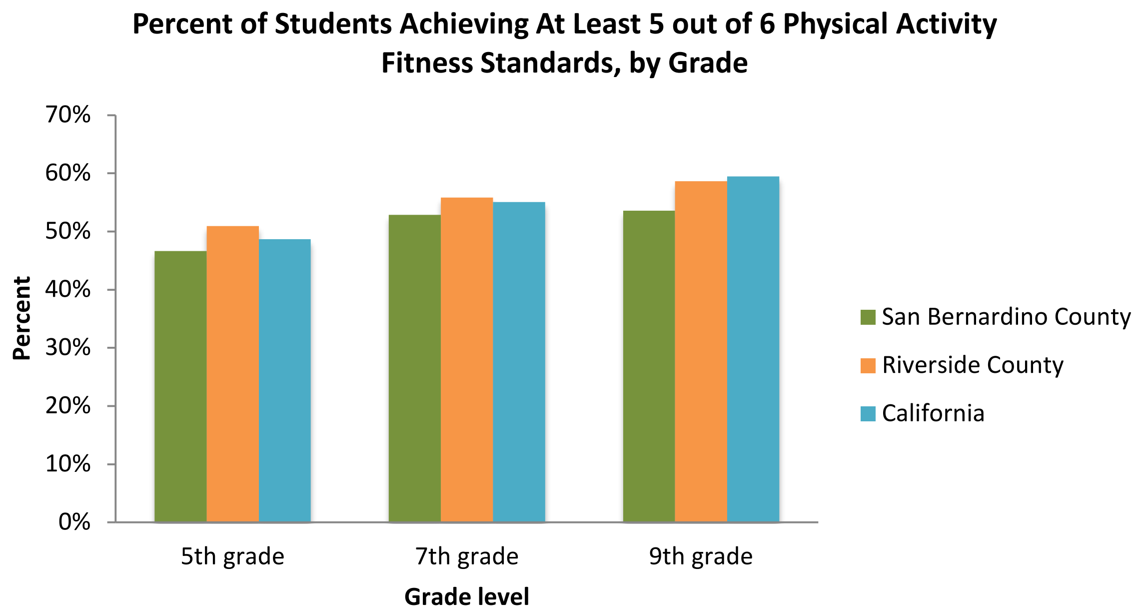
Physical Activity

Importance to Community Health Development

Regular physical activity, especially throughout life, has been shown to be important in maintaining good health, improving psychological well-being, and preventing premature deaths.



Data Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org



Data Source: California Department of Education, Statewide Assessment Division. (2013). Physical fitness testing results, 2007 – 2012.

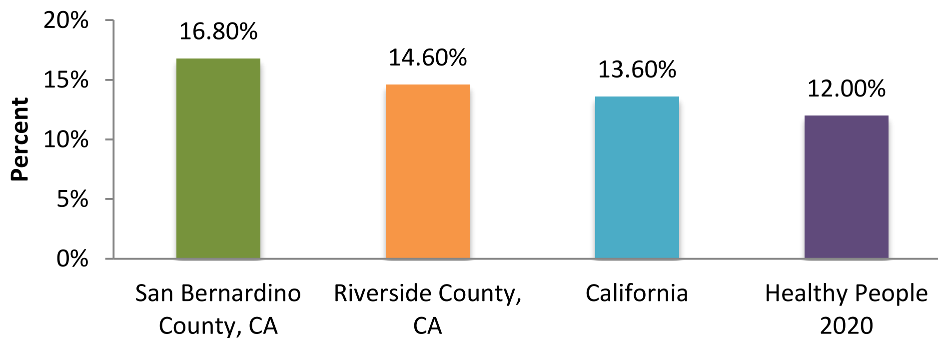
Key Findings

- While the Inland Empire meets the Healthy People 2020 objective, it still has a higher percent of adults with no leisure-time physical activity in comparison to the State.
- The percent of 5th, 7th, and 9th graders meeting physical activity fitness standards were lower in San Bernardino County in comparison to California.

Tobacco Use

Importance to Community Health Development

Tobacco use is attributable to a number of diseases, including heart disease, stroke, and various cancers, especially lung cancer. It remains the single most preventable cause of morbidity and mortality in the United States. Specifically, cigarette smoking results in more deaths than deaths due to AIDS, alcohol, cocaine, heroin, homicide, suicide, more vehicle crashes, and fires, combined. Each year, approximately 443,000 Americans die due to tobacco-related illnesses and for every person who dies from such a cause, 20 more Americans suffer at least one serious tobacco-related illness.



Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2005-2011. As presented in http://www.chna.org

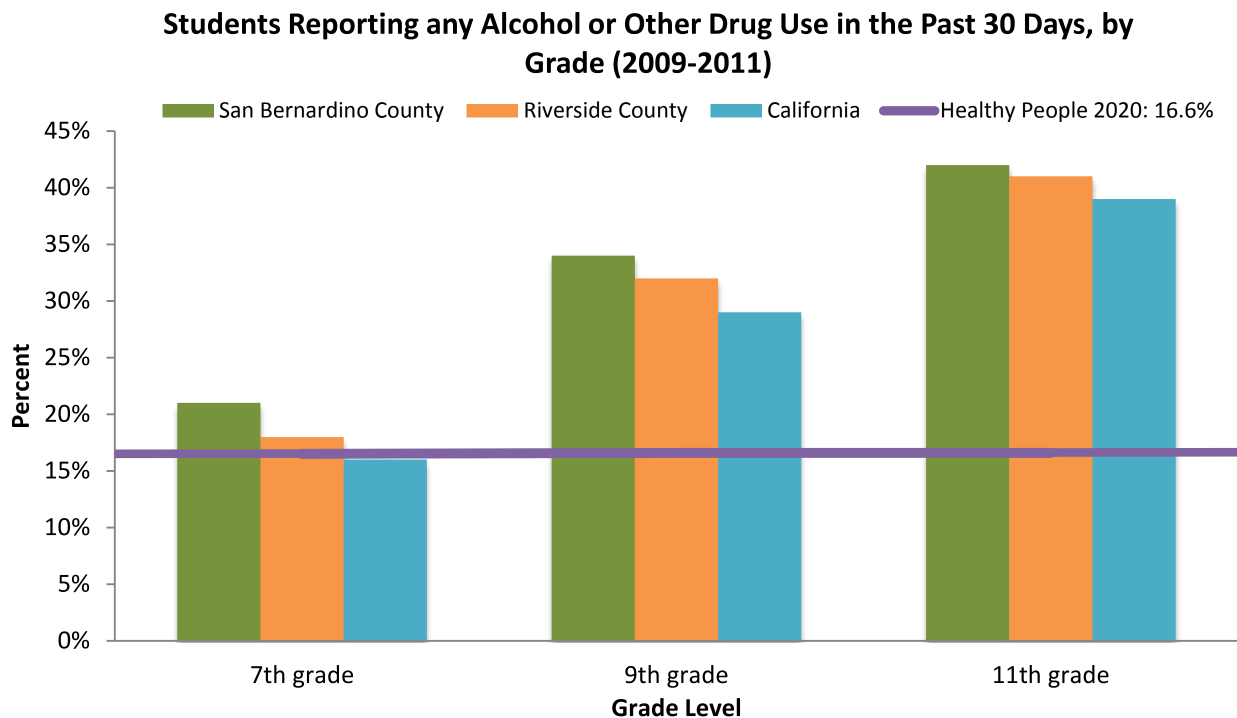
Key Findings

- The Inland Empire has a higher prevalence of current smokers, compared to the State and Healthy People objective.

Substance Abuse/Heavy Alcohol Use

Importance to Community Health Development

Substance abuse has a major impact on individuals, families, and communities. The effects of substance abuse are cumulative, significantly contributing to costly social, physical, mental, and public health problems. This indicator reports the percentage of adults aged 18 and older who self-report heavy alcohol consumption (defined as more than two drinks per day for men and one drink per day for women).



Data Source: California Healthy Kids Survey, WestEd, California Department of Education. (2013)., Current alcohol and other drug use, Past 30 days, Table A4.3, 2009-2011.Note: Healthy People 2020 Objective is to reduce the percent of adolescent (aged 12-17) who use alcohol or any illicit drugs during the past 30 days to 16.6%. Since data specific to age group is not available for the Inland Empire, grade-specific data is provided here. Given that the key grade groups displayed here are representative of the 12-17 age group, the results are comparable to Healthy People 2020 target.

Key Findings

- Compared to the Healthy People 2020 target, a higher percentage of adolescents in the Inland Empire reported alcohol or other drug use in the past 30 days.

Hospitalizations

Importance to Community Health Development

In the continuum of the disease process, hospitalization is the last step for patient care, resulting in separation from community resources and family support. Patients are placed in a hospital setting because of advanced disease processes, complex health issues, or catastrophic accidents requiring highly specific care, state-of-the-art diagnostic and surgical interventions for the preservation of life and restoration of health.

The focus of Community Health Development is to promote appropriate hospital utilization; therefore we will focus on Ambulatory Care Sensitive Condition Hospitalizations (ACSC). **ACSCs are situations in which hospital admission could be prevented by utilization of suitable interventions during primary care.** One marker of access to ambulatory care that has been widely used in literature is ACSC hospitalizations. It is important to address such an indicator as ACSC discharge analysis demonstrates a possible "return on investment" from interventions that reduce admissions through better healthcare access.

Preventable Hospital Events, 2003-2007

Region	Total Medicare Enrollees (Age 65-75)	Preventable Hospital Admissions (ACSCs)	Preventable Hospital Admission (ACSC) Rate (Per 1,000 Medicare Enrollees)
San Bernardino County	64,261	5,255	81.78
Riverside County	94,317	6,285	66.64
Los Angeles County	500,084	36,816	73.62
Orange County	154,422	8,934	57.85
San Diego County	154,150	8,368	54.28
Ventura County	54,582	2,783	50.99
California	2,051,648	127,965	62.37
United States	53,239,865	4,053,740	76.14

Data Source: Dartmouth Atlas of Healthcare, Selected Measures of Primary Care Access and Quality, 2003-2007. As presented in http://www.chna.org

**Emergency department encounters for ambulatory care sensitive (ACS) conditions
Riverside and San Bernardino Counties residents
(0-17 years old), 2010**

	San Bernardino County 0-17 yrs	Riverside County 0-17 yrs
ACS severe enteric conditions	18,400	17,713
asthma	3,569	2,733
ACS pneumonia	3,291	2,239
ACS kidney/urinary tract infection	2,317	2,217
ACS noninfectious gastroenteritis	1,519	1,997
ACS chronic obstructive pulmonary disease	2,081	1,378
convulsion	1,206	1,003
grad mal status & epileptic convulsion	556	536
diabetes	157	83
ACS hypertension	16	6

0 5000 10000 15000 20000

Data Source: OSHPD, 2010. Prepared by San Bernardino County Department of Public Health.

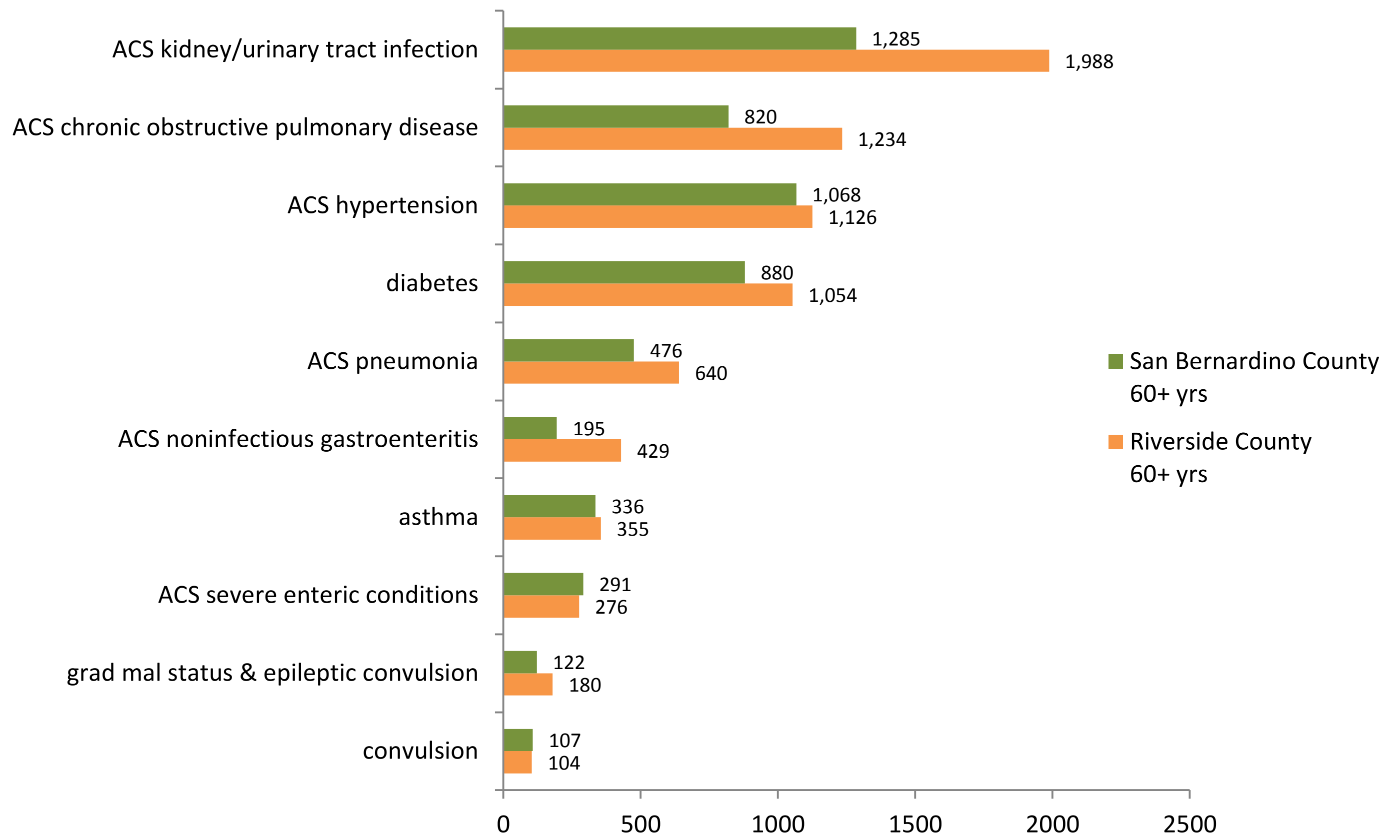
Emergency department encounters for ambulatory care sensitive (ACS) conditions
Riverside and San Bernardino Counties residents
(18-59 years old), 2010

Condition	San Bernardino County 18-59 yrs	Riverside County 18-59 yrs
ACS kidney/urinary tract infection	7,375	6,350
ACS severe enteric conditions	4,153	3,620
asthma	3,718	2,874
ACS chronic obstructive pulmonary disease	2,802	2,231
diabetes	3,223	1,936
ACS noninfectious gastroenteritis	1,731	1,919
grad mal status & epileptic convulsion	1,707	1,639
ACS hypertension	3,021	1,379
ACS pneumonia	1,312	1,094
convulsion	1,337	1,025

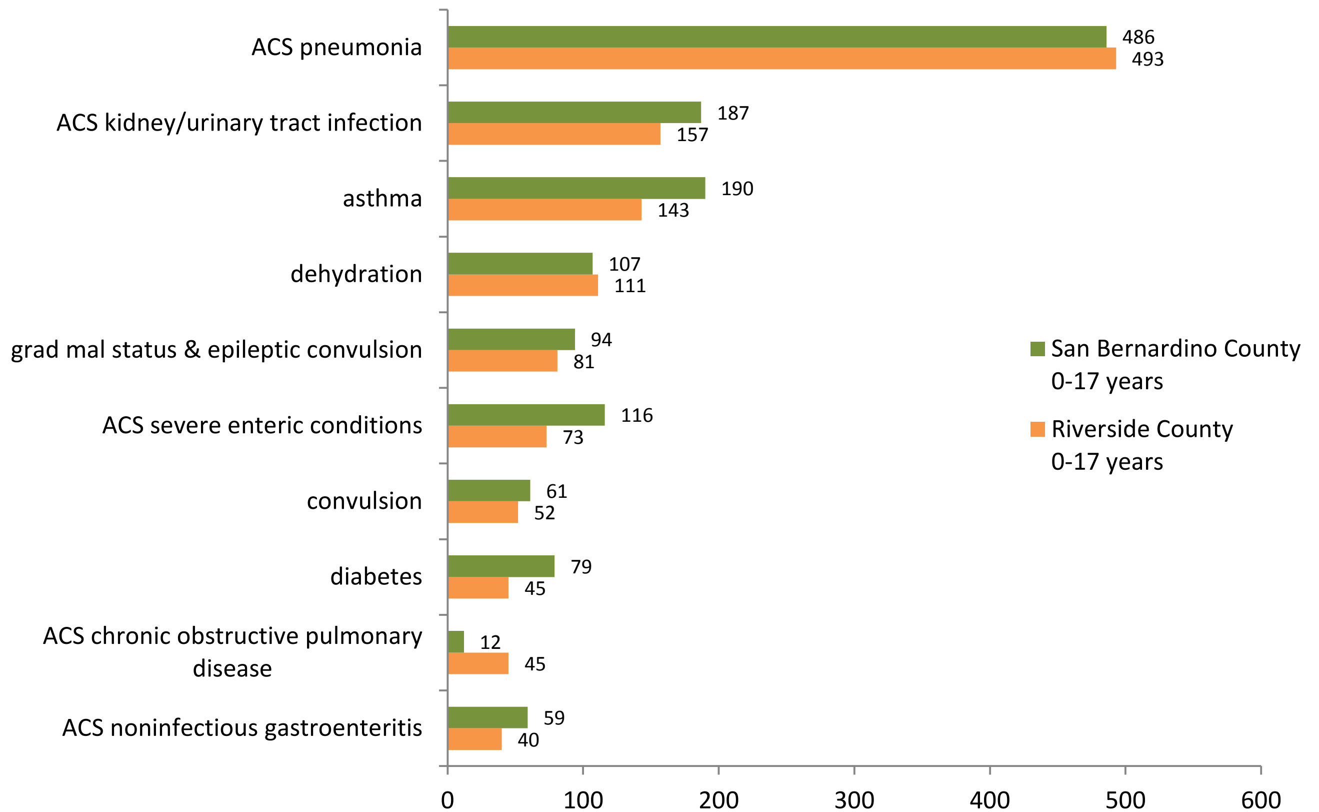
0 2,000 4,000 6,000 8,000

Data Source: OSHPD, 2010. Prepared by San Bernardino County Department of Public Health.

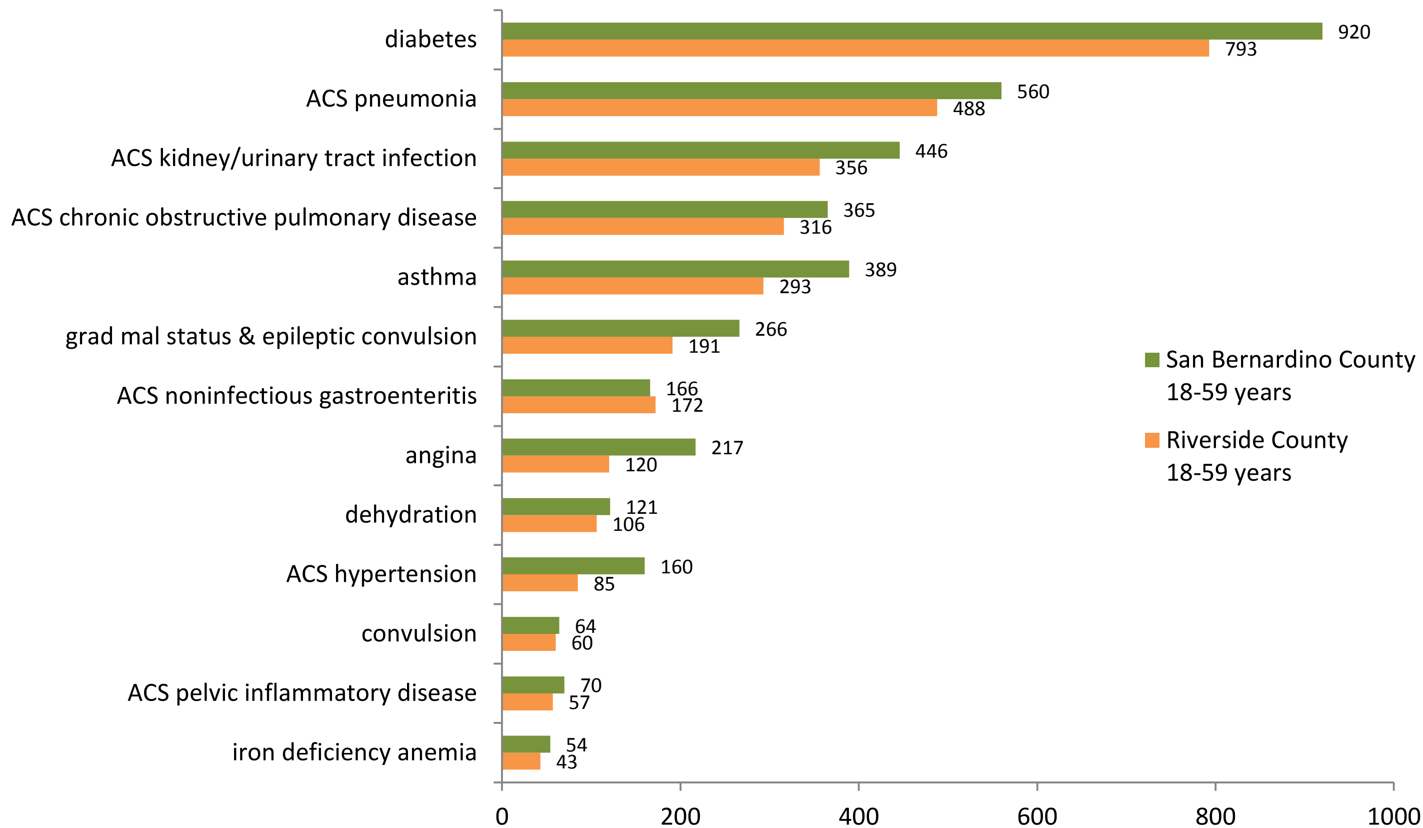
LOMA LINDA UNIVERSITY
HEALTH



Data Source: OSHPD, 2010. Prepared by San Bernardino County Department of Public Health.

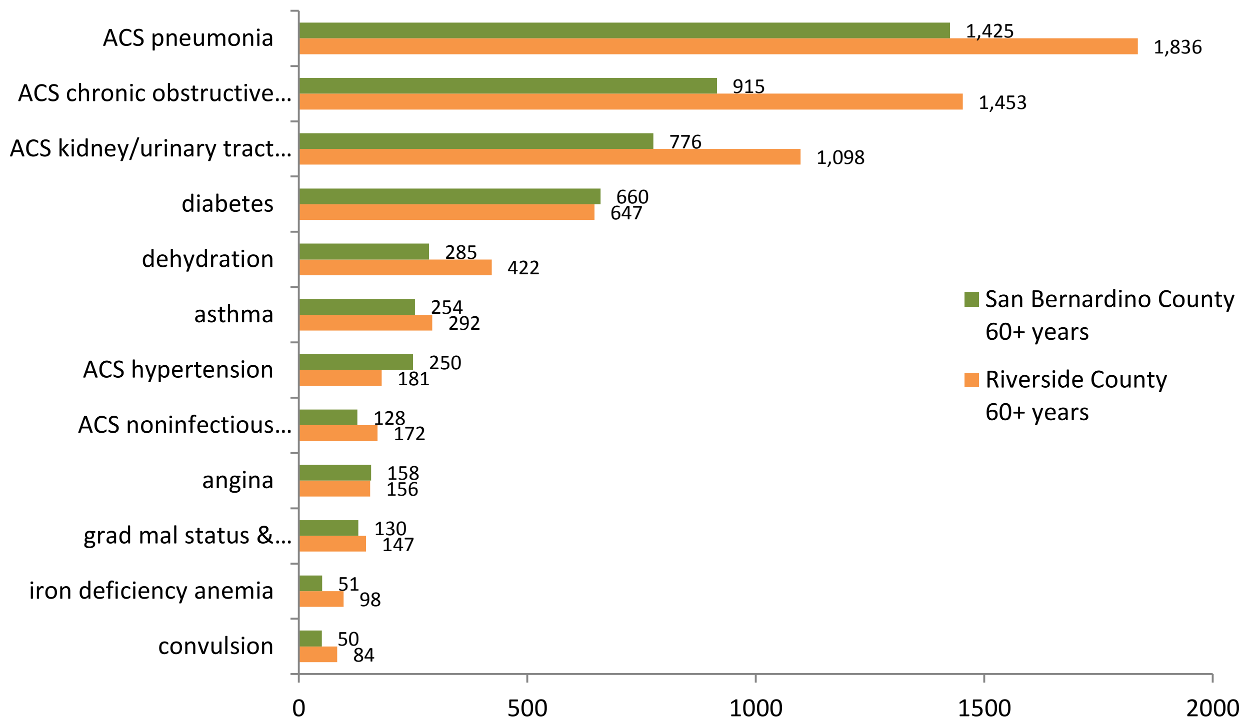


Data Source: OSHPD, 2010. Prepared by San Bernardino County Department of Public Health.



Data Source: OSHPD, 2010. Prepared by San Bernardino County Department of Public Health.

Hospitalizations for ambulatory care sensitive (ACS) conditions Riverside and San Bernardino Counties residents, (60+ years old) 2010



Data Source: OSHPD, 2010. Prepared by San Bernardino County Department of Public Health.

Key Findings

- The leading cause of emergency room visits for ACS among 0-17 year olds was ACS severe enteric conditions, for both counties
  - ACS kidney/urinary tract infections were the leading cause of emergency room visits for ACS among 18-59 year olds, and those aged 60 years or older.

- Pneumonia was the leading cause of hospitalizations among 0-17 year olds and those aged 60 years or older.
  - Diabetes was the leading cause of hospitalizations among 18-59 year olds.

Health Systems' Readiness

Importance to Community Health Development

Lack of access to adequate healthcare can pose barriers to healthy outcomes. The rates of mortality, morbidity, and emergency hospitalizations can all be reduced if residents have appropriate access to healthcare services, routine tests, vaccinations, screenings, etc.

Health insurance

Health insurance is often a critical determinant of health care utilization and is considered a key driver of one's health status.

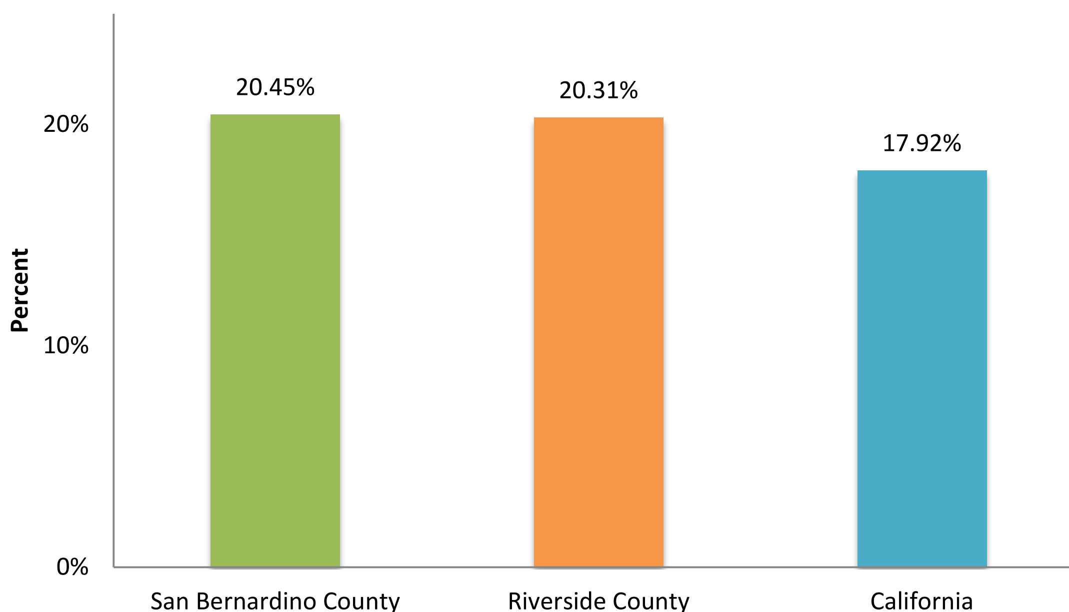
Because lack of insurance is often a barrier to accessing basic health care services (including primary care, preventive care and specialty care), addressing **the percent of those without health insurance** is relevant to community health development.

Additionally, understanding the **percent of the population enrolled in Medicaid** helps policymakers assess vulnerable populations likely to have multiple health care associated needs.

Percent of Population Uninsured, 2008-2010

Region	Percent
San Bernardino County	20.45
Riverside County	20.31
Los Angeles County	22.58
Orange County	17.44
San Diego County	17.28
Ventura County	16.35
California	17.92
United States	15.05

Data Source: U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.



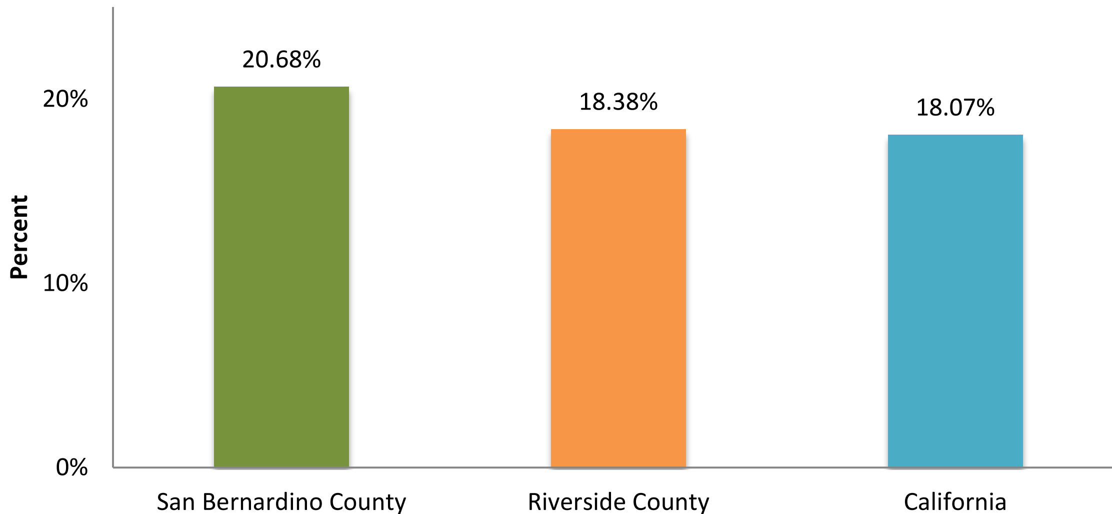
Data Source: U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

Population Receiving Medicaid, 2008-2010

Region	Population (for Whom Insurance Status is Determined)	Population Receiving Medicaid	Percent Population Receiving Medicaid
San Bernardino County	2,020,045	409,682	20.68
Riverside County	2,153,256	391,460	18.38
Los Angeles County	9,784,322	1,929,703	19.88
Orange County	2,987,911	387,500	13.04
San Diego County	3,063,103	394,520	13.36
Ventura County	815,730	109,915	13.63
California	36,414,292	6,580,942	18.07
United States	301,501,760	48,541,096	16.1

Data Source: U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

Percent of population receiving Medicaid, 2008-2010



Data Source: U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

Access to Primary Care

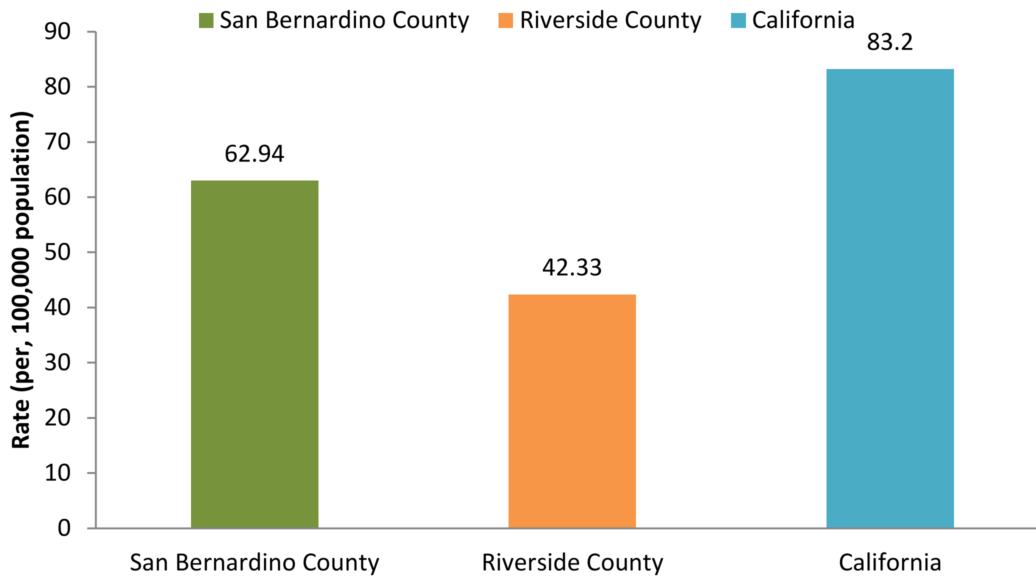
Importance to Community Health Development

The Primary Care Provider rate reports the number of primary care physicians per 100,000 population, highlighting areas that have a shortage of health care professionals.

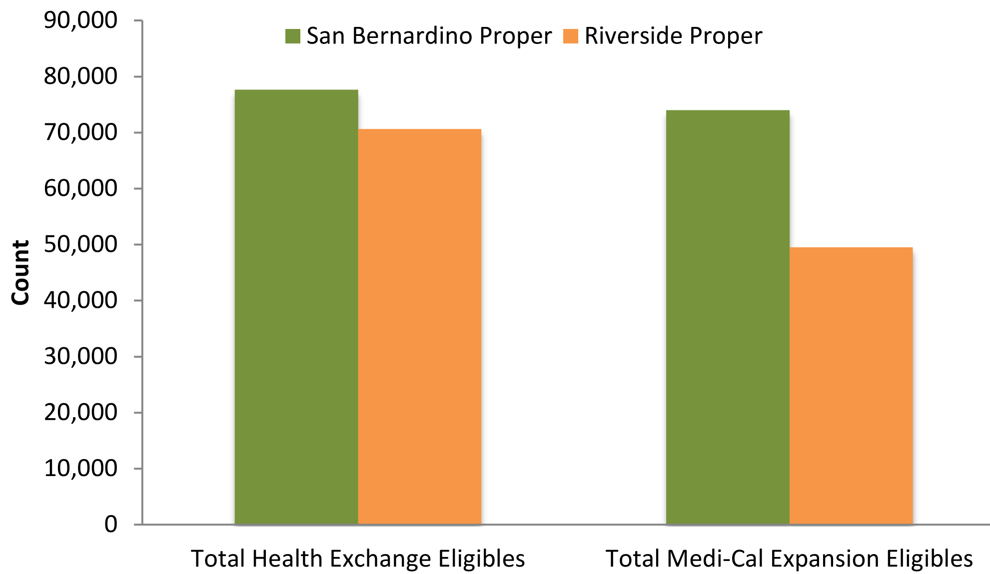
Access to Primary Care, 2011

Region	Primary Care Provider Rate (Per 100,000 Pop.)
San Bernardino County	62.94
Riverside County	42.33
Los Angeles County	80.67
Orange County	100.29
San Diego County	84.32
Ventura County	73.72
California	83.2
United States	84.7

Data Source: U.S. Health Resources and Services Administration Area Resource File, 2011.



Data Source: U.S. Health Resources and Services Administration Area Resource File, 2011.



Data Source: Loma Linda University Medical Center, Business Development.

Health Professional Shortage Areas

Importance to Community Health Development

The following indicator reports number and location of healthcare facilities designated as Health Professional Shortage Areas (HPSAs). HPSAs are defined as having shortages of primary medical care, dental care, and/or mental health providers.

HPSAs are designated on several criteria, often based on type of designation. For example, designation could be due to medical professionals being over-utilized in certain areas, being significantly distant from the population and thus inaccessible, or population-to-clinic ratio. Usually this ratio is 3,500 to 1 for primary care, 5,000 to 1 for dental care, and 30,000 to 1 for mental care. Also, all Federally Qualified Health Centers and Rural Health Clinics that provide access to care, regardless of patient ability to pay, receive automatic facility HPSA designation.

Facilities Designated as HPSAs, 2012

Report Area	Primary Care Facilities	Mental Healthcare Facilities	Dental Healthcare Facilities	Total HPSA Facility Designations
San Bernardino County, CA	8	5	7	20
Riverside County, CA	9	9	8	26
California	349	251	273	873
United States	3,163	2,630	2,547	8,340

Data Source: U.S. Health Resources and Services Administration, Health Professional Shortage Area File, 2012. As presented in http://www.chna.org

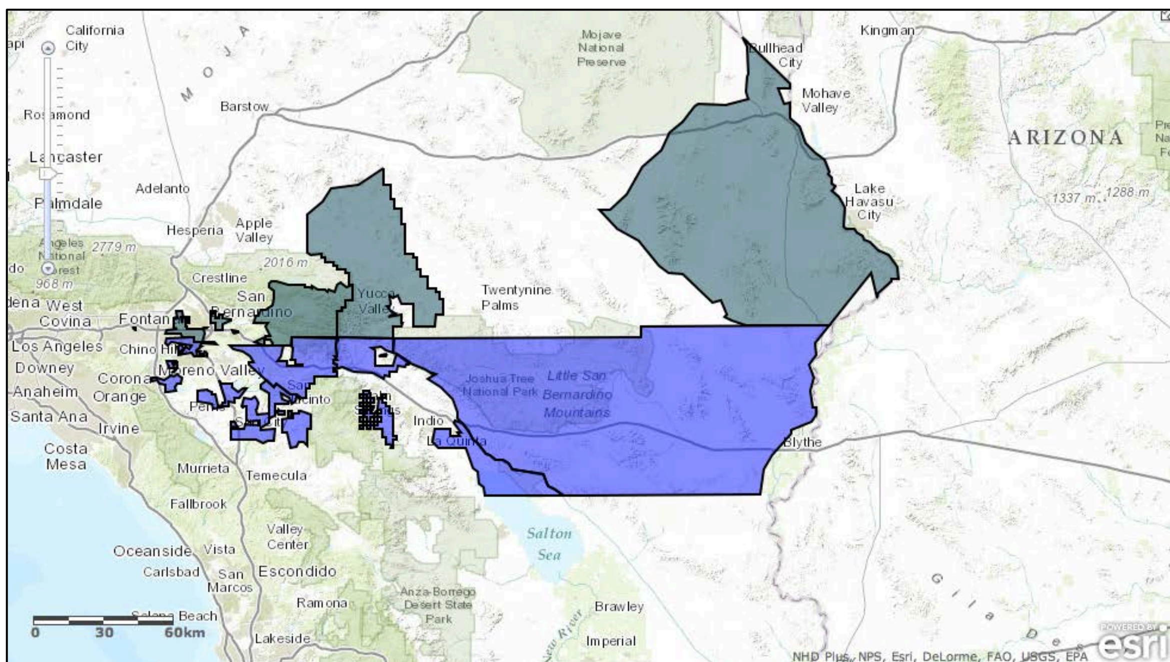
Medically Underserved Areas and Populations

Importance to Community Health Development

Medically underserved areas and populations (MUAs/Ps) are specific geographic areas or populations designated by the Health Resources and Services Administration (HRSA) as having: too few primary care providers, a high infant mortality rate, a high poverty level, and/or a high elderly population.

MUA designation involves application of the Index of Medical Underservice (IMU) to data on a service area ranging from 0 to 100, where 0 designates a completely underserved area. An area with an IMU of 62.0 or less qualifies as a MUA. IMU takes in such variables as the ratio of primary medical care physicians per 1,000 people, infant mortality rate, percent of population with income below federal poverty level, and percent of population 65-years-of-age or older.

Medically underserved areas in San Bernardino and Riverside Counties.



Data Source: Created by Loma Linda University Medical Center in collaboration with ESRI.

LOMA LINDA UNIVERSITY HEALTH

Physical Environment Quality

Importance to Community Health Development

Our physical environment affects our health behaviors and outcomes. Where people live often determines how they live. Access to healthy food items and physical activity resources can often determine our long-term health. According to the World Health Organization, approximately 25% of all deaths are attributable to environmental factors (WHO, 2006). Air pollution is a significant environmental risk factor and improving air quality can in turn improve various health outcomes, such as hypertension, asthma, and COPD.

The Retail Food Environment Index Score (RFEI) is a ratio of the relative abundance of different types of retail food outlets in a given area. RFEI is constructed by dividing the total number of fast-food restaurants and convenience stores by the total number of supermarkets and produce vendors in the area. As a result, the ratio is indicative of retail food outlets that offer little options for fruits and vegetables and other healthy food options. Understanding the RFEI can provide scopes of interventions to create a better built environment that provides the community adequate access to healthy food items.

Unhealthy Air Quality Days

Air Quality in Inland Empire

	Riverside County	San Bernardino County	California	United States
Average Daily Ambient Ozone Concentration	50.34	50.89	41.3	38.98
Number of Days Exceeding Emissions Standards	31.39	43.85	8.45	1.59
Percentage of Days Exceeding Standards, Crude Average	8.60%	12.01%	2.31%	0.44%
Percentage of Days Exceeding Standards, Pop. Adjusted Average	8.53%	12.08%	2.47%	0.47%

Data Source: Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network, 2008.

Retail Food Environment Index

San Bernardino County

- RFEI for San Bernardino County is 5.72
- Among California counties with populations greater than 250,000 San Bernardino County has the **highest ratio** by having almost six times as many fast-food restaurants and convenience stores as grocery stores and produce vendors.
- 60% of restaurant establishments in the County, in comparison to 49% in California, are fast food restaurants.

Riverside County

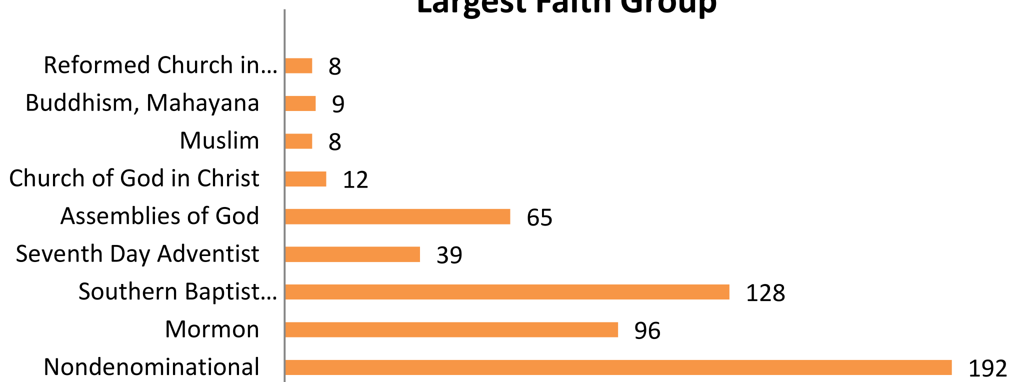
- RFEI for Riverside County is 4.63
- 55% of restaurant establishments in the County, in comparison to 49% in California, are fast food restaurants.

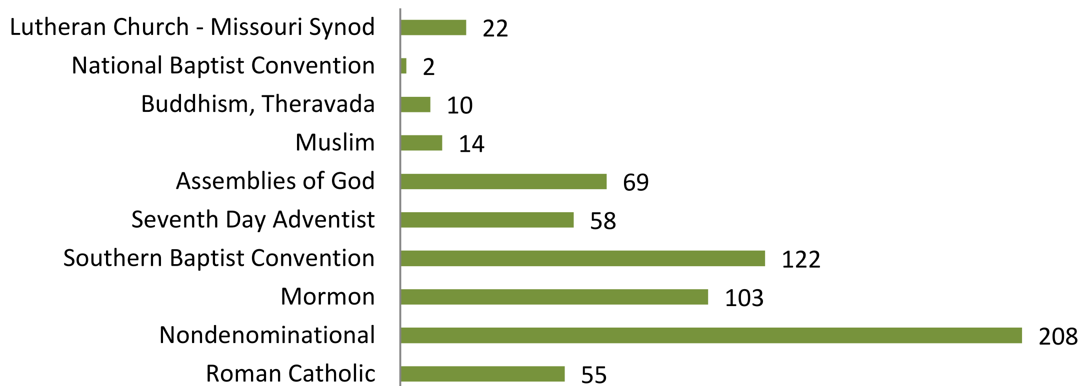
Data Source: California Center for Public Health Advocacy and San Bernardino County: Our Community Vital Signs, 2013.

Faith and Health

Importance to Community Health Development

It has long been established that there is an indelible connection between the health of a person and their faith connection and journey. There is also a connection between the health of a community and its faith expressions. While the correlates are not as easy to see, it is an important aspect to be considered in the assessment of a community's health. Faith communities can further become significant centers of health, wholeness, and healing when congregations understand their role in promoting population health, and its impact on their local communities.





2-1-1 in San Bernardino County

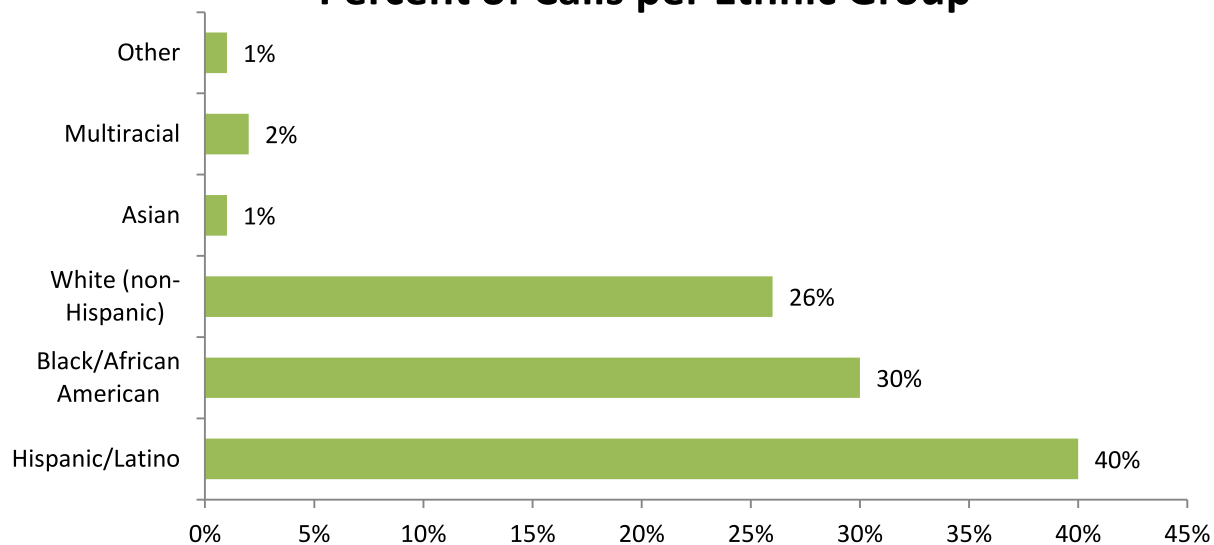
Importance to Community Health Development

2-1-1 is a toll free number created to provide a database for non-emergency health services and social services information and referral in San Bernardino County. Prior to the inception of 2-1-1 in San Bernardino County, there was no database for resources in the San Bernardino County area. Dialing 2-1-1 is now the quickest way to access almost 1,000 agencies with over 2,500 programs providing resources such as low cost burial services, employment, a free or low-cost health clinic, training, free eyeglasses replacement for the elderly, affordable parenting classes or other counseling, legitimate help overcoming temporary financial difficulties, and much more. This database eliminates the need to search phonebooks and the internet for programs that may not be listed. This resource is offered to over 85% of the US population, 93% of California, and 100% of San Bernardino (with the exception of Metro Wireless who has chosen not to pass 2-1-1 calls anywhere). In addition to offering information and referrals, 2-1-1 collects data on the needs, satisfaction, and background of callers. Below are the top needs, ethnicity, top cities, and language preference for the year of 2012.

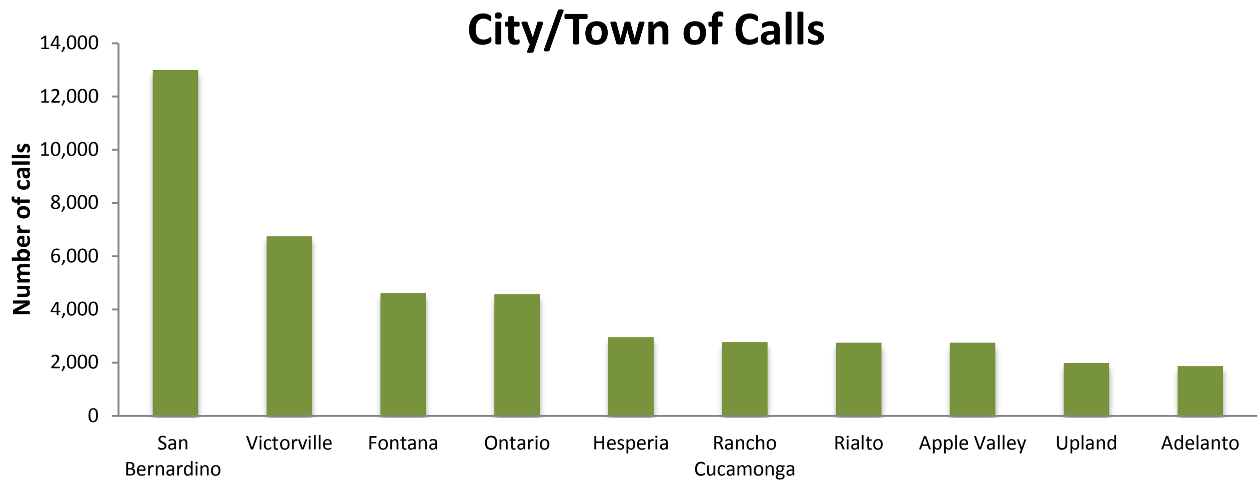
Need	Total for 2012
Utility assistance	11,047
Emergency Food	8,610
Housing expense assistance	4,363
Transitional housing/shelter	3,236
Personal goods/services	2,360
Emergency Shelter	2,348
Information and referral	2,264
Holiday Programs	1,627
Electronic Information Resources	1,505
Community clinics	1,264
Dental Care	1,174
Nutrition related public assistance programs	1,048
Residential Housing options	1,013
Counseling Services	690
Household goods	538

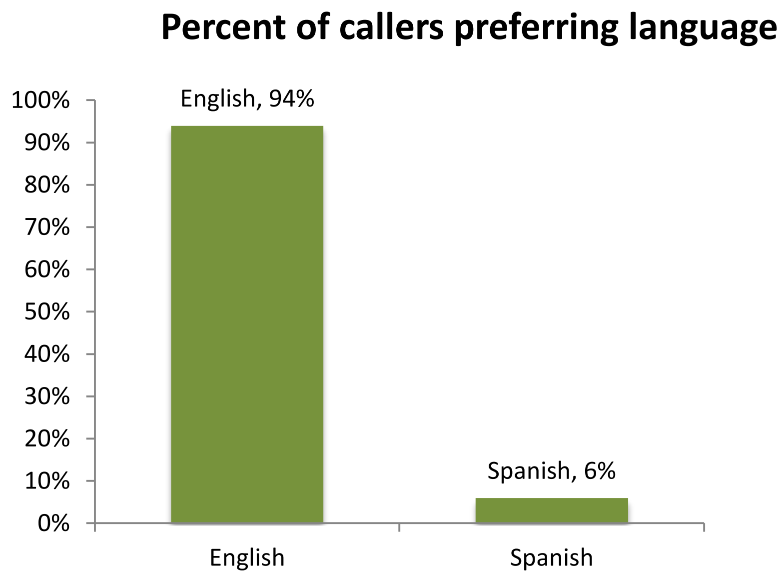
Ethnicity	Percent of calls
Hispanic/Latino	40%
Black/African American	30%
White (non-Hispanic)	26%
Asian	1%
Pacific Islander	<1%
Multiracial	2%
Alaska Native/American Indian	<1%
Other	1%

Note: Only 39% of callers reported their ethnicity.



City/Town	Calls
San Bernardino	12,995
Victorville	6742
Fontana	4612
Ontario	4567
Hesperia	2950
Rancho Cucamonga	2766
Rialto	2750
Apple Valley	2742
Upland	1984
Adelanto	1871





Data Source: Inland Empire United Way 211, San Bernardino County

Healthy Communities

San Bernardino County residents face many barriers to healthy living. For example, the region has been identified as the most automobile-dependent environment in the nation, making it difficult and unappealing to choose active transportation modes (walking and bicycling). SBC was found to have the unhealthiest retail food environment in California, with six unhealthy food retail sites for every healthy site.

In 2006 SBC leaders committed to changing these environments, and since then have invested over three million dollars to assist, support, and encourage multi-sectorial efforts countywide to create healthier environments. Through its award-winning Healthy Communities Program (HCP), the County works in partnership with many sectors and organizations to improve access to physical activity, nutritious food and healthcare services. HCP serves as the infrastructure to support partners including municipalities, universities, school districts, healthcare providers, non-profit organizations, and the business sector. HCP assists partners in their efforts to create healthy environments by educating and facilitating, providing technical assistance, and sustaining and connecting the vast partner network. As a result of the County's Healthy Communities efforts, 24 of the 29 municipalities now have local "healthy city" initiatives, encompassing over 85% of the county's residents. In addition, HCP partners have been awarded more than ten million dollars in grants to create healthier environments.

Participating Cities

Healthy Adelanto
Healthy Apple Valley
Healthy Big Bear Lake and Greater Big Bear Valley
City of Bloomington
Healthy Chino
Healthy Chino Hills
Healthy Colton
Healthy Fontana
Healthy Hesperia
Healthy High Desert
Healthy Highland
Healthy Loma Linda
Healthy Montclair
Healthy Muscoy
Healthy Ontario
Healthy Rancho Cucamonga
Healthy Redlands
Healthy Rialto
Healthy Rim of the Mountain Communities
Healthy San Bernardino
Healthy Upland
Healthy Victorville
Healthy Yucaipa

The Art of Listening and Stories Behind the Statistics

A community health assessment would not be complete without hearing from the population of concern: the local community. As professionals at an academic health institution, we occupy a unique position, which allows for the modeling of health programming, initiatives, and agendas capable of addressing local social determinants and inequalities in our surrounding community.

Yet, as our communities continue to diversify and our needs and the needs of our neighbors seem to increase and become more pressing, past approaches have proven insufficient. In turn, our approach must shift to place emphasis on the importance of community participation in our efforts. This begins by using one of an often forgotten God-given gift—the ability to listen.

More importantly, general health trends have raised growing concerns from the professional and general health community hoping of improving the quality and capacity of service delivery. Our strategy must adapt to meet health needs and an increasingly diverse population. To facilitate the necessary growth and change in health status seen in our communities, policies have adapted to include standards such as the following:

1. Incentivizing agencies and practitioners to shift their focus to upstream interventions as part of service delivery

2. Recommending the exploration of the dynamic and potential partnership between healthcare and providers and communities.

Both strategies emphasize flexibility and exhibit allocative efficiency by remaining responsive to the needs of the community. It is in the context of these two strategies that qualitative research methods were employed to explore health outcomes in the LLUMC service area, to explore the perceptions of health and relative needs as expressed by the community, and to highlight existing assets and networks in the local community. This also helps us to remember there is a story behind every statistic listed in our assessment. Join us as we explore opportunities for working together as a health system to improve the health in our community.

Overview

LLUH conducted multiple focus groups, key informant interviews, community surveys, physician surveys, and internet questionnaires. The focus groups and key informant interviews had three main questions:

1. ***What is your vision of a healthy community?***
2. ***What is your perception of LLU Health (hospital in service area) overall and of specific programs and services?***
3. ***What can LLU Health do to improve health and quality of life in the community?***

LLUH conducted community agency surveys that asked about the health problems and health needs of the community. Physician surveys were conducted to identify perceived barriers to treatment, as well as, the positive and negative features in the patients' lives that are affecting the patients' health.

In addition to conducting our qualitative analysis of the community, LLUH has drawn data from the National Research Corporation (NRC) Consumer Health Report. The NRC Consumer Health Report provides a detailed view of the health need, health status, behaviors, and perceptions of residents within the LLU-TOTAL SERVICE AREA. The NRC Consumer Health Report is conducted annually across communities in over 200 of the nation's largest metropolitan statistical areas (MSAs), and is also available at state and national levels.

Objectives

Our main objective for each conversation and survey was to discover strategies in which Loma Linda University Health could better collaborate and better serve the community. LLUH recognizes the need for the health system to change and adapt to the changing community and wants to make sure that we are serving our community as best we can.

Target Audience

The focus groups were conducted in all the Healthy Communities cities that have been established in San Bernardino and Riverside counties. Additionally, LLUH held focus groups across the area to try and get a representation of everyone in the service area.

Key informant interviews were comprised of community leaders from an array of agencies across San Bernardino and Riverside Counties. Agencies included not-for-profits, faith based organizations, policy groups, elected officials and their staff, education, and local businesses. These were conducted through email, phone, or in person.

The community agency survey was emailed to organizations that collaborate with Loma Linda University Health and was available online. The survey addressed: which community the organization serves, what is healthy in their community, what is not healthy in their community, and what their community needs to be healthy. In addition, the survey asked about perceived barriers to treatment.

The physician survey was emailed to Department Chairs for each department at the Loma Linda University School of Medicine and was available online. The survey addressed which age groups and ethnicities the physicians serve, as well as what is healthy, what is not healthy, and needed resources for patients to live healthier lifestyles.

The NRC survey was an internet-based questionnaire that invited respondents through emailed invitations. The questionnaires were developed utilizing NRC's experience in the design and implementation of hundreds of consumer research studies. Questions were designed to meet the objectives determined from the combined input of marketing directors and strategic planners nationwide.

What We Did with the Data

LLUH reviewed all the information given, found the common themes and summarized the key points (below). By identifying the common themes LLUH can address the needs of the entire community.

NRC Benchmarks

The Riverside-San Bernardino-Ontario CA Core Based Statistical Area sample for 2012 was comprised of 3,305 households. The standard error range for a sample of 3,305 households is ± 1.7 percent at the 95 percent confidence level.

The California sample for 2012 was comprised of 31,481 households. The standard error range for a sample of 31,481 households is ± 0.6 percent at the 95 percent confidence level.

The National sample for 2012 was comprised of 268,175 households which includes the largest 180 MSAs within the U.S. The standard error range for a sample of 268,175 households is ± 0.2 percent at the 95 percent confidence level.

Emergent Themes from the Community

Analysis of community voices showed several emergent themes including the importance of access to information and services for healthy living, social support, and health literacy. The importance of a faith-based organization is well received, though opportunities remain to better promote the mission to all community members and create an environment of inclusion. Such themes highlight several opportunities for improving health outcomes.

Community Voices

Importance of faith

"Talking about the importance of faith will not hurt Loma Linda it will only help"

"Loma Linda has a spiritual aspect which is why it is such a successful community . . . not just a healthcare system"

"We want faith throughout our health system, not in a chapel in a building"

Healthy lifestyle

"…it is more difficult for someone in poverty to lead a healthy life"

"If our mind, body, and spirit are at peace, we will be better contributors in our community"

"We look forward to a global approach to whole child health, where faith based communities, and schools are our partners"

Healthcare

"The deeper question is why sickle cell is not treated as a crisis?"

"We don't want free services, we want just want the prices to be reasonable and accessible"

"Greatest need for our families and students that impacts academic achievement is Behavioral Health Services"

The Voice of Our Community for a Healthy Living Environment

Health literacy

- Well-informed community on disease and disease prevention
- Access to information on healthy living to make informed decisions
- Access to own medical records

Social support

- Support from community for challenging and difficult times
- Neighborhood cohesion to create an environment of inclusion
- Volunteer network to provide support for vulnerable populations
- Homeless shelter for vulnerable populations
- No discrimination against individuals due to age, gender, race, etc.

Social stability

- Clean streets and neighborhoods
- Safe streets and parks for exercising
- Well-lit and aesthetically pleasing streets
- Drug and crime free community

Healthcare and preventive care services

- Community clinics for screening services and preventive care
- Free or low-cost classes on healthy living, exercising, cooking classes, etc.
- Readily available holistic care and mental health services

Healthy choices

- Green space for biking, walking, and exercising
- Farmers markets and access to healthy organic food
- Affordable variety of options for healthy living
- Weather allows outdoor activities almost all year round
- Access to activities in the local areas
- Equal opportunities for all community members to access healthy living options

Economic growth

- Financial support for new businesses to empower community growth
- Civic-community partnerships to create economic growth
- Balanced capital investments in the community

Other positive factors for healthy living

- Good physical, mental, emotional, and spiritual health to improve overall health outcomes
- Good oral hygiene

The Voice of Our Community for an Unhealthy Living Environment

Limited health literacy

- Unawareness of implications of the Affordable Care Act on finances and healthcare utilization options
- Low physician-patient communication among non-English speakers
- Lack of linguistically and culturally-tailored health and preventive care information for non-English speakers
- Difficulty navigating healthcare system, especially needing to see multiple physicians for various conditions
- Limited advertisement of existing health services, especially for seniors
- Lack of access to health education programs for healthy living options
- General lack of knowledge on what defines a healthy community

Lack of social support

- Low community empowerment leads to broken non-cohesive neighborhoods
- Low community support for community-wide projects to improve quality of services and outcomes
- Feeling of alienation and dehumanization, especially for immigrants
- Racism

Lack of security and social stability

- Stray dogs, dead birds, and unclean streets make for an unfriendly community
- Gang gatherings and delinquent behavior
- High alcohol and marijuana prevalence in communities
- High crime rates

- Un-lit and broken streets make exercising difficult

Limited transportation

- Lack of transportation for elderly to and from medical offices
- Limited transportation to healthy supermarkets, which leads to limited healthy choices and living

Poor physical environment

- Lack of trees
- Lack of places to gather and socialize
- Limited healthy dining options
- Poor air quality from freight trains
- Noise pollution

Poor health outcomes

- High rates of childhood obesity
- Vision loss
- Memory loss
- Cardiovascular diseases
- High stress, especially among student population
- Malnourishment among elderly

Unemployment

- High unemployment rates among community members equates to lower opportunity for healthy food choices and exercise
- Lack of jobs creates substance abuse issues in the community

Financial barriers

- High cost of healthy food items limit scope of healthy living
- High cost of medical services and equipment prevent adequate healthcare utilization
- High cost of pharmaceuticals and hospital admission

Other barriers

- Long waiting lines to obtain medical services
- Limited services and options for disabled including heavy doors, non-accessible bathrooms, etc.
- High disparities in food quality between affluent and low-income neighborhoods

- Failed mental health system where limited resources are accompanied by growing and unmet needs
- Understanding of less common chronic diseases, such as sickle cell, limits opportunities for improving heath

The Voice of Our Community on Opportunities for Improvement

Improved access to healthy living

Our community understands the importance of healthy living, access, and utilization of preventive care services but lacks adequate resources to implement positive behaviors.

- There is a need for community-based health education programs, especially those focused on youth and the elderly.
- There is a need for health coaching to encourage behavior change to prevent chronic disease.
- A comprehensive "resource guide" for healthy living and activities is needed. It should provide guidance on resources for cooking healthy, exercising, smoking cessation, and disease management.
- There is a need for post operation services to help those who do not have support at home.
- There is a need for free or low-cost healthy living classes to educate community on health promotion activities.
- Set up street blockades for use of space for physical activity on certain days.
- Bring grocery stores with healthy food options, such as Trader Joes, to community.
- Encourage fast-food drive-through services to shut down at least once a week
- Designate a month for healthy eating.
- Provide incentives for farmers markets.
- Marketing of My Plate is needed to improve healthy living through community events.
- There is a need for access to screening services, including eye exams, mobile clinics, hearing exams, and dental care is needed in the community.
- Improve transportation services so that people can easily access SACS clinic, hospitals, downtown areas, and residential areas.

Improved patient-physician communication

Our community knows the importance of making well-informed health decisions but lacks adequate resources from the healthcare system.

- There is a need for improved patient-physician/healthcare communication
- There is a need for better utilization of existing resources.
- Faith-based organizations provide an ideal scope of such communication to reach entire congregations to deliver healthy living information.
- Healthcare professional participation at community events can lead to better patient-physician communication, improved delivery of healthcare information, higher buy-in from community, improved healthcare utilization, and adherence to medical services.
- Culturally and linguistically tailored health information is necessary for non-English speakers.
- There is a need to market health information to the community using innovative strategies such as social media.
- Create seamless flow of information and collaboration between various sections of the healthcare system to enable patients to make informed decisions.
- Healthcare system's approach to treatment must incorporate compassion to patient populations and create a social support network between patients and physicians.
- Create an environment of inclusion, where patients feel an equally critical component of health decisions.
- Provide advocates for less common chronic disease patients, specifically sickle cell.
- Improve physician knowledge and resources to address needs of patients with unique health needs, such as sickle cell.
- Improve communication with family members of the ill to create a network of support.

Improved behavioral and mental health services

Our community understands the importance of adequate behavioral and mental health services to improve community health outcomes, but such services are lacking.

- There is a need for proactive outreach efforts from the hospital to improve community knowledge and participation in mental health services.
- Residents would prefer a "bigger behavioral health ward."

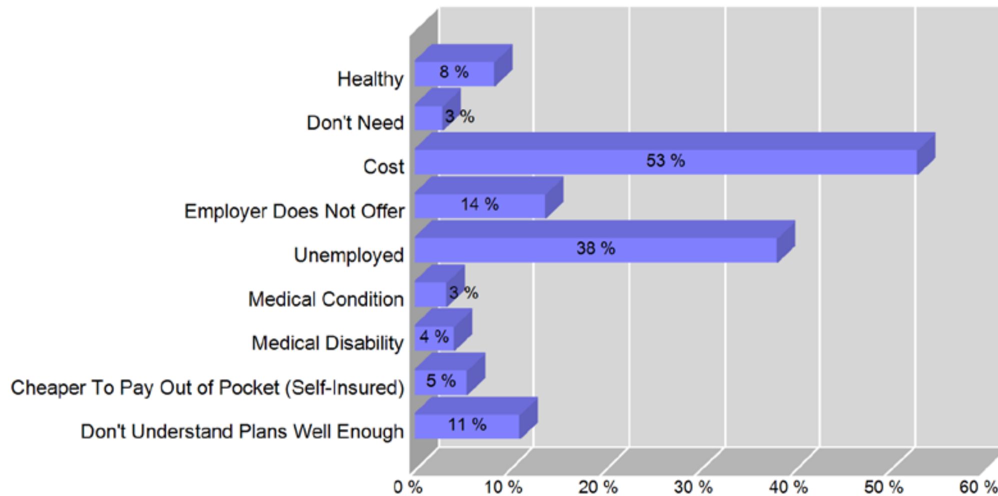
Improved environment for healthy living

Our community emphasized the importance of social stability and safe environments for improving health outcomes, but there is a lack of current solutions.

- Develop aesthetically pleasing areas throughout the city to improve civic participation.
- Improve safety of streets, availability of bike paths, sidewalks, etc. to promote walking and exercising.
- Improve access to parks for all community members without creating a financial burden due to entrance fees.
- Provide workable solutions for better streetlights and well-lit parks.
- Tailored physical activity options for the elderly, the disabled, and those with specific needs due to health issues.

National Resource Corporation

Shown below is a presentation of self-reported responses to questions pertaining to insurance, and reasons for individuals being uninsured.

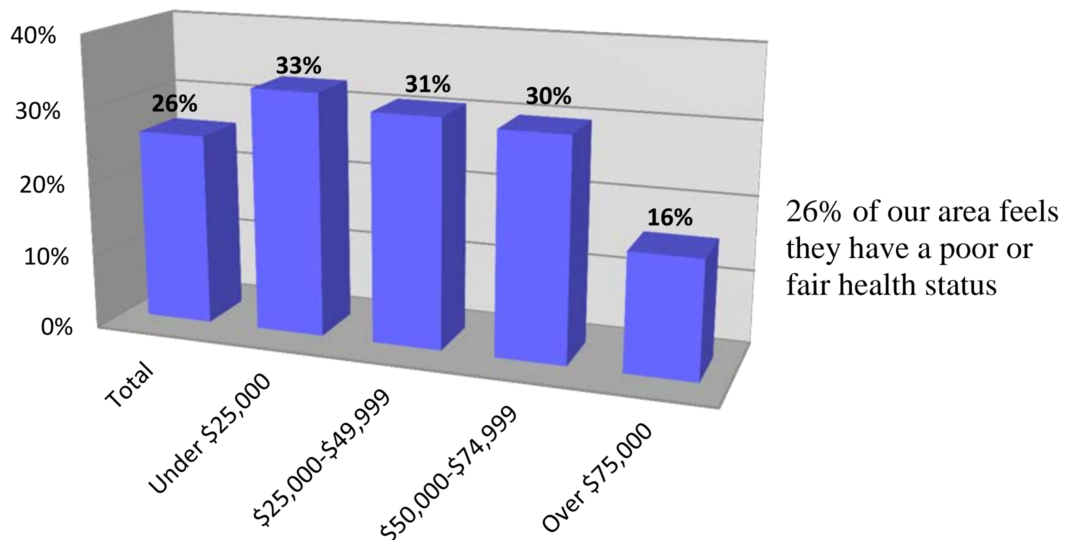


Source: National Research Corporation, 2012

- The main reason to not have health insurance is because the cost is too high
- The second reason is being unemployed which leads back to the cost being too high

This graph shows the percent of all people that responded as having both a poor or fair health status and the percent of people in each range of income that responded as having a poor or fair health status.

LLU-TOTAL SERVICE AREA Household health status by income (fair and poor)



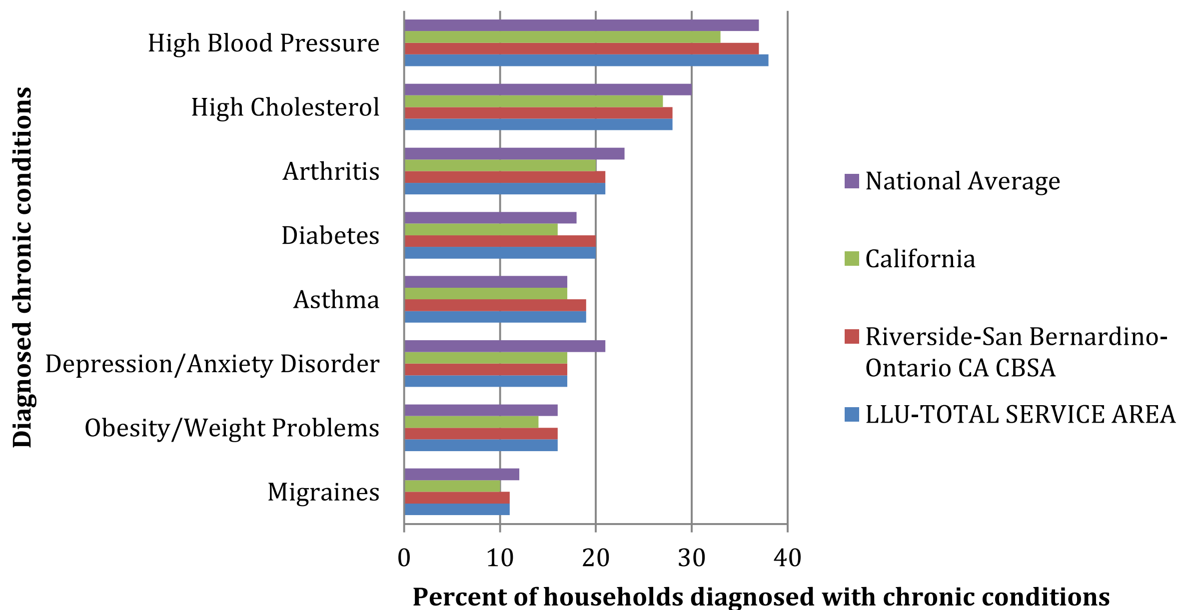
26% of our area feels they have a poor or fair health status

Source: National Research Corporation, 2012

Health Risk Profiles

This section reports various self-reported measures of general physical health among LLU-TOTAL SERVICE AREA residents, including information regarding existence of various health risks, health behaviors, and chronic conditions.

Represented below is the percentage of LLU-TOTAL SERVICE AREA households that reported one or more household members who have been diagnosed with having the following chronic conditions. Comparison benchmarks are given for the MSA, state, and national.



Source: National Research Corporation, 2012

- This supports data reporting heart failure as the leading chronic condition in our area, as well as, the national data

Next Steps: Creating a Healthier Community in 2014

After conducting the CHNA we asked the following questions: **1) What is really hurting our communities? 2) How can we make a difference? 3) What are the high impact interventions? 4) Who are our partners? and, 5) Who needs our help the most?**

- Our assessment highlights that **heart disease** and **stroke** remain the leading causes of deaths in the Inland Empire, followed by cancer.

- **Sickle cell disease** was also a health issue that emerged during our assessment.

- **Childhood obesity** rates remain high in the Inland Empire.

- Our community suffers from high rates of **poverty (especially among children)**, **low educational attainment**, and **low social stability** (low housing availability and high violence rates) making the physical environment less conducive to healthy outcomes.

- The Inland Empire has one for the **poorest air quality** indices and **poor access to healthy food**.

- Our community members know the importance of a healthy lifestyle but often **lack the adequate resources**.

The preceding sections of this report identified numerous indicators reflective of community health status for the LLUMC service area (San Bernardino and Riverside Counties). From this analysis, the following focus areas were identified:

- Whole Child Care
- Whole Chronic Disease Care
- Whole Sickle Cell Anemia Care
- Whole Aging Care
- Whole Behavioral Health

Whole Child Care

Our assessment identified a significant lack of adequate resources for children including behavioral health services, medical services, and social services. Fragmentation of the system as a whole has further added to this gap in services. Our health system and communities have been unable to respond to children raised in poverty because they are lacking resources.

As the smallest voice in a region of minimal resources children are our most at-risk population. The United States Surgeon General has identified the obesity epidemic as one of the greatest health problems facing the nation today. Currently, approximately 25 million U.S. children and adolescents are overweight or obese. Since 1980, the percentage of children who are overweight has more than doubled, while rates among adolescents have more than tripled. Although the rising trend in obesity rates is present in all social classes, the risk is greater in lower income and in certain ethnic populations.

Childhood obesity has been associated with a number of problems including health, social, and economic consequences. Childhood obesity is related to numerous chronic adult disease including Type II diabetes, cardiovascular disease, several types of cancer, and osteoarthritis. Children and adolescents who are overweight are more likely to become overweight or obese adults. If a child is obese at the age of four, he or she will have a 20 percent likelihood of being overweight as an adult.

Meeting the health needs of our children will require a symphony of care and coordinated response from healthcare access, access to nutritious foods, family support, access to open space for physical activity, and collaboration with our local schools. Most strategies to prevent or reduce childhood obesity have focused on individual behavior modification and pharmacological treatment, but have been met with limited success.

Loma Linda University Health recognizes that our children are our future. LLUH is committed to improving the health of all children living in the region by promoting lifelong healthy eating patterns through education and behavior change practices, promoting physically active lifestyles, and supporting community programs that promote overall health.

Whole Chronic Disease Care

…with a Special Emphasis on Heart Disease and Cancer

Chronic diseases are outpacing acute illnesses as the dominant healthcare need among Americans. 1 in 2 American adults have at least one chronic disease and 70% (1.7 million) of all annual deaths are attributable to such diseases. Overall, heart disease and stroke are the first and third leading causes of death, respectively. In Riverside County, American Indians and African Americans are the groups most impacted by heart disease with a rate of 289.6 and 269.3 per 100,000, respectively. In addition, African Americans experienced a 14.2% jump in mortality from stroke between 2006-2010. Understanding, the most impacted groups for chronic disease is important in moving forward with the implementation of a Community Health Plan and targeted interventions.

Chronic disease management is a broad term that encompasses many different models for improving care for people with chronic diseases. Elements of a structured chronic disease management program may include a treatment plan with regular monitoring, coordination of care between multiple providers and/or settings, medication management, evidence-based care, measuring care quality and outcomes, community based interventions supporting healthy behaviors, and support for patient self-management. **LLUH is taking an active role to improve the continuum of care for individuals experiencing chronic disease. We are committed to improving the efficiency of healthcare delivery and bridging preventive strategies in the clinical setting and the community.** This strategy will emphasize interventions for diabetes, heart disease, and obesity related co-morbidities.

The cancer objectives for Healthy People 2020 support monitoring trends in cancer incidence, mortality, and survival to better assess progress made towards decreasing the burden of cancer in the United States. The objectives reflect the importance of promoting evidence-based screening for cervical, colorectal, and breast cancer by measuring the use of screening tests. For cancers with evidence-based screening tools, early detection must include the continuum of care from screening to appropriate follow-up of abnormal test results and referral to cancer treatment.

At LLUH we are committed to treating interrelated factors that contribute to the risk of developing cancer. These same factors contribute to the observed disparities in cancer incidence and death among racial, ethnic, and underserved groups. The most obvious factors are associated with a lack of healthcare coverage and low socioeconomic status (SES), defined by income, education, or geographic location.

In the past decade, overweight and obesity have emerged as new risk factors for developing certain cancers, including colorectal, breast, uterine corpus (endometrial), and kidney cancers. The impact of current weight trends on cancer incidence will not be fully known for several decades. Continued focus on preventing weight gain will lead to lower rates of cancer and many other chronic diseases.

Whole Sickle Cell Anemia Care

Sickle cell disease (SCD) is a real disease with real consequences – appropriately termed "crisis". Symptoms of this inherited disease begin in early childhood and vary in severity, leading to frequent hospitalizations, disability, and early death. SCD is the most commonly inherited blood disorder, affecting 1 of 500 African Americans and 1 of 1000 Hispanic Americans.

Another reality for patients living with SCD is the lack of available resources in the Inland Empire. Over the past decade there has been a notable outmigration of African Americans from Los Angeles to San Bernardino and Riverside Counties, with little attention given to this disease that is largely exclusive to this population. **We believe efforts to improve the health outcomes of this group requires a focused multi-disciplinary effort and healthcare partnerships connecting community resources, providers, and patients.**

Through this focused multi-disciplinary effort we will educate Medical staff regarding the clinical manifestations of the disease, the multiple complications that arise from this disease, and outline the expected appropriate acute and chronic treatment for this disease. We will strive to provide the patients with excellent care regardless of the setting. We desire to engage not only the physical nature of this disease but also the spiritual and emotional aspects of our patients in order to achieve true healing. With our efforts intact our patients will be able to responsibly address their needs thru self- awareness, encouragement, peer education and knowledge. We will form partnerships with interested parties in an effort to increase awareness and engage the community so that our efforts may be multiplied. In the end the patient and those surrounding them that are affected by this illness will be the passion of our work.

Whole Aging Care

The way we define healthy living, wellness, and aging has become increasingly significant over the past decade as the growth of the aging population has continued to outpace that of any other demographic group. Today, as the U.S. healthcare system prepares to implement sweeping changes brought about by legislative action, the focus on disease prevention and chronic care management has taken center-stage, and the aging population is a key player. Aging, however, does not commence at a specific point; it is instead a continuum running across the breadth of the lifespan, and both an individual and communal process. **A whole aging care model will engage multiple stakeholders across the region to promote healthy living and aging through preventive health programs, reduction of disparities in education and access, and the creation of healthy community initiatives for sustainable healthy aging.**

Whole Behavioral Care

Good mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. It is estimated that only about 17% of U.S adults are considered to be in a state of optimal mental health. Depression is the most common type of mental illness, affecting more than 26% of the U.S. adult population. It has been estimated that by the year 2020, depression will be the second leading cause of disability throughout the world, trailing only ischemic heart disease. In Riverside County, residents, on average, reported having four mentally unhealthy days reported in past 30 days (age-adjusted). This figure is double the National Benchmark of 2.3 days. Focusing on behavioral health is important, because there is emerging evidence that positive mental health is associated with improved health outcomes and lowered risk factors for many diseases. Riverside County lacks a sufficient number of mental health providers, further highlighting the need to address healthcare access.

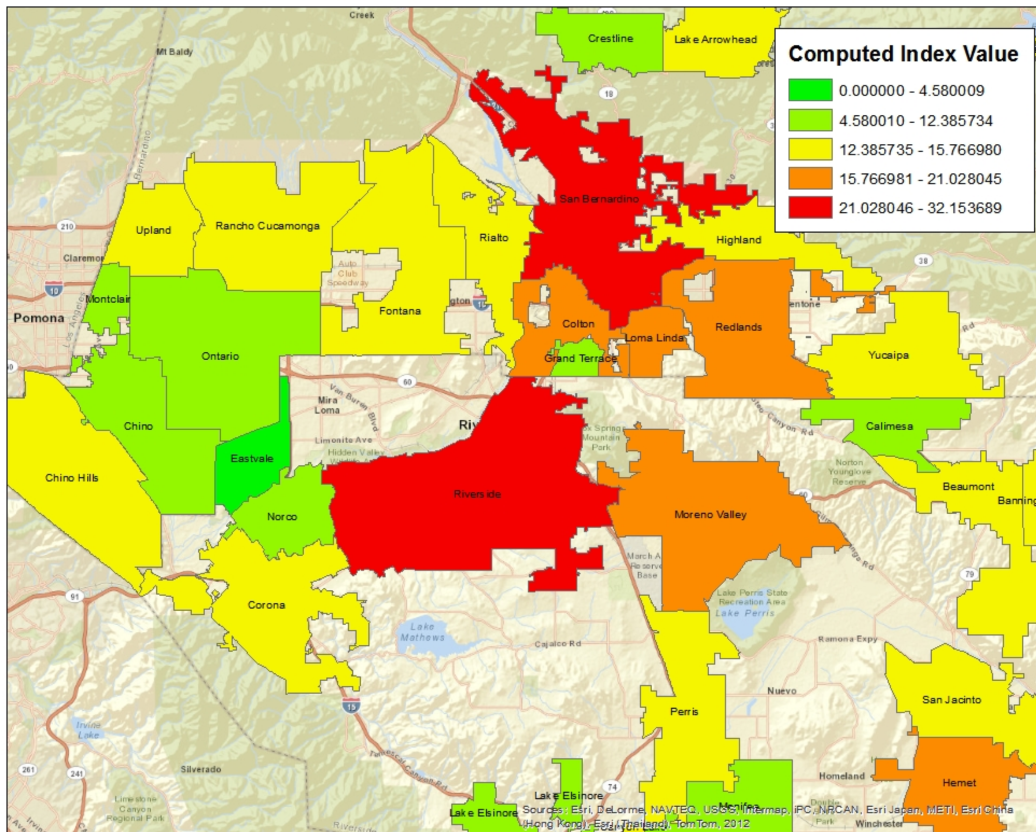
High rates of 5150's in Emergency Departments in the Inland Empire and lack of behavioral health services for children also contribute to the importance of addressing behavioral health in our service area. **LLUH, as a faith-based healthcare leader, is building partnerships with interfaith communities to change the health status in our region.** Participation in a community of faith significantly improves the likelihood for congregation members of becoming healthy and staying healthy. LLUH is helping faith communities to redefine themselves as 'health centers,' where the whole person is treated: emotionally, spiritually, relationally, and physically.

LLUH assessed the entire service area to strategically identify the areas of greatest need. Poverty, low education levels, and high utilization of emergency departments for ambulatory care sensitive conditions were used as indicators to identify the areas of greatest need.

Each indicator was ranked and an index was created. Below you will find the focus areas geographically displayed in red and orange. These areas will be the focus of community health development interventions with target measurable outcomes.

Areas of Greatest Need

San Bernardino City **Riverside City**



LOMA LINDA UNIVERSITY HEALTH

To better understand these high need areas, a quick overview of key social determinants of health and health status is provided.

Snapshot of Key Indicators of Social Determinants of Health and Health Status among Identified Priority Areas (Cities) in San Bernardino County

Indicators	San Bernardino County[1]		
	San Bernardino city	Highland	Colton
Social Determinants of Health			
Total population	210,100	52,777	52,283
Percent Hispanic	58.8%	47.9%	68.0%
Poverty	28.6%	17.6%	22.2%
Unemployment	14.5%	13.6%	11.6%
Bachelor's degree or higher	12.7%	19.7%	13.2%
Health Status			
Heart disease mortality (per 100,000)	234.0	274.2	188.4
Stroke mortality (per 100,000)	44.2	N/A	N/A
All cancer mortality (per 100,000)	165.5	256.9	217.1
Overweight/Obesity (adolescent)	43.9%	32.8%	46.1%
Low birth weight	7.8%	8.7%	7.4%

N/A: data not available or not applicable. [1]San Bernardino County: Our Community Vital Signs (2013).

Snapshot of Key Indicators of Social Determinants of Health and Health Status among Identified Priority Area (City) in Riverside County

Indicators	Riverside City[1]
Social Determinants of Health	
Total population	313,673
Percent Hispanic	49.0%
Poverty	15.8%
Unemployment	9.7%[2]
Bachelor's degree or higher	21.9%
[3]Mortality rates (per 100,000)	
Heart disease	211.55
Stroke	42.57
Cancer	167.99
Children/Adolescent Health	
[4]Percent of 5th graders in need of improvement	39.0%
[3]Low birth weight	6.30%

[1]QuickFacts from the US Census Bureau (2011). [2]US Bureau of Labor Statistics (2013).
[3]Approximate measures calculated from data available at California Department of Public Health.
[4]Percent of adolescents in need of improvement based on data on body composition, a proxy for overweight and obesity.

References

California Center for Public Health Advocacy and San Bernardino County: Our Community Vital Signs, 2013.

California Center for Public Health Advocacy and San Bernardino County: Our Community Vital Signs, 2013.

California Death Statistical Master Files, 2008-2010. As presented in California Breathing.

California Department of Education, Statewide Assessment Division. (2013). Physical fitness testing results, 2007 – 2012.

California Department of Healthcare Services, Pediatric Nutrition Surveillance System., 2013. Growth indicators by race/ethnicity and age, 2006-2010.

California Department of Public Health, 2001-2012.

California Department of Public Health, 2010.

California Department of Public Health, 2011. In-Hospital Breastfeeding Initiation Data.

California Health Interview Survey (CHIS), 2009. As presented in California Breathing.

California Healthy Kids Survey, WestEd, California Department of Education. (2013)., Current alcohol and other drug use, Past 30 days, Table A4.3, 2009-2011.

Cancer Registry of Greater California, 2009.

Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2005-2009. As presented in http://www.chna.org

Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2005-2011. As presented in http://www.chna.org

Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org

Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org

Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org

Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network, 2008.

Centers for Disease Control and Prevention, National Vital Statistics System: 2003-09. Accessed using CDC WONDER. As presented in http://www.chna.org

Centers for Disease Control and Prevention, National Vital Statistics System: 2006-10. Accessed using CDC WONDER. As presented in http://www.chna.org

Dartmouth Atlas of Healthcare, Selected Measures of Primary Care Access and Quality, 2003-2007. As presented in http://www.chna.org

Economics & Politics, Inc. http://www.johnhusing.com/

Inland Empire United Way 211, San Bernardino County.

Loma Linda University Medical Center, Business Development.

Needell, B., et al. (Apr. 2013). Child Welfare Services Reports for California, U.C. Berkeley Center for Social Services Research. As presented by http://www.kidsdata.org

OSHPD, 2010. As presented in California Breathing.

Quick Facts, U.S. Census Bureau, 2011.

Riverside County 2013 Homeless Count and Subpopulation Survey, May 2013.

State of California Department of Justice, Office of the Attorney General. http://ag.ca.gov/cjsc/statisticsdatatabs/CrimeCo.php

The University of Wisconsin, Population Health Institute, County Health Rankings, 2012 and the U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data, Public School Universe Survey Data, 2005-06, 2006-07 and 2007-08. As presented in http://www.chna.org

U.S. Bureau of Labor Statistics, July, 2012 Local Area Unemployment Statistics. As presented in http://www.chna.org

U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

U.S. Health Resources and Services Administration Area Resource File, 2011.

U.S. Health Resources and Services Administration, Health Professional Shortage Area File, 2012. As presented in http://www.chna.org

United States Department of Agriculture. Economic Research Service. Educational attainment for the U.S., States, and counties, 1970-2011.

Appendix A: Community Partners

LLUH believes that partnerships are effective tools in improving the health of our community. Together, we are able to leverage our resources and strengths and have a greater impact. We can build a greater sense of community and a shared commitment towards health improvement.

We would like to thank our partners for their service to our community.

- Air Quality Management District (AQMD)
- American Cancer Society
- American College of Cardiology
- American Heart Association
- American Lung Association
- American Red Cross
- AmeriCorps
- Boys and Girls Club
- C.E.R.T. - Community ER Response Team
- California Association of Marriage & Family Therapists
- California Bicycle Coalition
- California Safe Program
- California Thoracic Society
- Catholic Diocese of San Bernardino
- Central City Lutheran Mission
- Chamber of Commerce – Inland Empire
- Childhood Cancer Foundation of Southern California, Inc.
- Community Clinic Association of San Bernardino County
- CVEP Career Pathways Initiative
- First 5 of San Bernardino and Riverside
- Faith Based Communities
- Inland Coalition for Health Professions
- Inland Empire Children's Health Initiative
- Inland Empire United Way
- Inland Empire Women Fighting Cancer
- Latino Health Collaborative
- Jefferson Transitional Program
- Nu Voice Society Inland Empire
- Omnitrans
- Partners for Better Health
- Reach Out
- Riverside County Emergency Medical Services (RCEMS)
- Riverside County Department of Public Health
- Ronald McDonald House
- Riverside County Department of Public Health
- SAC Health System
- Safe Kids Inland Empire Coalition
- San Bernardino Associated Governments (SANBAG)
- San Bernardino City Schools Wellness Committee
- San Bernardino County Medical Society
- San Bernardino County Department of Public Health
- San Bernardino Mexican Consulate
- San Manuel Band of Mission Indians
- Think Together

San Bernardino County Healthy Communities

▪ Healthy Adelanto ▪ Healthy Apple Valley ▪ Healthy Big Bear Lake and Greater Big Bear Valley ▪ City of Bloomington ▪ Healthy Chino ▪ Healthy Chino Hills ▪ Healthy Colton ▪ Healthy Fontana ▪ Healthy Hesperia ▪ Healthy High Desert ▪ Healthy Highland ▪ Healthy Loma Linda	▪ Healthy Montclair ▪ Healthy Muscoy ▪ Healthy Ontario ▪ Healthy Rancho Cucamonga ▪ Healthy Redlands ▪ Healthy Rialto ▪ Healthy Rim of the Mountain Communities ▪ Healthy San Bernardino ▪ Healthy Upland ▪ Healthy Victorville ▪ Healthy Yucaipa

Appendix B: Existing Facilities and Resources

As part of our assessment, we compiled a list of existing facilities and resources in the area who were working to address health needs in our community. This was done not only to fulfill the legal requirements set forth by ACA, but also to educate ourselves on community partners and to look for potential connections.

Name	Location	Facility Type
Arrowhead Regional Medical Center	400 N Pepper Ave, Colton, CA 92324	Hospital
Beaver Medical Group: Highland Church Street Office	7223 Church St, Suite C Highland, CA 92346	Family and Internal Medicine
Beaver Medical Group: Highland Main Office	7000 Boulder Ave Highland, CA 92346	Chemotherapy Infusion Centers, Gastroenterology Lab Services, Radiology, Audiology, Cardiology, Dermatology, Family Medicine, Internal Medicine Neurology, OB-GYN Oncology and Hematology Orthopedic Surgery Otolaryngology , Pediatrics Urgent Care
Beaver Medical Group: Redlands Main Office	2 W. Fern Ave Redlands, CA 92373	Laboratory, Pharmacy, Radiology, Allergy and Immunology, Cardiology, Endocrinology, Family and Internal Medicine, General Surgery, OB/GYN, Orthopedic Surgery, Pulmonology, Urology
Beaver Medical Group: Redlands Oasis Medical Plaza	1690 Barton Road Redlands, CA 92374	Ophthalmology, Optometry, Rheumatology
Beaver Medical Group: Redlands Orthopedic Office	259 Terracina Blvd Redlands, CA 92373	Radiology, Orthopedic Surgery
Beaver Medical Group: Terracina Pediatrics, Redlands	245 Terracina Blvd, Suite 202 Redlands, CA 92373	Pediatrics
Community Hospital of San Bernardino	1805 Medical Center Drive San Bernardino, CA 92411	Hospital
Inland Behavioral and Health Services, Inc.	1963 North 'E' Street San Bernardino, CA 92405	Psychology, Substance Abuse Counseling, Homeless Support Services, Prevention/Outreach

Name	Location	Facility Type
Inland Family Community Health Center	665 North 'D' Street San Bernardino, CA 92401	Medical, Pharmacy, Dental, OB/GYN, SNAP Program, Urgent Care
Kaiser Permanente: Redland Medical Offices	1301 California Street, Redlands, CA 92374	Family and Internal Medicine, Pediatrics
Kaiser Permanente: San Bernardino Medical Offices	1717 Date Place San Bernardino, CA 92404	Family Medicine, Psychiatry
Kaiser Permanente: San Bernardino Mental Health Offices	325 West Hospitality Lane San Bernardino, CA 92408	Psychology/Psychiatry
Planned Parenthood: San Bernardino Health Center	1873 S Commercenter Drive West San Bernardino, CA 92408	Family Planning and Reproductive Health
Redlands Community Hospital	350 Terracina Boulevard Redlands, CA 92373	Hospital
Redlands Beaver Advantage Health Center	1600 E. Citrus Ave, Suite A Redlands, CA 92374	Family and Internal Medicine, Pediatrics, Laboratory, Radiology
Robert H. Ballard Rehabilitation Hospital	1760 West 16th Street San Bernardino, CA 92411	Physical and Occupational Therapy, Speech/Language Pathology, Psychologists, Respiratory Therapy, Neurologists
San Bernardino County, Department of Public Health: Redlands Clinic	800 E. Lugonia Ave. Suite F Redlands, CA 92373	Reproductive Health/STD Services
San Bernardino County, Department of Public Health: San Bernardino Clinic	799 East Rialto Ave San Bernardino, CA 92415	Reproductive Health/STD Services, Immunizations, Tuberculosis Skin Testing, Primary Care, HIV Clinical Services
St. Bernardine Medical Center	2101 North Waterman Avenue San Bernardino, CA 92404	Hospital
Totally Kids, Specialty Healthcare	1720 Mountain View Ave. Loma Linda, CA 92354	Pediatric sub-acute care
VA Loma Linda Healthcare System	11201 Benton Street Loma Linda, CA 92354	Veteran's Administration
Whitney Young Family Health Clinic	1755 Maple Street San Bernardino, CA 92411	Medical and Dental Services

Appendix C: Key Informants

The following is a list of key informants who were interviewed as a part of this community health needs assessment. Key informant interviews were comprised of community leaders from an array of agencies across San Bernardino and Riverside Counties, as well as, employees within the LLUH system. These were conducted through email, phone, or in person. When applicable, their comments were also intended to represent the underserved, low income, minority, and chronically ill populations. We would like to acknowledge and thank these leaders for contributing to this process and for being a valuable resource.

Name, Title	Organization
Angela Jones **School Nurse**	San Bernardino County Schools
Cynthia Luna **Executive Director**	Latino Health Collaborative
Evelyn Trevino **Healthy Community Coordinator**	San Bernardino County Department of Public Health
Gary Ovitt	County of San Bernardino Board of Supervisors; District 4
Jin Peterson **Executive Director**	San Bernardino County Medical Society
John Husing, PhD **Chief Economist**	Economics & Politics, Inc.
Josh Lee **Data Analyst**	San Bernardino Associated Governments (SANBAG)
Dr. Maxwell Ohikuare **Chief Medical Officer**	San Bernardino County Department of Public Health
Paul Granillo **President & CEO**	Inland Empire Economic Partnership
Paul Leon **Mayor**	City of Ontario, California
Rich Swafford, PhD **Executive Director**	Inland Empire Health Information Exchange

LOMA LINDA
UNIVERSITY
HEALTH

2013 | Community

Health Needs Assessment

Loma Linda University Medical Center—Murrieta

Loma Linda Universtiy Health Community Health Needs Assessment for:

Loma Linda University Medical Center-Murrieta

Board approved on August 27, 2013

Prepared By:
Laura Acosta, BA, MPH(c)
Dora Barilla, DrPH, MPH, CHES
Marti Baum, MD
Monideepa B. Becerra, MPH, DrPH(c)
Tim Gillespie, DMin
Jessica L.A. Jackson, MA, MPH
Loma Linda University Medical Center
Community Health Development

Dear Community

As Chief Executive Officer of Loma Linda University Medical Center-Murrieta (LLUMC – Murrieta), we are pleased to share our first Community Health Needs Assessment with you. As you read our plan, please join me in imagining a healthier community while giving us the opportunity to extend our mission of furthering the teaching and healing ministry of Jesus Christ.

As Loma Linda University Health's newest member, LLUMC - Murrieta is proud to make strategic investments in our local community that are aligned with our mission and deep history of community based prevention. We plan to listen to our community, document successes and opportunities for improvement, and provide spiritual, mental, and physical healing to those in need with the intention of becoming a trusted community partner.

The Community Health Needs Assessment is a report that thoroughly outlines health status in our community. This process gave us new insight into the health of our community highlighting the areas we collectively have identified as priorities and where we could partner and lead for better health outcomes in our region.

Building a healthy community requires multiple stakeholders working together. We must strive to build lasting partnerships that span across multiple sectors, actively engaging in finding solutions. We invite you review our plan and allow us to join you in finding opportunities to partner for a healthier region.

Sincerely,

Rick Rawson
Chief Executive Officer
Loma Linda University Medical Center

Table of Contents

EXECUTIVE SUMMARY 6

INTRODUCTION 8

COMMUNITY PROFILE 10

METHODOLOGY/REQUIREMENTS 11

SOCIAL DETERMINANTS OF HEALTH 12

POPULATION 13
AGE 14
GENDER 15
RACE/ETHNICITY 15
INCOME, POVERTY, AND UNEMPLOYMENT 18
EDUCATION 22
PRIMARY LANGUAGE 24
HEALTH LITERACY 25
HOUSING 27
VIOLENCE 28

HEALTH STATUS 30

BIRTH INDICATORS 31
LIVE BIRTHS 31
INFANT MORTALITY RATE 32
LOW BIRTH WEIGHT 34
LEADING CAUSES OF DEATH 35
CHRONIC DISEASE BURDEN 37
HEART DISEASE AND STROKE 37
OBESITY 39
CANCER 41
RESPIRATORY DISEASES 43
ACCIDENTS 45
BEHAVIORAL HEALTH 46
HEALTH BEHAVIORS 47
NUTRITION: FRUIT AND VEGETABLE INTAKE 47
NUTRITION: BREASTFEEDING 48
PHYSICAL ACTIVITY 49
TOBACCO USE 51
SUBSTANCE ABUSE/HEAVY ALCOHOL USE 52
HOSPITALIZATIONS 53

HEALTH SYSTEMS' READINESS 62

HEALTH INSURANCE 62
ACCESS TO PRIMARY CARE 63
HEALTH PROFESSIONAL SHORTAGE AREAS 64
MEDICALLY UNDERSERVED AREAS AND POPULATIONS 65

PHYSICAL ENVIRONMENTAL QUALITY 66

UNHEALTHY AIR QUALITY DAYS 67
RETAIL FOOD ENVIRONMENT INDEX 67

FAITH AND HEALTH 68

THE ART OF LISTENING AND STORIES BEHIND THE STATISTICS 69

HEALTH RISK PROFILES 75

NEXT STEPS: CREATING A HEALTHIER COMMUNITY IN 2014 76

WHOLE CHILD CARE 76
WHOLE BEHAVIORAL HEALTH 77
WHOLE CHRONIC DISEASE CARE 78

REFERENCES 79

APPENDIX A: COMMUNITY PARTNERS 81

APPENDIX B: EXISTING FACILITIES AND RESOURCES 83

APPENDIX C: KEY INFORMANTS 85

Executive Summary

In 2013, Loma Linda University Medical Center—Murrieta completed a triennial Community Health Needs Assessment (CHNA) to gain a better understanding of health status among the residents we serve. The community health needs assessment is conducted not only to fulfill the requirement of California's Community Benefit Legislation (SB 697) but in response to the mission of the hospital to further the teaching and healing ministry of Christ. LLUMC—Murrieta is rooted in promoting wholes and the resulting CHNA was modeled after such a value. This Whole Community Care Model (LLUH, 2013) integrates social determinants of health, health status and behaviors of our community, the environment, and the health systems' readiness to provide services. Accordingly, LLUMC—Murrieta worked closely with community partners to identify collective evaluation measures to work towards key health indicators as a region and not in isolation.

This document outlines the major indicators of health in Riverside County and identifies priority areas. It represents a collaborative process that views health as a result of intersecting factors; as such a collaborative process will be necessary to overcome identified barriers.

Key Findings:

- Our assessment highlights that heart disease and stroke remain the leading causes of deaths in the Inland Empire followed by cancer.
- High rates of 5150's in Emergency Departments in the Inland Empire and lack of behavioral health services for children highlight the importance of addressing behavioral health in our service area.
- Our assessment identified a significant lack of adequate resources for children including behavioral health services, medical services, social services
- The Inland Empire also has one for the poorest air quality indices and poor access to healthy food.
- Our community understands the importance of healthcare access and utilization of services but lacks adequate resources.

After conducting the CHNA we asked the following questions: ***1) What is really hurting our communities? 2) How can we make a difference? 3) What are the high impact interventions? 4) Who are our partners?*** and ***5) Who needs our help the most?*** From this analysis, three priority areas were identified:

- Whole Child Care
- Whole Behavioral Care
- Whole Chronic Disease Care

Moving forward, these priority areas will be used to guide the development of a Community Health Plan, with initiatives designed to address these concerns. Building a healthy community requires multiple stakeholders working together with a common purpose. We invite you to explore our health challenges in the Inland Empire outlined in this report. More importantly though, we hope you use the findings in this report to conceptualize collective solutions, establish sustainable partnerships, and work towards a healthier Inland Empire.

Introduction

Where and how we live is vital to our health.
As you read this document, think about health in the Inland Empire in relation to the environment in which we live, work, and play. Economic opportunities, access to nutritious foods, green space, and the availability of social networks, are key determinants in shaping our health. Our hope is to focus beyond pressing healthcare challenges to see the resources and assets that exist in our community and how we can align them for better health outcomes.

Loma Linda University Health is leading the way forward in understanding our community by conducting a triennial Community Health Needs Assessment (CHNA). Developing priorities and targeting interventions from knowledge gained through this assessment increases our ability to improve the health of Riverside and San Bernardino Counties. Developing a shared understanding of the challenges and opportunities is a critical step in population health improvement.

Community Health Development of LLUMC has taken a unique approach to the assessment process. We will ask the questions: **1) What is really hurting our communities? 2) How can we make a difference? 3) What are the high impact interventions? 4) Who are our partners? and 5) Who needs our help the most?**

LLUH is rooted in promoting whole care and the CHNA presented here was modeled after such a value. This **Whole Community Care Model** integrates social determinants of health, health status, health behaviors, the environment, and indicators of health systems' readiness to meet community health needs. This information can provide detail at differing levels, and when aggregated, can be used to support policy and programmatic decisions.

Measuring morbidity and mortality rates while addressing social determinants of health, allows us to assess linkages between our environment and health outcomes. For example, by comparing chronic disease outcomes (e.g. heart disease) with health behaviors (e.g. physical inactivity) and environmental factors (e.g. retail food environmental index), various patterns may emerge. This allows for a better understanding of our community's needs and scopes of prioritized interventions.

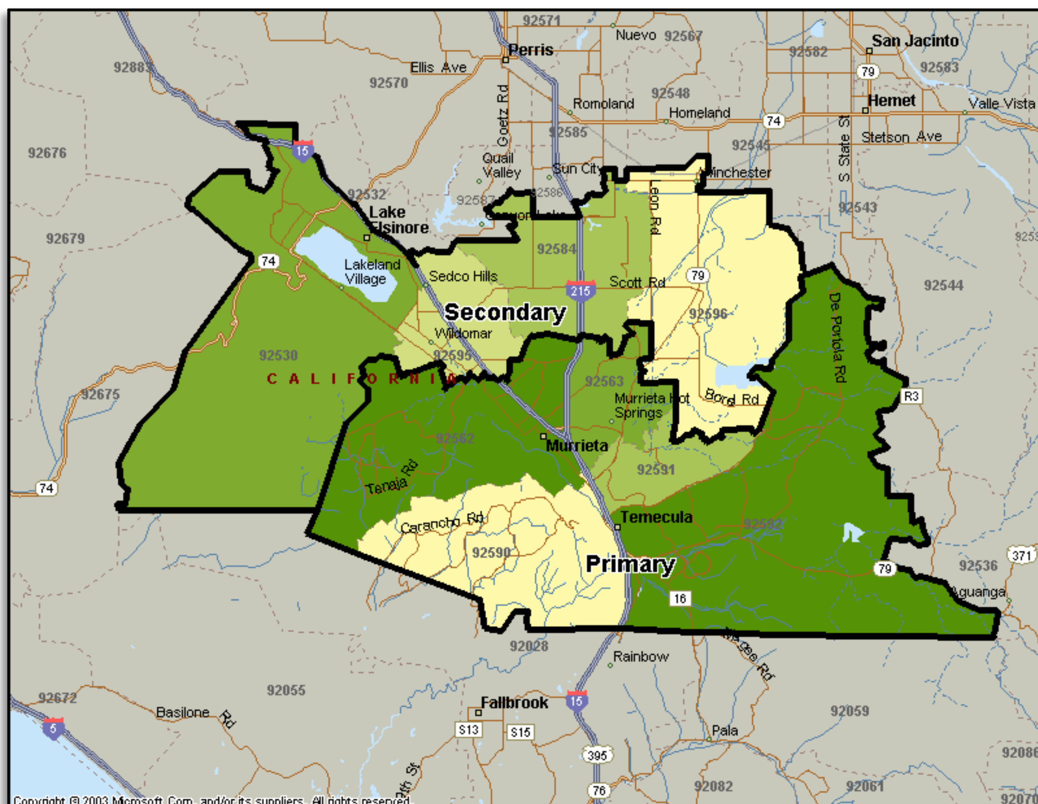
Building a healthy environment requires multiple stakeholders working together with a common purpose. We invite you to explore the health status in our community, which is outlined in this assessment. More importantly though, we hope you imagine a healthier region, where we collectively prioritize our health concerns and find solutions across a broad range of sectors to create healthier communities for ourselves and our families.

Community Profile

Loma Linda University Medical Center-Murrieta (LLUMC-Murrieta) is the fulfillment of a vision shared by dedicated local physicians, community members, LLUMC leadership, local and state governments to create a world-class community hospital.

LLUMC-Murrieta serves the community with a new, state-of the art medical facility that blends the best of the local medical community and the 105 year legacy of the Seventh-day Adventist owned and operated, Loma Linda University Medical Center. LLUMC-Murrieta is home to a 256,000 square foot acute care hospital with 106 inpatient beds, and a 160,000 square foot Professional Office Building. The facility blends the latest technology with high-touch care, and a calm, healing environment.

LLUMC-Murrieta's market area is defined as the Southwest region of Riverside County. The Southwest Riverside County region is comprised of the communities of Lake Elsinore, Menifee, Murrieta, Sun City, Temecula, Wildomar, and Winchester. It is home to an estimated 477,363 people as of the year 2012.



Methodology/Requirements

The CHNA is conducted not only to fulfill the requirement of California's Community Benefit Legislation (SB 697) but in response to the mission of the hospital to further the teaching and healing ministry of Jesus. The community health assessment will also meet the requirements of the Patient Protection and Affordable Care Act of 2010 (H.R. 3590) for non-profit hospitals. The primary focus of the assessment will be on elevating the health of our community and the diverse populations that we serve by, identifying community needs and prioritizing our community interventions. **The assessment was conducted in collaboration with Riverside County Public Health Department.**

Quantitative Data

- Data on health indicators, morbidity, mortality, and various social determinants of health were collected from the Census, California Department of Public Health, County Health Rankings, and other various local, state, and federal databases.
- Hospitalization and Emergency Department (ED) utilization data were collected from Office of Statewide Health Planning and Development (OSHPD) and LLUMC.

Qualitative Data

To validate the data and to ensure a broad representation of the community qualitative data was collected as follows:

- Employees within both LLU and LLUMC to assess collaboration within our system.
- Physician Survey to identify areas of the health system that can support the health of their patients in our community initiatives.
- Survey of community agencies serving our primary service area to assess their needs and identify areas where LLUH can be a strategic partner.
- Key informant interviews with community leaders to engage them in the development of our interventions and elicit their input to improve the health of our region.
- Focus groups with end users of hospital services to hear directly from our patients how we can better serve their health needs.

Information Gaps

It should be noted that the key informant interviews, focus groups, and survey results are not based on a stratified random sample of residents throughout the Inland Empire or a random sample of employees in each facility. The perspectives captured in this data simply represent the community members who attended a focus group with an interest in health care. Similarly, the perspectives of community partners captured impressions of those who were invited to complete the survey on line. The key informants were not chosen based on random sampling technique, but were instead invited because their comments represented the underserved, low income, minority, and chronically ill populations. Finally, this assessment relies on several national and state entities with publicly available data. All limitations inherent in these sources remain present for this assessment.

Social Determinants of Health

"It is unreasonable to expect that people will change their behavior easily when so many forces in the social, cultural, and physical environment conspire against such change," as stated by the Institute of Medicine is reflective of the depth of needed preventive strategies to combat today's burden of chronic diseases in the United States. While traditionally preventive care has been limited to individual knowledge, attitudes, behaviors, etc., today's post health care reform era demands a paradigm shift in our preventive strategies.

Social determinants of health are the conditions in which people are born, grow, live, work, age, and the systems put in place to address illness and health. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and political.

Health starts in homes, schools, workplaces, and communities. The conditions in which people live determine, in part, why people are not as healthy as they could be and the current disparities in our health outcomes. Lack of options for healthy, affordable food or safe places to play in some neighborhoods make it nearly impossible for residents to make healthy choices. In contrast, populations living in neighborhoods with safe parks, good schools, high employment rates, and stronger social cohesion are provided with some of the key foundations for better health.

Improving the conditions in which people live, learn, work, and play and addressing the inter-relationship between these conditions will create a healthier population. Integrating health policy efforts with those related to education, housing, business, transportation, agriculture, media, and other areas outside of the health sector will ultimately improve the health, safety, and prosperity of the nation.

As such, the following indicators are provided to give an overall picture of the various social determinants of health of the Inland Empire. Understanding these factors can help us determine appropriate interventions for elevating the health status of our communities.

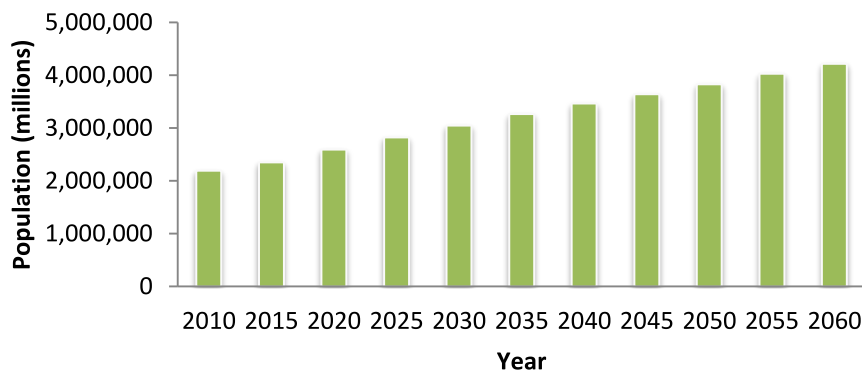
Population

Importance to Community Health Development

The Southern California Association of Governments forecasts that the Inland Empire (Riverside and San Bernardino Counties) is one of the fastest growing areas in the state of California. Such population growth demands physical and human infrastructure. Understanding population growth trends is critical for community health development to ensure adequate health services and available resources for the community.

2006-2010 American Community Survey 5-Year Estimates	
Region	**Total Population**
Riverside County	2,109,464
San Bernardino County	2,005,287
Los Angeles County	9,758,256
Orange County	2,965,525
San Diego County	3,022,468
Ventura County	809,080
California	36,637,288
United States	303,965,271

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



Data Source: California Department of Finance. Report P-1 (County): State and County Total Population Projections, 2010-2060 (5-year increments).

Key Finding

- Riverside County's population is expected grow exponentially through 2060.

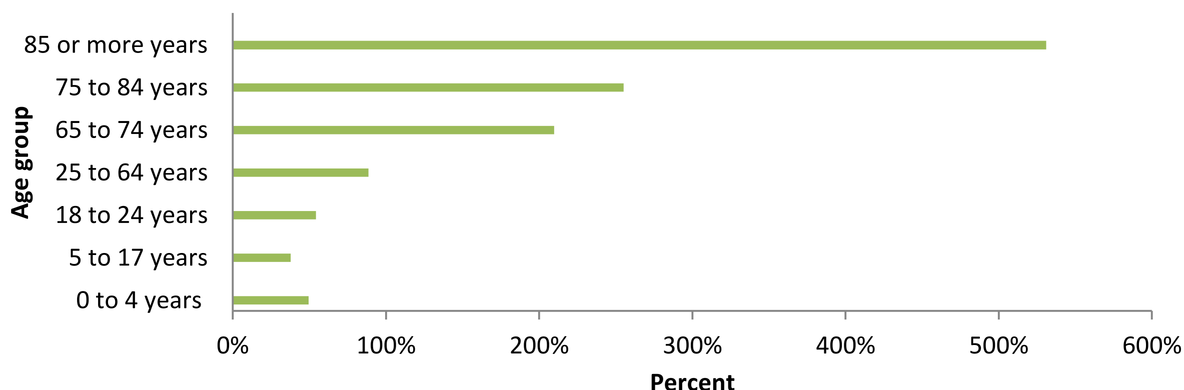
Age

Importance to Community Health Development

Age is a critical component of understanding a community's profile and provides elements in planning for needed health services. Younger populations require more prevention and health education while Older populations are prone to certain chronic diseases and require health services in higher acuity settings. With the Baby Boomer Generation aging, chronic diseases are expected to increase. January 2011 marked the beginning stage of Baby Boomers entering the Medicare program. Having an accurate count of the age distribution of the service area is imperative in ensuring availability of adequate health care services.

2006-2010 American Community Survey 5-Year Estimates								
Region	**Age (years)**							
	0-4	5-17	18-24	25-34	35-44	45-54	55-64	65+
Riverside County	7.7%	21.3%	10.1%	12.9%	14.0%	13.1%	9.3%	11.6%
San Bernardino County	8.0%	22.0%	11.1%	13.9%	13.9%	13.5%	9.1%	8.6%
California	7.0%	18.5%	10.4%	14.3%	14.4%	14.1%	10.3%	11.1%
United States	6.6%	17.7%	9.9%	13.2%	13.9%	14.6%	11.3%	12.8%

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



Data Source: California Department of Finance. Report P-1 (Age): State and County Population Projections by Major Age Groups, 2010-2060 (by decade).

Key Finding

- Riverside County is expected to increase its elderly population more than double the rate of California.

Gender

Importance to Community Health Development

Males and females have differing healthcare needs and require targeted services. Understanding gender distributions of the community can ensure appropriate healthcare delivery. Gender also has important health implications in terms of access to resources and services, engagement in risk behaviors, and environmental exposures.

2006-2010 American Community Survey 5-Year Estimates		
County	**Percent Male**	**Percent Female**
Riverside County	49.82%	50.18%

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

Key Finding

- Riverside County has an approximately equal gender distribution.

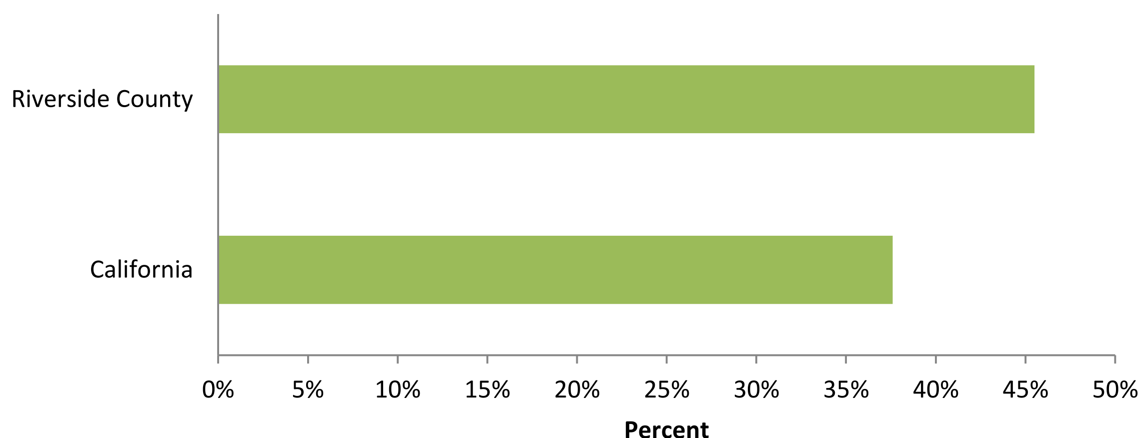
Race/Ethnicity

Importance to Community Health Development

A health disparity is defined as a persistent gap between the health status of minorities in comparison to non-minorities in the United States. Despite continued advances in health care and technology, racial and ethnic minorities continue to have higher rates of disease, disability, and premature death than non-minorities.

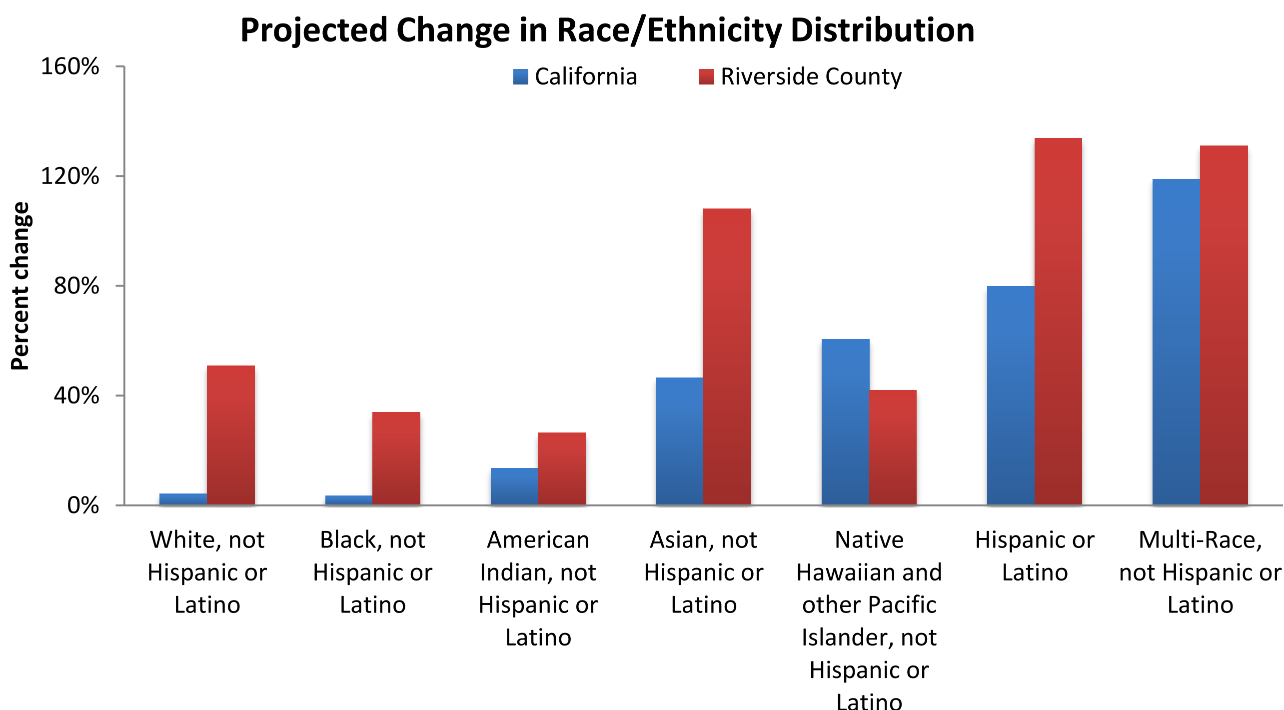
2006-2010 Total Population, Percent by Race Alone							
Region	**White***	**Black**	**Asian**	**Native American / Alaska Native**	**Native Hawaiian/ Pacific Islander**	**Other Race**	**Multiple Races**
San Bernardino County	60.83	8.91	6.18	0.98	0.29	18.59	4.23
Riverside County	64.72	6.22	5.78	0.96	0.31	18.20	3.81
Los Angeles County	50.85	8.74	13.73	0.49	0.27	22.74	3.17
Orange County	62.04	1.63	17.58	0.44	0.32	15.22	2.77
San Diego County	71.06	5.04	10.81	0.68	0.49	7.79	4.14
Ventura County	69.20	1.80	6.89	1.22	0.17	17.01	3.71
California	61.12	6.13	12.96	0.77	0.38	14.87	3.76
United States	73.99	12.49	4.67	0.82	0.16	5.46	2.41

*White category includes non-Hispanic and Hispanic White designation.
Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



Data Source: U.S. Census Bureau (2012).
Note on Race and Ethnicity: Race and ethnicity (Hispanic origin) are collected as two separate categories in the American Community Survey (ACS) based on methods established by the U.S. Office of Management and Budget

(OMB) in 1997. Using the OMB standard, the race categories reported in the ACS are: White, Black, American Indian/Alaskan Native, Asian, and Other. Source: http://www.chna.org



Data Source: California Department of Finance. Report P-1 (Race): State and County Population Projections by Race/Ethnicity, 2010-2060 (by decade).

Key Findings

- The Hispanic population in Riverside County is 45.5%, much larger in comparison to the State.
- The fastest growing population in the County is Hispanics, projected to grow by 134% between 2010 and 2060.
- Such changing U.S. demographics are reflective of a need for culturally-tailored healthcare services.

Income, Poverty, and Unemployment

Socioeconomic status is the single best predictor of a person's health status. Poverty is a particularly strong risk factor for disease and death among children. Children who grow up in poverty are eight times more likely to die from homicide, five times more likely to have a physical or mental health problem, and twice as likely to be killed in an accident. Family poverty is relentlessly correlated with high rates of school-age childbearing, school failure and violent crimes.

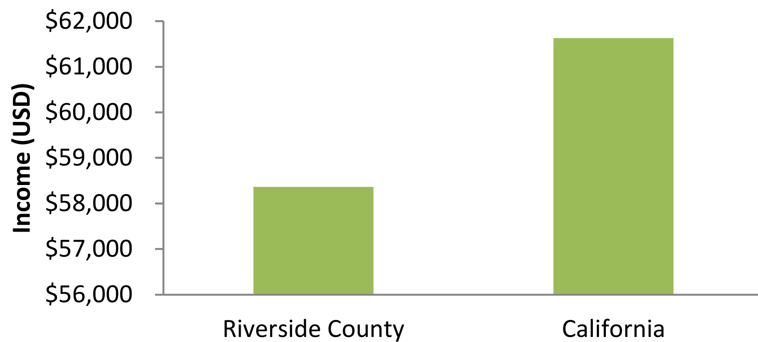
Per capita income can reflect aspects of the economic health of a community. When per capita income increases in a region, that region generates wealth faster than its population increases. A higher relative per capita income signals greater discretionary income for the purchase of goods and services.

Higher income and low poverty levels have been associated with better health outcomes, higher preventive care utilization, and lower rates of chronic disease-associated morbidity and mortality. Higher income levels are also associated with better nutrition, higher levels of physical activity, and over all better general health.

The following indicators report the median household income (USD), percentage of the population (by each geographic area) who live under 200% of the Federal Poverty Level (FPL)*, and percent of children aged 0-17 years living under 100% of the FPL. It is important to address such indicators as poverty often creates barriers to accessing healthcare services, healthy food, and other health-supporting resources, in turn contributing to poor health outcomes.

Addressing **unemployment levels** is important to community development, as unemployment can lead to financial instability and barriers to healthcare access and utilization, including insurance, access to food, etc. The following data indicates the percent of non-institutionalized population age 16 years and older that is unemployed.

***Note**: FPL is calculated based on income and household size.

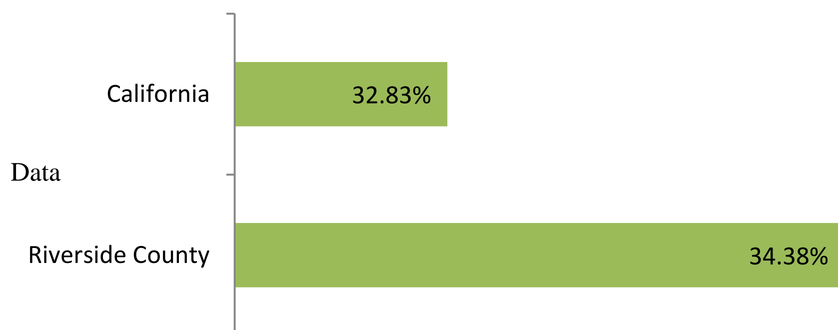


Data Source: U.S. Census Bureau, 2012.

2006-2010 American Community Survey 5-Year Estimates of Percent Population with Income Below 200% Poverty Level

Region	Percent
Riverside County	34.38
San Bernardino County	36.58
Los Angeles County	37.63
Orange County	26.33
San Diego County	29.33
Ventura County	24.87
California	32.83
United States	31.98

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org



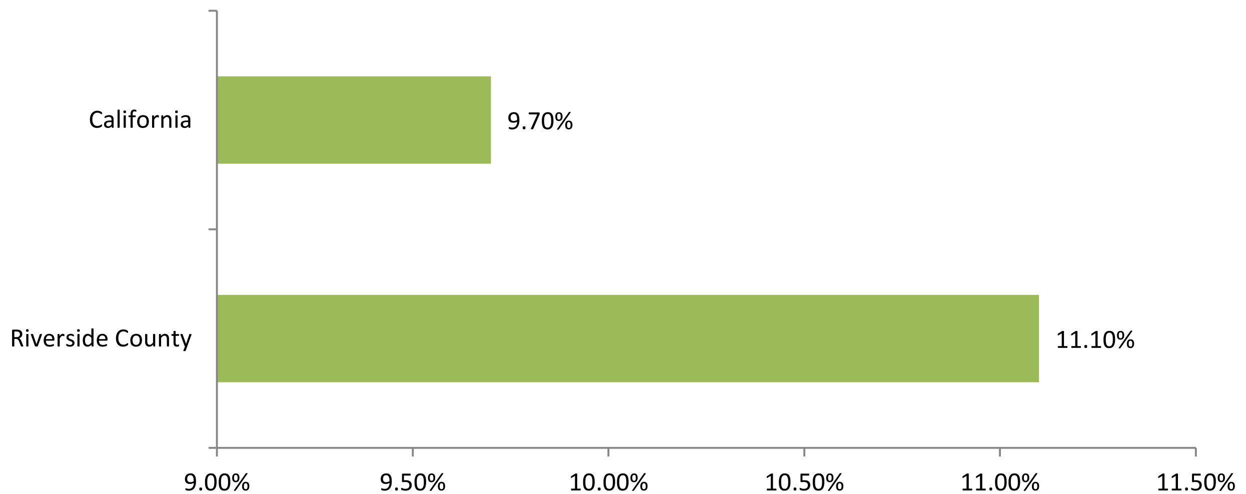
Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

2006-2010 American Community Survey 5-Year Estimates of Children Living in Poverty		
Region	**Children in Poverty**	**Percent Children in Poverty**
Riverside County	110,103	18.33
San Bernardino County	120,971	20.53
Los Angeles County	543,689	22.43
Orange County	99,146	13.62
San Diego County	114,405	16.14
Ventura County	26,842	12.79
California	1,748,267	19.06
United States	13,980,497	19.19

Data Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates. As presented in http://www.chna.org

Unemployment Rate by Geographic Area, 2012			
Region	**Total Labor Force**	**Number Unemployed**	**Unemployment Rate (%)**
Riverside County	946,702	104,829	11.1
San Bernardino County	869,940	93,989	10.8
Los Angeles County	4,863,435	495,992	10.2
Orange County	1,624,162	109,668	6.8
San Diego County	1,609,454	130,210	8.1
Ventura County	442,742	37,841	8.5
California	18,489,642	1,800,445	9.7
United States	156,178,459	12,014,747	7.7

Data Source: U.S. Bureau of Labor Statistics, July, 2012 Local Area Unemployment Statistics. As presented in http://www.chna.org



Data Source: U.S. Bureau of Labor Statistics, July, 2012 Local Area Unemployment Statistics. As presented in http://www.chna.org

Key Findings

- The median household income is lower in Riverside County in compared to the State.
- Compared to California, a higher percent of Riverside County's population resides below the 200% FPL and has higher unemployment levels.
- Riverside County has higher percent of children living in poverty than several other neighboring Counties.

Education

Importance to Community Health Development

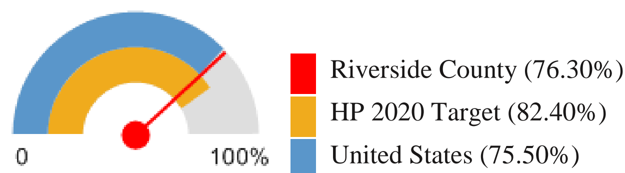
Education is one of the most important determinants of health status. Independent of its relation to behavior, education influences a person's ability to access and understand health information. For example, people who are illiterate will not be helped by written educational materials produced by public health practitioners.

Just as low levels of employment impact community health, so does low educational attainment. Having a high school or college degree can increase the job opportunities. Understanding the distribution of the educational attainment levels of the community can help ensure business development and promote necessary resources.

On-Time Graduation Rate*

Region	Rate (%)
Riverside County	76.3
San Bernardino County	69.2
Los Angeles County	71.2
Orange County	81.7
San Diego County	73.8
Ventura County	78.5
California	71.0
United States	75.5

*Graduation Rate = [Estimated Number of Graduates] / [Average Base Freshman Enrollment] * 100
Data Source: The University of Wisconsin, Population Health Institute, County Health Rankings, 2012 and the U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data, Public School Universe Survey Data, 2005-06, 2006-07 and 2007-08. As presented in http://www.chna.org



Percent of Population and Education Level, by Region 2006-2010

Region	Less than high school (%)	Only high school degree (%)	4-year college degree (%)
Riverside County	20.8	26.2	20.5
San Bernardino County	22.5	26.8	18.4
Los Angeles	32.1	25.5	13.5
Orange County	16.7	18.6	36.0
San Diego County	14.7	19.8	34.1
Ventura County	17.7	19.8	30.8
California	19.3	21.5	30.1
United States	15.0	29.0	27.9

Data Source: United States Department of Agriculture. Economic Research Service. Educational attainment for the U.S., States, and counties, 1970-2011.

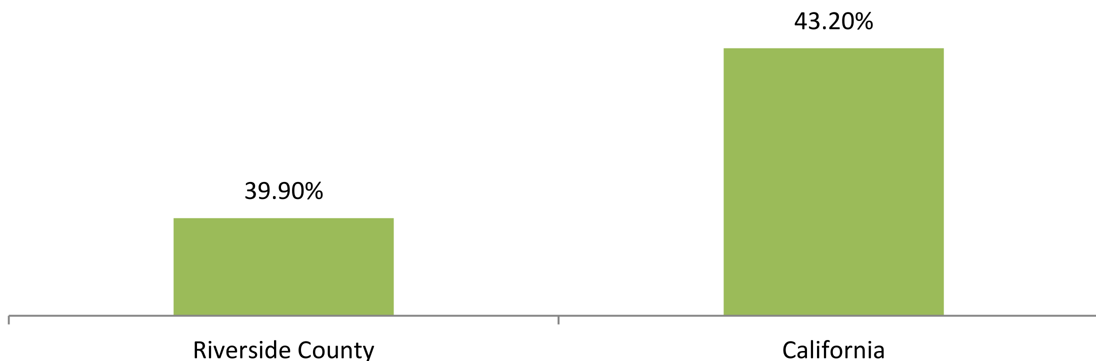
Key Findings

- The on-time graduation rate for the Inland Empire is lower than the benchmark set by Healthy People 2020 (82.4%).
- Riverside County, in comparison to the State, has a higher percent of population with less than a high school degree or only a high school degree.
- In comparison to the State, Riverside County has a lower percent of residents with a 4-year college degree.

Primary Language

Importance to Community Health Development

Access and utilization of health care services have been shown to be affected by a person's primary language. Those unable to communicate with physicians or health care providers in their language of choice are less likely to have follow up visits and adhere to medications.



Data Source: U.S. Census Bureau (2012)

Key Findings

- Riverside County is diverse in respect to languages spoken at home.
- 40% of Riverside County residents over the age of 5 speak a language other than English at home, among these 84% speak Spanish and 16% speak some other language.

Health Literacy

Importance to Community Health Development

The Institute of Medicine defines health literacy as ***"the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."*** In addition to reading, health literacy requires a complex set of skills including listening, analytical skills, and decision-making.

The National Assessment of Adult Literacy (NAAL), conducted in 2003, is currently the most comprehensive health literacy analysis at the national level. According to this report, approximately 36% of U.S. adults have limited health literacy, 22% have basic, while another 14% have below basic health literacy levels. Moreover, only 12% reported having proficient health literacy.

The American Medical Association reports that "poor health literacy is a stronger predictor of a persons' health than age, income, employment, education level, and race." Low health literacy is associated with several negative health outcomes including lower likelihood of getting flu shots, understanding medical instructions and labels, or using preventive care services. Cumulatively, the annual cost of low health literacy to the U.S. economy is estimated to be between $106 billion to $238 billion.

To-date, limited national, state, or local databases exist on assessment of health literacy as a concrete measure making data extrapolation difficult. Yet, a plethora of research has highlighted certain factors indicative of populations who are considered at-risk of health literacy. Such at-risk groups include the elderly, immigrants, minorities, and low income populations.

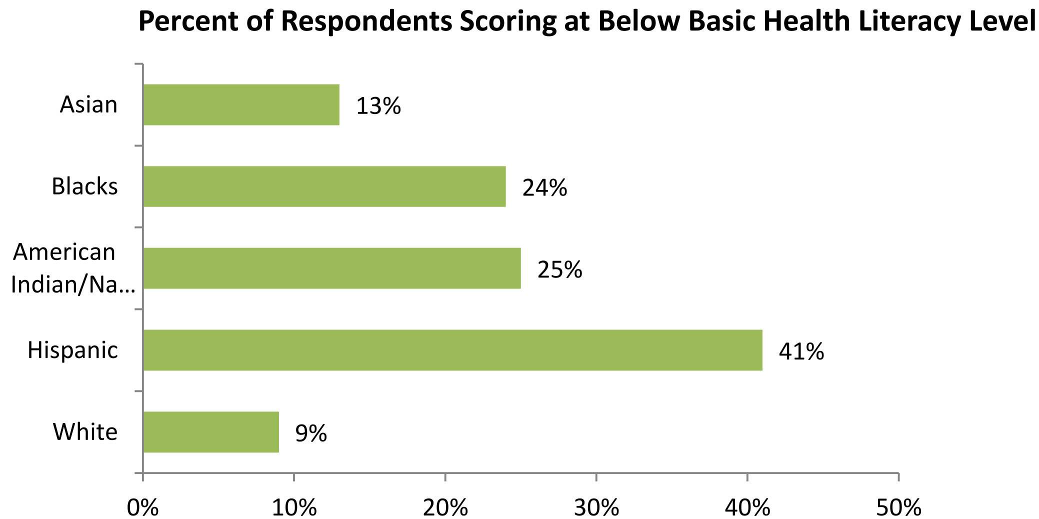
Elderly (65+ years)

- 71% of those older than 60 years have difficulty using print materials.
- 80% of the elderly have difficulty using documents such as forms or charts
- 68% have difficulty interpreting numbers and performing calculations

Those age 65 years or older are twice as likely as adults between 45 and 65 years to visit a physician's office. Yet, the majority (two-thirds) of the elderly are unable to understand prescription medication information.

Immigrant and Minority Populations

In the United States, English language proficiency has been associated with higher health literacy. This poses further barriers to immigrant and minority populations who often speak little to no English. According to the NAAL, 76% of the respondents who did not complete high school scored as below basic or basic health literacy level. The NAAL also reported that compared to White respondents, racial and ethnic minority populations were more likely to score at below basic health literacy level.



Data Source: National Network of Libraries of Medicine.

Low Income Populations
Adults living below the poverty level have been reported to average lower health literacy scores in comparison to those living above the poverty threshold.

- 30% of adults receiving Medicaid scored below basic health literacy level

Key Finding

- Given the high proportions of elderly, immigrant, minority, and low income individuals in both Riverside County, our community can be considered as at-risk of low health literacy and poorer health outcomes.

Housing

Importance to Community Health Development

Homeownership is valued as a means to develop personal wealth, increase social opportunities, prevent financial insecurity, and maximize emotional and physical well-being. Homeowners have an increased emotional well-being, greater attachment to their communities, and higher levels of civic participation.

Lack of adequate and stable housing is associated with a number of chronic and severe health problems. A study published in the *New England Journal of Medicine* found that children exposed to cockroach allergens not only had higher rates of hospitalization for asthma, but also had more symptoms of wheezing, more physician visits, and more school absences than other asthmatic children.

"Underwater" mortgages or "upside down" means that borrowers owe more on their mortgage than their homes are worth. Negative equity can occur due to a decline in value, an increase in mortgage debt or both. This situation prevents the homeowner from selling the home. It also prevents the homeowner from refinancing in most cases. Consequently, if the homeowner wants to sell the home because mortgage payment is too high and is unable to pay the monthly mortgage, the home will fall into foreclosure unless the borrower is able to renegotiate the loan.

Adequate housing provides shelter and comfort to its inhabitants, both of which impact overall well-being.

Average household size by Race/Hispanic origin of Householder

Race/Hispanic Origin	Riverside County	California
White alone	2.83	2.63
Black alone	3.06	2.61
American Indian alone	3.39	3.22
Asian alone	3.38	3.09
Pacific Islander alone	4.02	3.74
Other race	4.39	4.18
Two or more races	3.54	3.16
Hispanic	4.16	3.93

Data Source: U.S. Census Bureau (2012)

Housing Characteristics of Riverside County, in comparison to California, 2007-2011		
	Riverside County	**California**
Persons per household	3.15	2.91
Homeownership rate	69.2	56.7
Median value of owner-occupied housing units	$284,100	$421,600

Data Source: U.S. Census Bureau (2012)

Key Findings

- Riverside County, in comparision to the State, has a higher number of persons per household.
- The County also has a higher average household size for all racial/ethnic groups.
- While homeownership rate in the County is higher than that of California, the median value of owner-occupied housing units is at least 30% lower than the State.

Violence

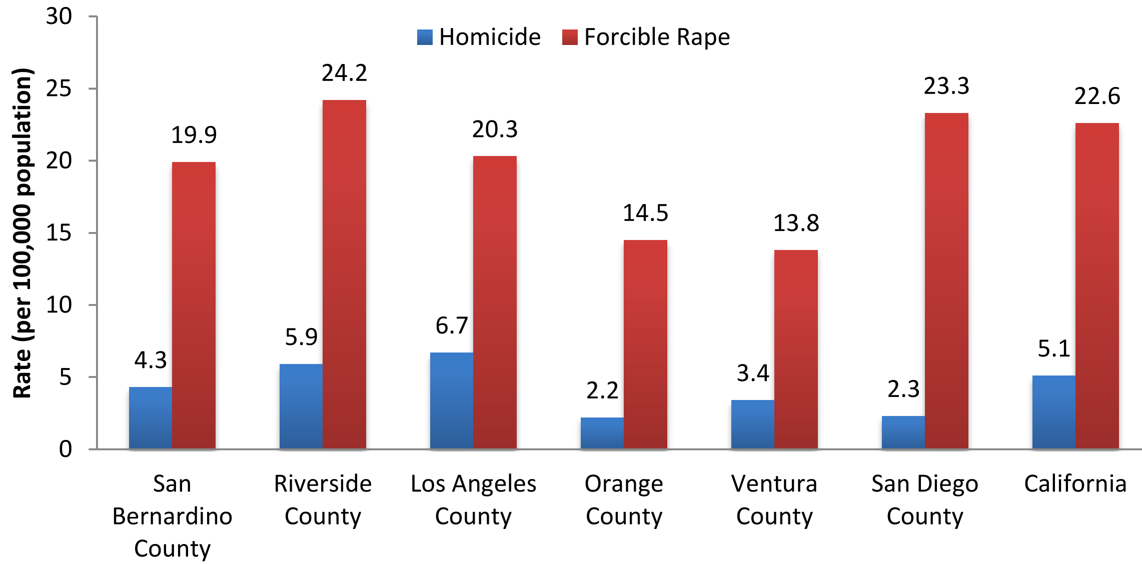
Importance to Community Health Development

High rates of violent crimes in a community not only compromises individuals' physical safety, but can be detrimental to overall mental health. High rates of violent crimes rates can also deter residents from pursuing healthy behaviors, such as walking for leisure or to and from work or school. Fear of falling victim to violent offenses, may overall discourage residents from fully taking advantage of open spaces or pedestrian walkways from fear of harm. Violent crimes include: homicide, forcible rape, robbery, assault, and kidnapping.

Trends in Violent Crime Rate (per 100,000 population), Riverside County 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Homicide	5.0	5.7	6.6	5.3	5.0	5.6	5.4	5.1	4.3	4.3
Aggravated assault	447.5	429.4	402.5	367.6	308.1	286.2	283.3	274.5	232.8	195.9
Forcible rape	26.8	27.8	29	28.8	25.2	27.6	26.2	25.4	23.8	19.9
Robbery	128.6	134.5	129.3	117.1	121.8	128.9	153.3	142.4	134.3	122.3

Data Source: State of California Department of Justice, Office of the Attorney General. http://stats.doj.ca.gov/cjsc_stats/prof09/33/1.htm



Data Source: State of California Department of Justice, Office of the Attorney General.
http://ag.ca.gov/cjsc/statisticsdatatabs/CrimeCo.php

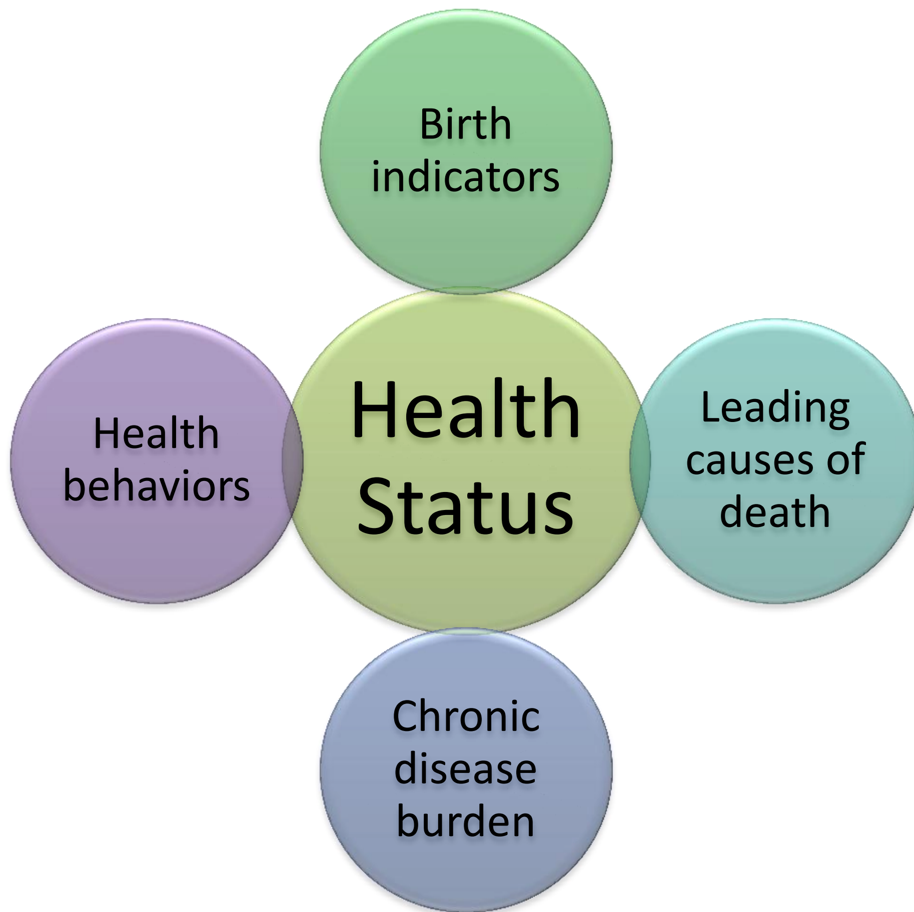
Key Finding

- Compared to neighboring counties, Riverside County has the **highest** rate of forcible rape and second highest rate of homicide.

Health Status

One out of every five dollars in the United States is spent on health care and yet our nation ranks lower than most industrialized nations in major health indicators. For example, among 191 nations assessed by the World Health Organization, the United States ranked 43rd for adult female mortality, 42nd for adult male mortality, 39th for infant mortality, and 36th for life expectancy. Among 19 industrialized nations evaluated for premature deaths, we ranked last.

To improve the health outcomes of our community, it is imperative to understand its current health status and associated behaviors to create targeted interventions. Below we discuss our community's health status, summarizing key birth and health indicators, leading causes of deaths, hospitalization rates, and associated health behaviors (physical activity, dietary habits, and substance abuse) to understand how such complex factors interact to affect our community's health.



Birth Indicators

Live Births

Importance to Community Health Development

Live births are an indication of population growth and demand on a community's existing resources, infrastructure, schools, and the health care system/services. It is critical to understand current birth trends to ensure adequate availability of needed resources.

Live Births by Mothers' Race/Ethnicity, 2010		
Race/Ethnicity	**Riverside County**	**California**
Hispanic	18,054	257,269
Non-Hispanic		
American Indian	124	1,910
Asian	1,512	60,654
Black	1,581	27,704
Pacific Islander	92	2,235
White	8,229	140,670
2 or more races	667	10,285
Other race	29	345
Unknown	371	8,907
Total	**30,659**	**509,979**

Data Source: California Department of Public Health, 2010.

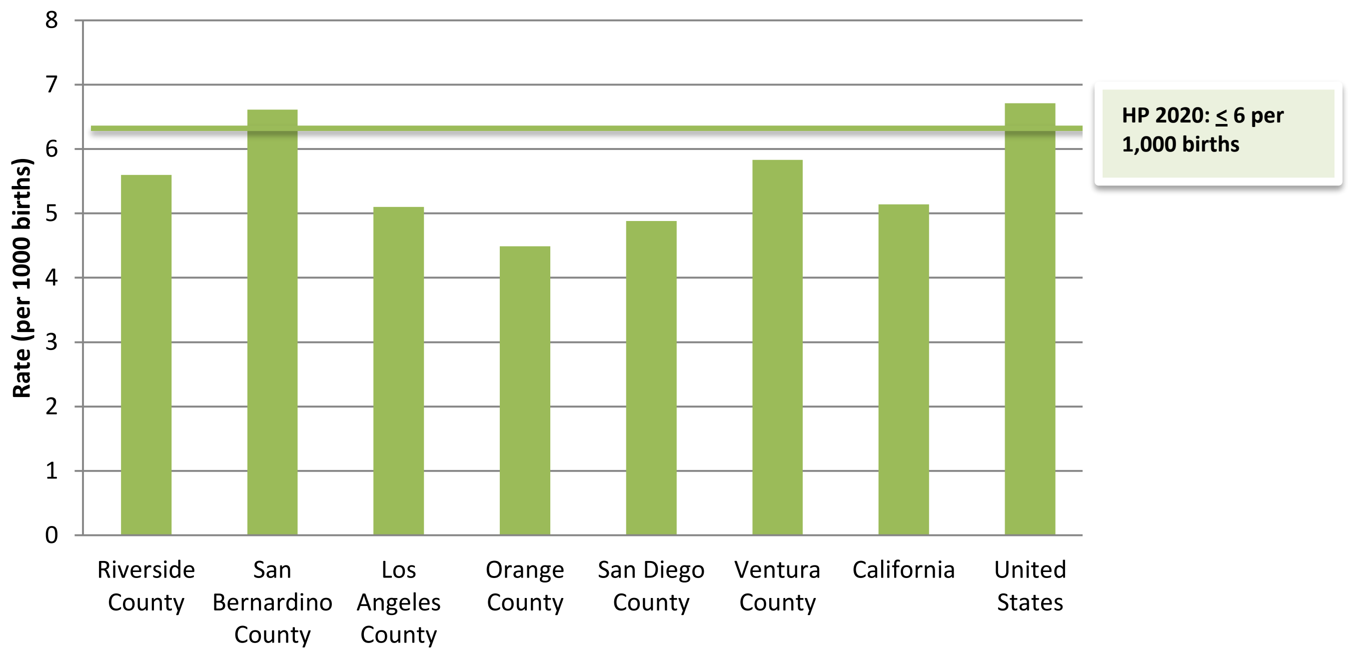
Key Finding

- The highest number of births in Riverside County was among Hispanics.

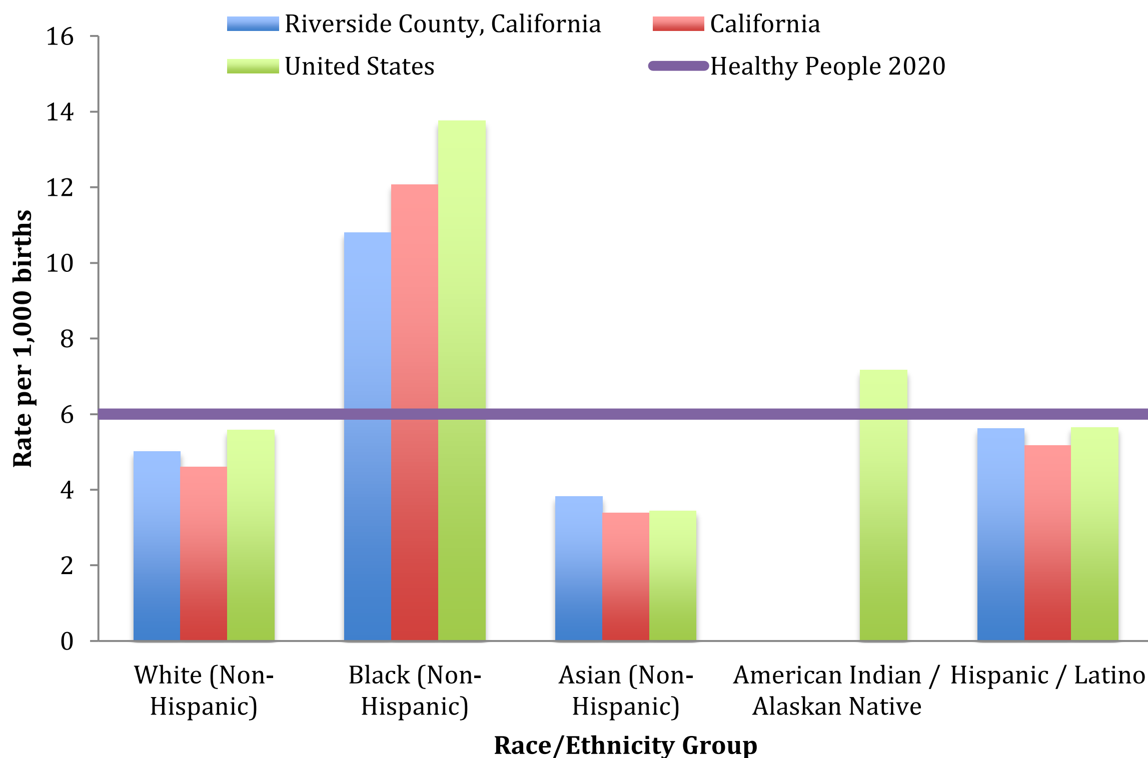
Infant Mortality Rate

Importance to Community Health Development

Infant mortality rates (IMR) can be indicative of the existence of broader issues:
access to health care, the overall well-being of mother and child, and the availability of resources (preventative and curative) in a region or area.



Data Source: Centers for Disease Control and Prevention, National Vital Statistics System, 2003-2009. As presented in http://www.chna.org



* Data not available for American Indian/Alaskan Native group in Riverside County and California.
Data Source: California Department of Public Health, 2010. As presented in http://www.chna.org

Key Finding

- While the infant mortality rate in Riverside County falls within the Healthy People 2020 benchmark, Blacks have a much higher IMR in comparison to other racial/ethnic groups in the County.

Low Birth Weight

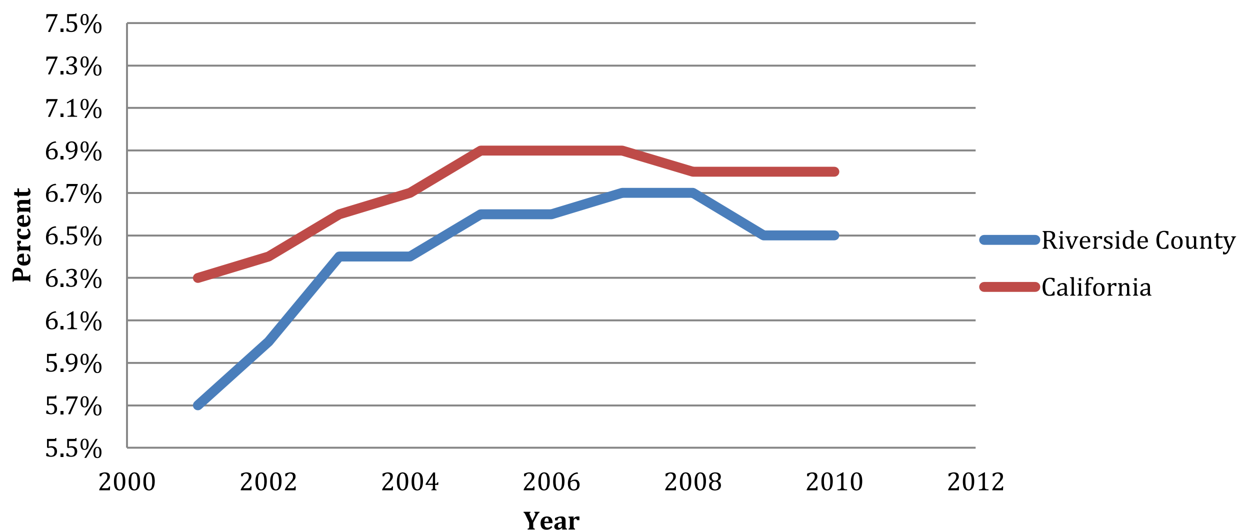
Importance to Community Health Development

Low birth weight is indicative of the general health of newborns and often a key determinant of survival, health and development. Infants born at low birth weights are at a heightened risk of complications, including infections, neurological disorders, Sudden Infant Death Syndrome, breathing problems, learning disabilities, and some chronic diseases.

Low Birth Weight by Geographic Region 2003-2009

Region	Total Births	Number Low Birth Weight (< 2500g)	Percent Low Birth Weight
Healthy People			**7.8**
Riverside County	216,829	14,027	6.47
San Bernardino County	229,086	16,090	7.02
Los Angeles County	1,056,781	75,832	7.18
Orange County	310,022	19,437	6.27
San Diego County	322,127	20,909	6.49
Ventura County	84,448	5,518	6.53
California	3,843,187	258,422	6.72
United States	29,126,451	2,359,843	8.1

Data Source: Centers for Disease Control and Prevention, National Vital Statistics Systems, 2003-2009. Accessed through the Health Indicators Warehouse. As presented in http://www.chna.org



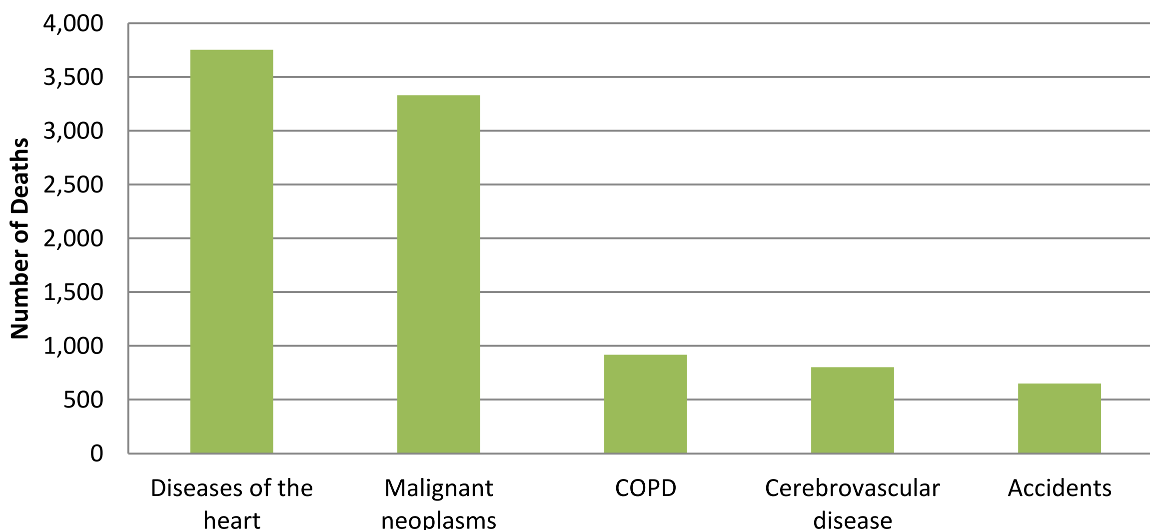
Data Source: California Department of Public Health, 2001-2012

Key Findings

- While the percent of low birth-weight births falls within the Healthy People 2020 benchmark, it is still higher than neighboring counties, such as Orange, San Diet, Ventura, and the State of California.
- Since 2000, the percent of low birth weight births has steadily increased in both the Inland Empire and California. Compared to the State, however, San Bernardino County has a higher percent of babies born with low birth weights.

Leading Causes of Death

Importance to Community Health Development
Mortality data provides the opportunity to identify conditions that pose the greatest risk to life versus those which cause illness yet pose minimal risk. Studying trends in mortality over time helps us to understand how the health status of the population is changing and assists in the evaluation of **what's really killing us?**



Data Source: California Department of Public Health (2010).

Top 10 Leading Causes of Deaths		
Conditions	**Riverside County**	**California**
Diseases of the heart	3,753	58,034
Malignant neoplasms	3,330	56,124
Cerebrovascular disease	802	13,566
COPD	918	12,928
Alzheimer’s Disease	611	10,833
Accidents	651	10,108
Diabetes Mellitus	381	7,027
Influenza/Pneumonia	224	5,856
Chronic Liver/Cirrhosis	233	4,252
Suicide)	193	3,835
All causes	13,971	233,143
All other causes	2,875	50,580

Data Source: California Department of Public Health (2010).

Key Findings

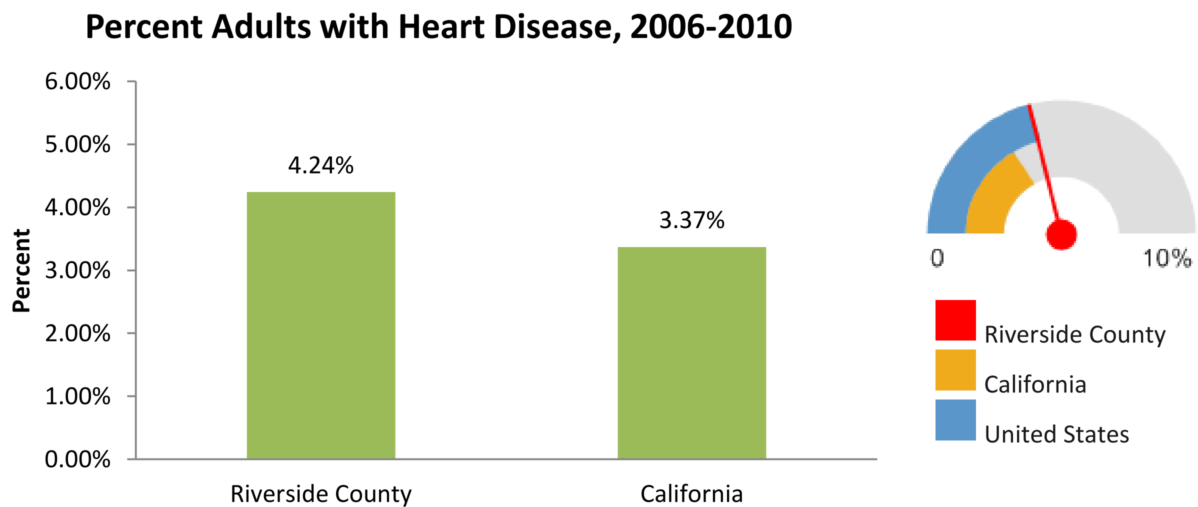
- Preventable chronic diseases remain the five major leading causes of deaths in Riverside County, with heart disease being the primary cause of death.
- In Riverside County the top five leading causes of deaths are diseases of the heart, malignant neoplasms, COPD, cerebrovascular diseases, and accidents.
- Comparatively, in California, the top five leading causes of deaths are diseases of the heart, malignant neoplasms, cerebrovascular disease, COPD, and Alzheimer’s Disease.

Chronic Disease Burden

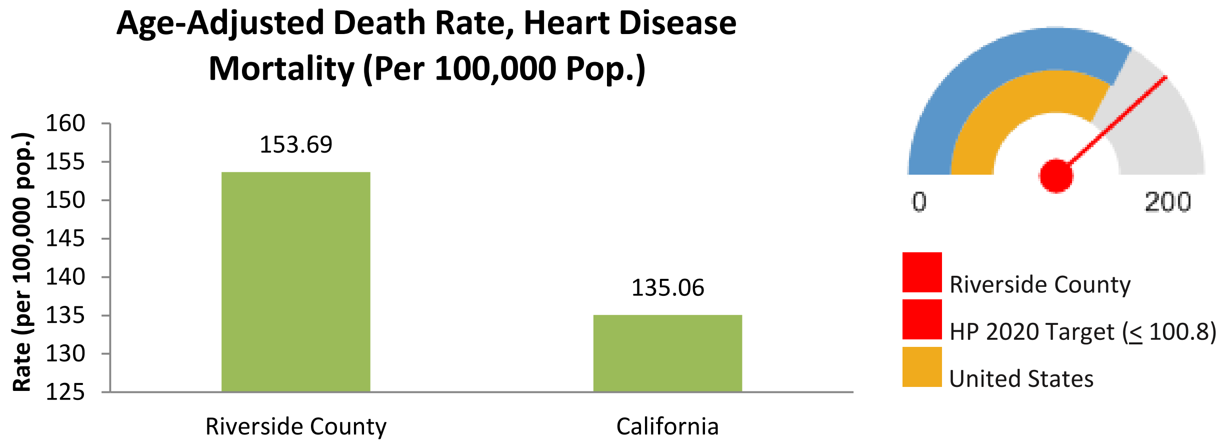
Heart Disease and Stroke

Importance to Community Health Development

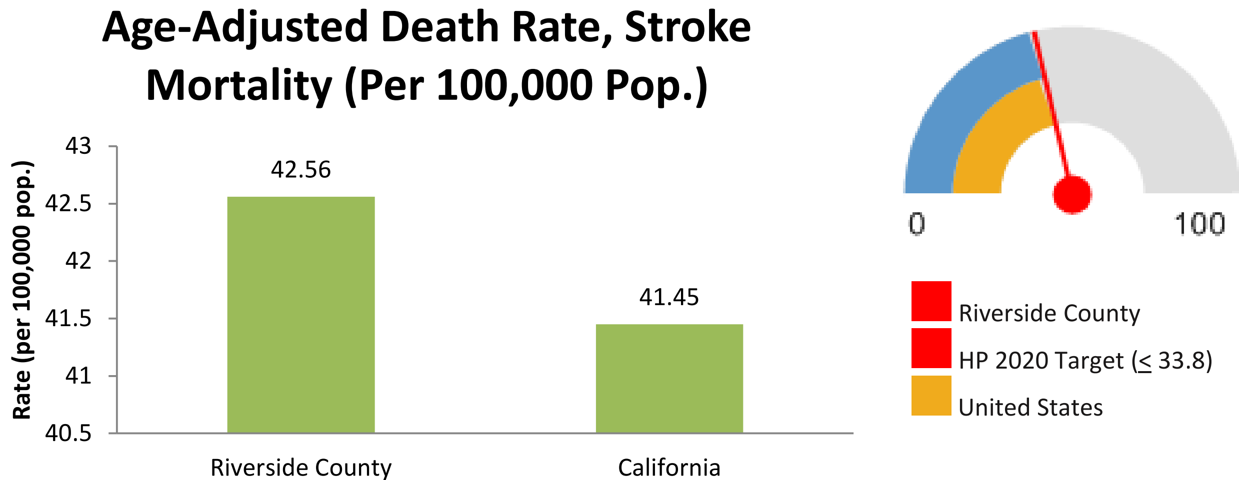
1 in 2 American adults have at least one chronic disease and 70% (1.7 million) of all annual deaths are attributable to such diseases. Heart disease and stroke are the first and third leading causes of death, respectively. According to the Centers for Disease Control and Prevention (CDC), heart disease and stroke contribute to 4 million cases of disability in the nation. Understanding the trends in our community can help create targeted interventions.



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org

Key Findings

- Compared to California and the United States, Riverside County has a higher prevalence of heart disease.
- Riverside County has higher rates of deaths due to heart disease and stroke, in comparison to both California and the Healthy People 2020 objective.

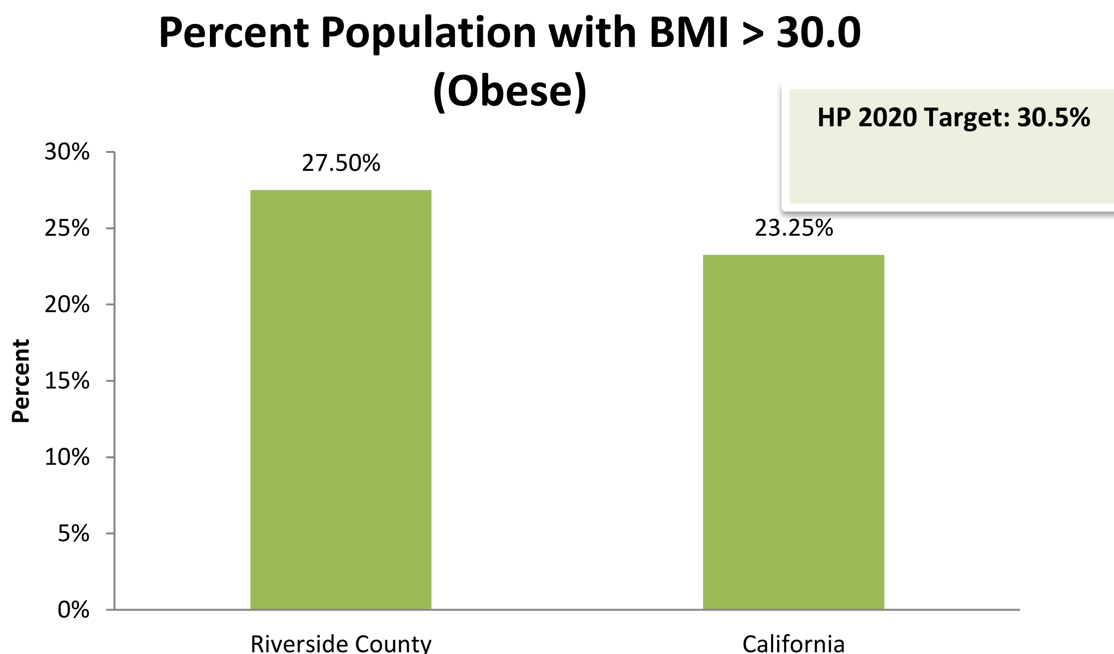
Obesity

Importance to Community Health Development

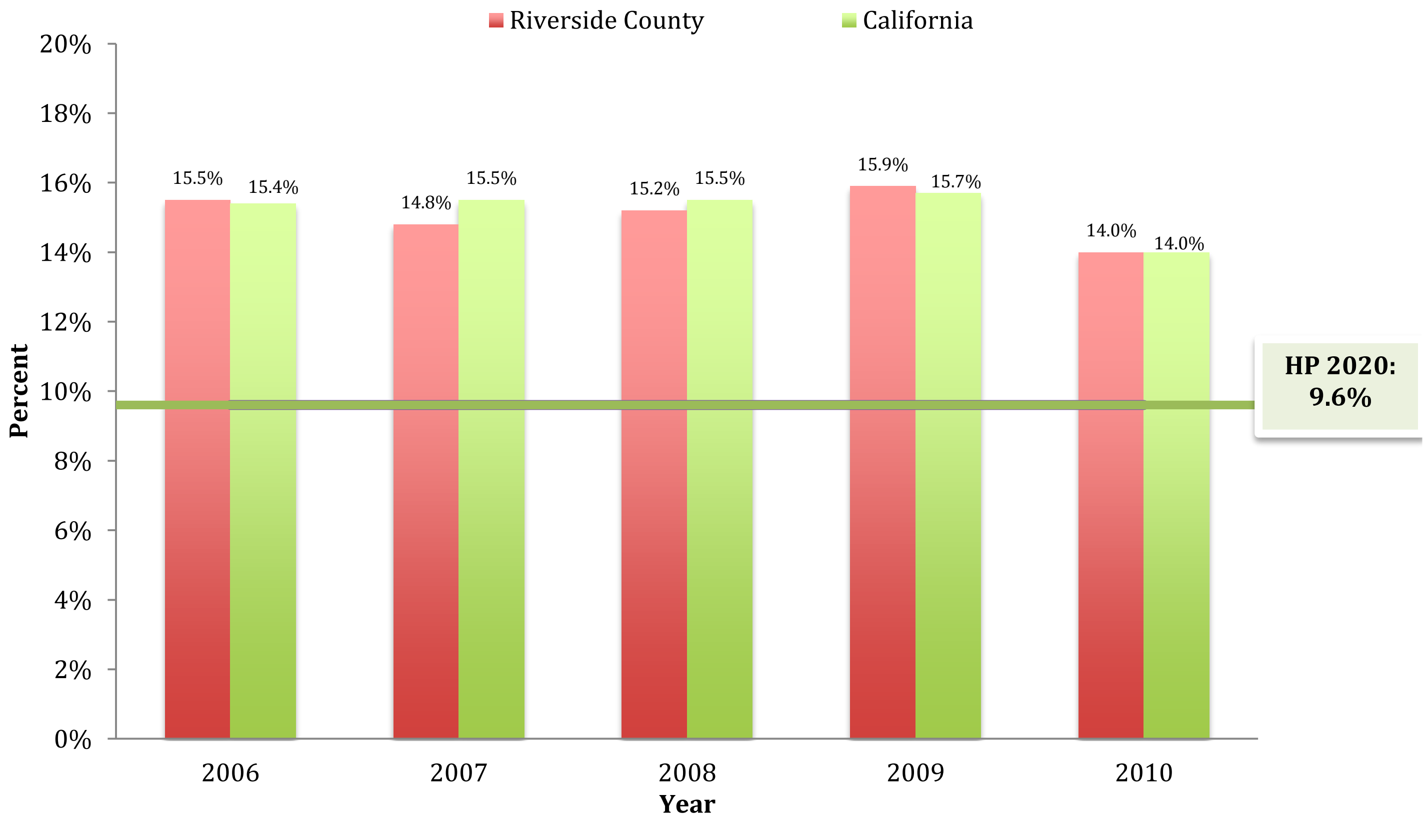
Understanding weight status in a community is critical in ensuring health promotion. Diet and body weight are related to health status and overweight and obesity is associated with higher risk of heart disease and stroke morbidity and mortality.

1 in 3 American adults are obese. Between 1998 and 2008 the adult obesity rate has doubled while the childhood obesity rate has tripled. Increased body mass index (BMI) has been associated with heightened risk of several chronic diseases, including heart and cerebrovascular disease. In 2008, medical costs related with obesity were estimated at $147 billion; the medical costs for people who are obese were $1,429 higher than those of normal weight. Obesity affects some groups more than others. For example, non-Hispanic Blacks have the highest age-adjusted rates of obesity (49.5%) compared with Mexican Americans (40.4%), all Hispanics (39.1%) and non-Hispanic Whites (34.3%).

In June of 2013, the American Medical Association formally adopted policy that recognizes obesity as a disease requiring a range of medical interventions to advance obesity treatment and prevention.



Data Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org



Data Source: California Department of Healthcare Services, Pediatric Nutrition Surveillance System. (2013). Growth indicators by race/ethnicity and age, 2006-2010.Note: The data are collected from participants in the Child Health and Disability Prevention Program, which serves Medi-Cal recipients and children/youth with family incomes up to 200% of the federal poverty level (FPL).

Key Findings

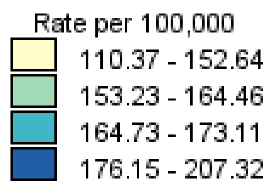
- Riverside County has a higher percent of adults that are considered obese (BMI greater than 30.0) in comparison to the State.
- The County has a higher percentage of low-income children aged 2-5 years who are considered obese, in comparison to the Healthy People 2020 objective of 9.6%

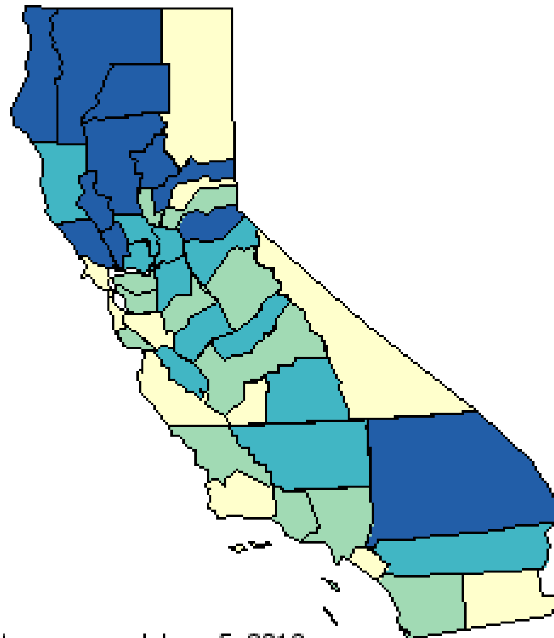
Cancer

Importance to Community Health Development

The cancer objectives for Healthy People 2020 support monitoring trends in cancer incidence, mortality and survival to better assess the progress made toward decreasing the burden of cancer in the United States. The objectives reflect the importance of promoting evidence-based screening for cervical, colorectal and breast cancer by measuring the use of screening tests. For cancers with evidence-based screening tools, early detection must include the continuum of care from screening to appropriate follow-up of abnormal test results and referral to cancer treatment.

Age-Adjusted Cancer Mortality Rates in California
All Sites, 2009
By County
Age-Adjusted to the 2000 U.S. Standard Population
California Rate: 158.33





Data accessed June 5, 2013.
Based on April 2011 Quarterly Extract (Released April 27, 2011).
Copyright (C) 2013 California Cancer Registry

Veterans Health Administration hospitals did not report cancer cases to the California Cancer Registry (CCR) in 2005-2009. Therefore, case counts and incidence rates for adult males in 2005-2009 are underestimated and should be interpreted with caution (see http://www.ccrcal.org/\/Atechnotes.shtml).

Cancer Mortality (age-adjusted rate per 100,000 population), 2009

Type	CA	Riverside County	Healthy People 2020
All cause	158.3	164.7	160.6
Colorectal Cancer	14.5	16.3	14.5
Breast cancer	22.2	24.5	20.6
Lung/Bronchus Cancer	37.8	40.9	45.5
Head/Neck Cancer	2.4	1.76	2.3
Prostate Cancer	22.4	23.9	21.2

Data Source: Cancer Registry of Greater California (2009)

Key Findings

- Riverside County is lagging behind on several Healthy People 2020 benchmarks for cancer mortality.
- Riverside County has higher rates of "all cause" cancer mortality in comparison to both the State and the Healthy People 2020 objective.
- Riverside County also has a higher mortality rate for cancers of the colorectal, breast, and prostate, in comparison to the State and the Healthy People 2020 benchmark.
- The mortality rate due to lung/bronchus cancer in Riverside County is also higher than California.

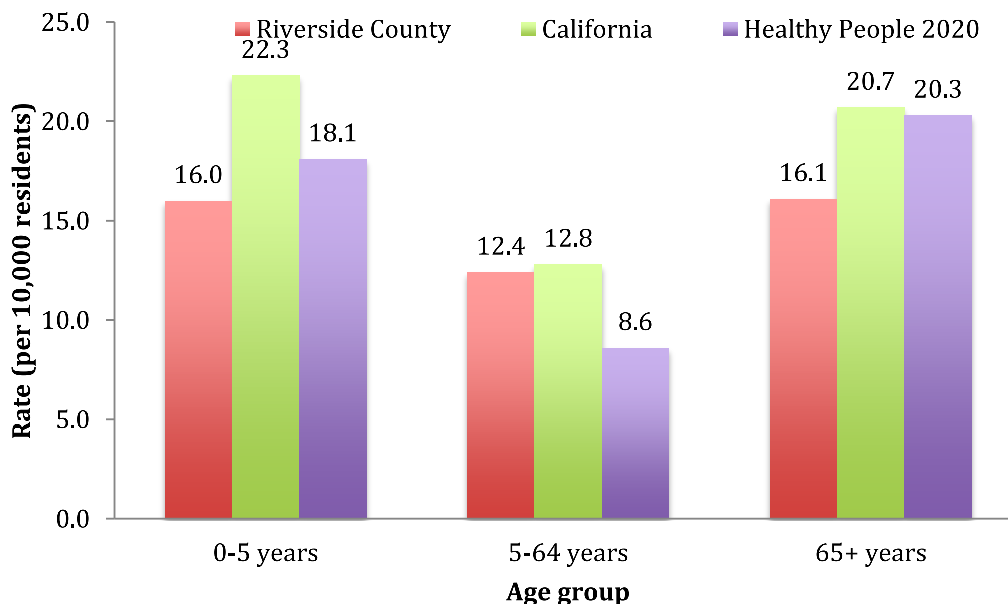
Respiratory Diseases

Importance to Community Health Development

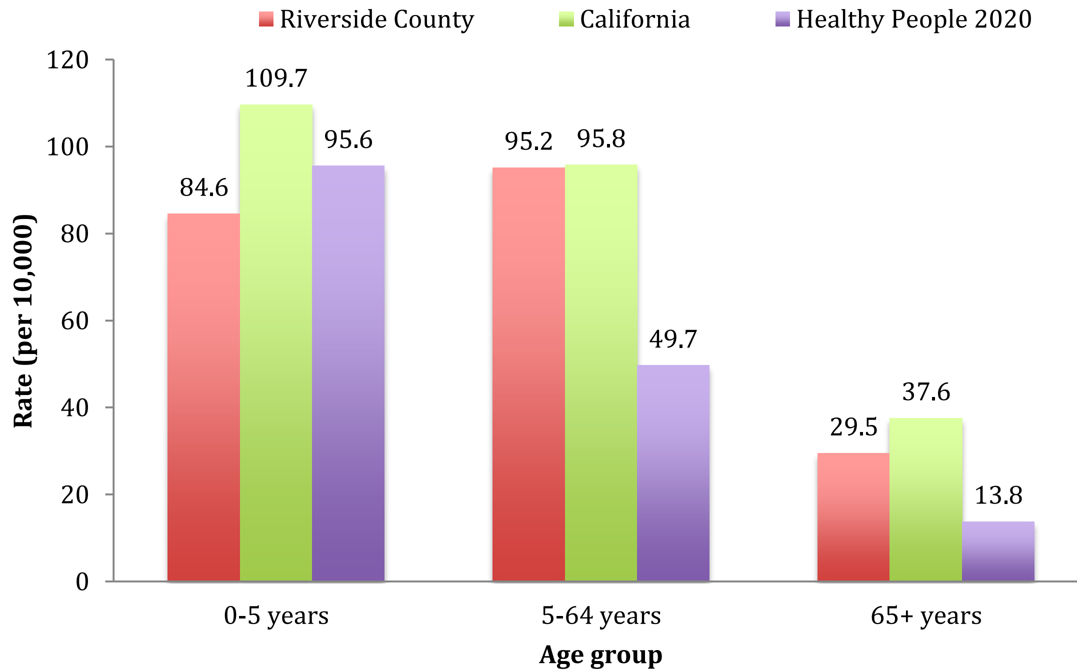
Respiratory health is related to general health and can be indicative of poor air quality. Key respiratory illnesses include chronic obstructive pulmonary disease (COPD) and asthma.

COPD is characterized by narrowing of airways and loss of elastic recoil thus leading to irreversible airflow obstruction. Moreover, COPD is progressive and irreversible. In the United States, it is estimated that the cost of COPD exceeded $24 billion by the early 1990s, and within the last 40 years the incidence of COPD has experienced a sharp increase. For example, in the 1970s approximately 3% of the United States population was reported to have COPD. In the early 1990s that amount doubled to almost 6% . Furthermore, there is a strong positive relationship between COPD and age, and as our population ages, so will the estimated new cases of COPD in the near future.

In 2011, nearly 26 million Americans reported asthma, with 7.1 million being children under 18 years of age. For the last ten years, San Bernardino County has ranked second highest in California for children's asthma hospitalization and in 2009, the County had the third highest childhood asthma diagnosis rate of all counties in Southern California. Undoubtedly, asthma is a public health threat in Inland Southern California and interventions aimed at reducing asthma morbidity are of imperative need.



Data Source: Office of Statewide Health Planning and Development (OSHPD), 2010. As presented in California Breathing.



Data Source: Office of Statewide Health Planning and Development (OSHPD), 2010. As presented in California Breathing.

Key Findings

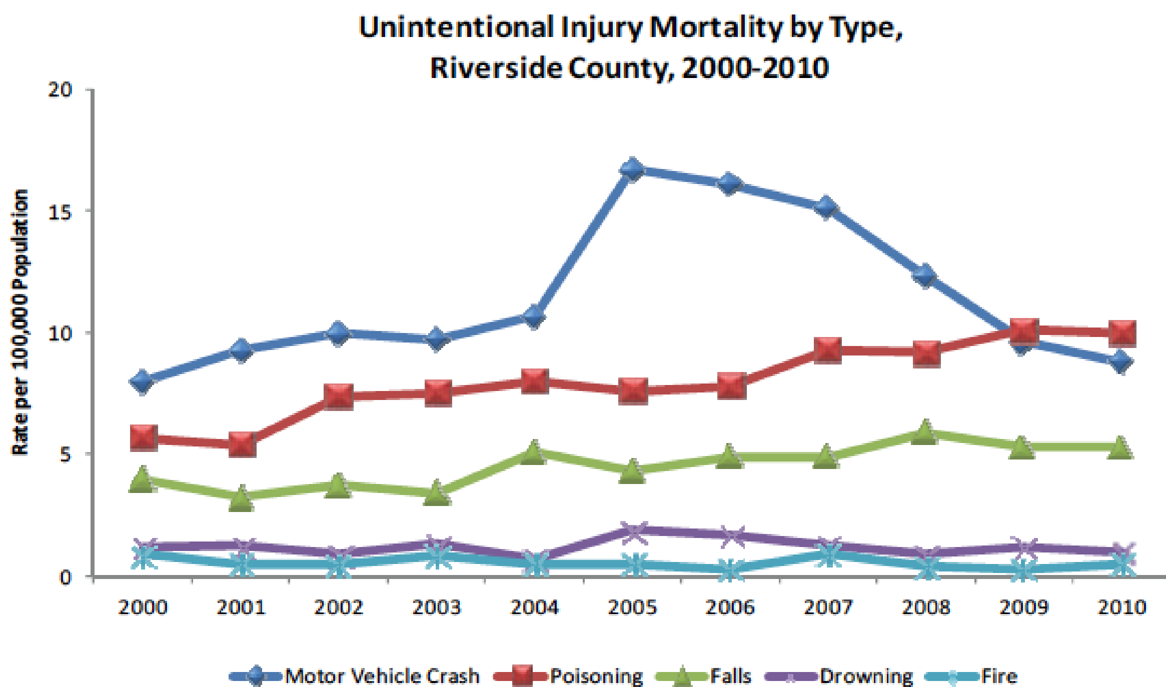
- Riverside County has a much higher rate hospitalizations due to asthma, in comparison to the Healthy People Target for age groups 5-64 years.
- Emergency department visits due to asthma among those aged 5-64 years and 65 or more in Riverside County is higher than the Healthy People 2020 objective.

Accidents

Importance to Community Health Development

Injuries are not random. Instead, injuries result from predictable and preventable events and are categorized by intent. Those injuries which are not planned are often referred to as accidental and categorized as unintentional. An injury where harm is self-directed or inflicted upon others is categorized as intentional.

In 2010, injuries attributed to nearly seven percent (n=929) of deaths in Riverside County. Two-thirds (n=651) of all injuries were unintentional. Unintentional injuries are the fifth leading cause of death for Riverside County and the sixth leading cause for California.



Data source: County of Riverside Department of Public Health, Community Profile. 2013.

Key Findings

- Motor vehicle crashes have consistently been the leading cause of unintentional injury mortality.
- In 2009, poisoning surpassed motor vehicle crashes as the leading cause of unintentional injury mortality.
- Since its peak in 2005, motor vehicle crash mortality has dropped 47% to a rate of 8.8 per 100,000.

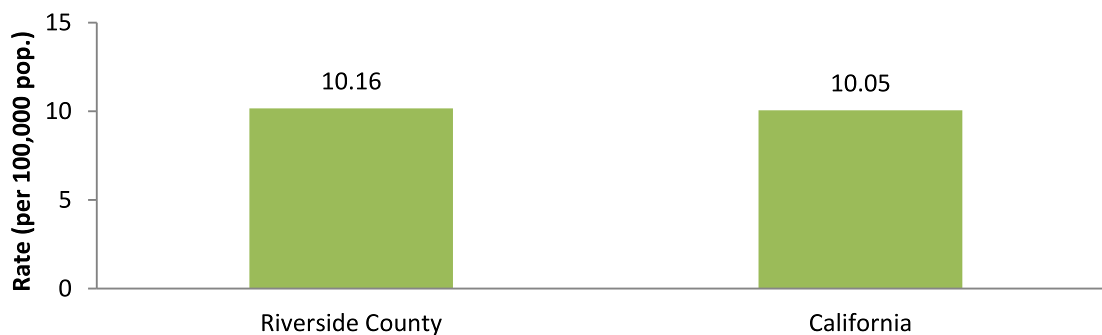
- The rate of poisoning deaths have doubled from a low of 5.4 per 100,000 in 2000 to a rate of 10.0 per 100,000 in 2010.

Behavioral Health

Importance to Community Health Development

Optimal behavioral health (often referred to as mental health) is a state of successful performance of cognitive and mental function, resulting in productive activities, fulfilling relationships with other people and the ability to change and cope with everyday challenges. Behavioral health is essential to personal well-being, family and interpersonal relationships, and the ability to contribute to one's community or society as a whole.

The following report provides rate of death due to intentional self-harm (suicide) per 100,000 population and the leading causes of mental health related hospitalization. Such data is relevant as suicide is known to be an indicator of poor mental health status.



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2006-2010. As presented in http://www.chna.org

Key Finding

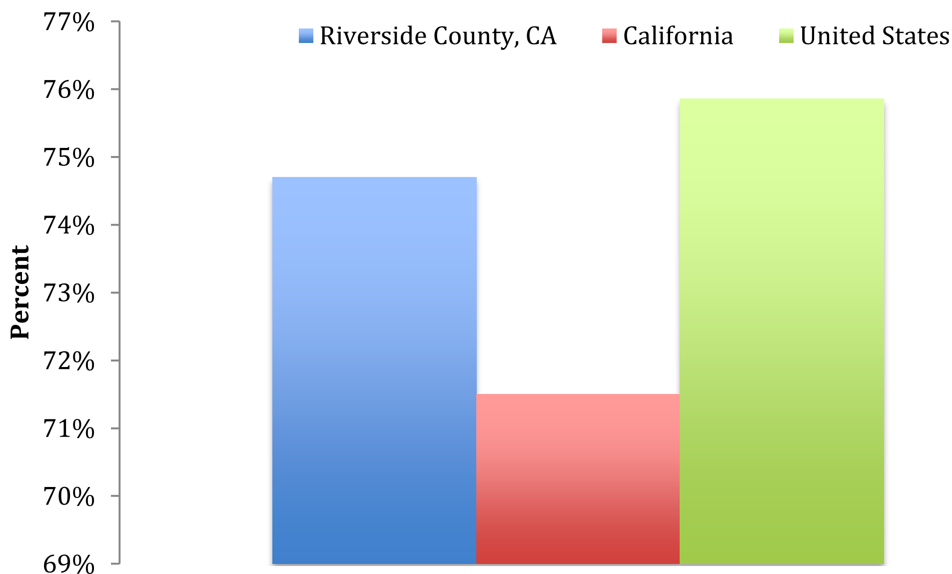
- Deaths due to suicide remain slightly higher in Riverside County in comparison to the State.

Health Behaviors

Nutrition: Fruit and Vegetable Intake

Importance to Community Health Development

The following indicator reports the percentage of adults aged 18 and older who self-report consuming less than 5 servings of fruits and vegetables each day. This indicator is important because a healthy diet, relates to maintaining a healthy body weight.



Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2005-2009. As presented in http://www.chna.org

Nutrition: Breastfeeding

Importance to Community Health Development

According to the American Academy of Pediatrics (AAP), breastfeeding has health advantages for infants, mothers, families, and society. There is strong evidence that children who are breastfed have fewer infectious diseases, a lower rate of Sudden Infant Death Syndrome (SIDS), and better cognitive development. The social benefits include lower healthcare costs and parents missing fewer days of work Because of such benefits, the AAP recommends that infants should be exclusively breastfed for at least six months after birth. The term "exclusive breastfeeding" means that mothers are only breastfeeding, while "any breastfeeding" means that mothers are supplementing breast milk with infant formula. While both "any breastfeeding" and "exclusive breastfeeding" are displayed in the following pages, the text focuses on exclusive breastfeeding since it is the primary recommendation for new mothers.

In-Hospital Breastfeeding Initiation (exclusive breastfeeding) by Mother's County of Residence, 2011

	Total	African American	American Indian	Asian	Multiple Race	Pacific Islander	Other	White	Hispanic
Riverside County	67.3	57.2	48.1	60.0	72.3	61.8	60.6	74.4	65.4
CA	60.6	49.9	64.1	59.0	69.9	51.2	59.4	76.0	53.5

Data Source: California Department of Public Health, 2011. In-Hospital Breastfeeding Initiation Data.

In-Hospital Breastfeeding Initiation (any breastfeeding) by Mother's County of Residence, 2011

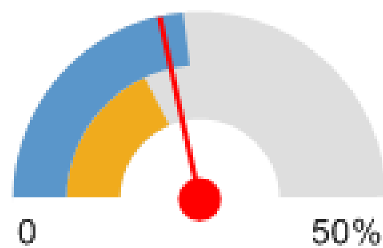
	Total	African American	American Indian	Asian	Multiple Race	Pacific Islander	Other	White	Hispanic
Riverside County	91.5	85.5	82.7	94.1	90.9	94.1	91.2	90.6	92.3
CA	91.7	81.6	88.0	94.0	92.2	84.2	88.7	93.6	91.4

Data Source: California Department of Public Health, 2011. In-Hospital Breastfeeding Initiation Data.

Physical Activity

Importance to Community Health Development

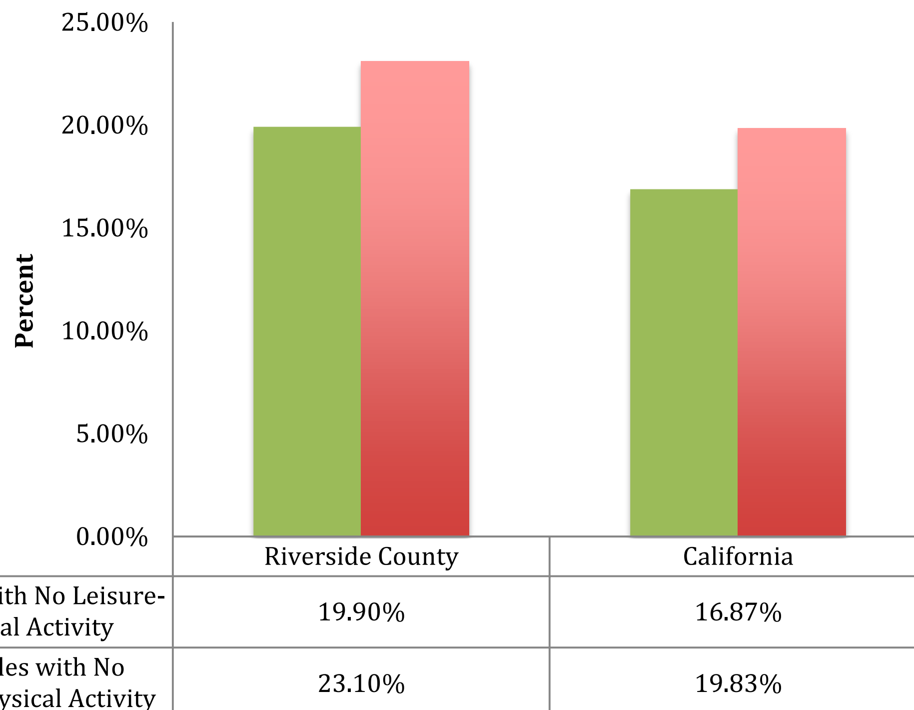
Regular physical activity, especially throughout life, has been shown to be important in maintaining good health, improving psychological well-being, and preventing premature deaths.



HP 2020 Target: 32.6%

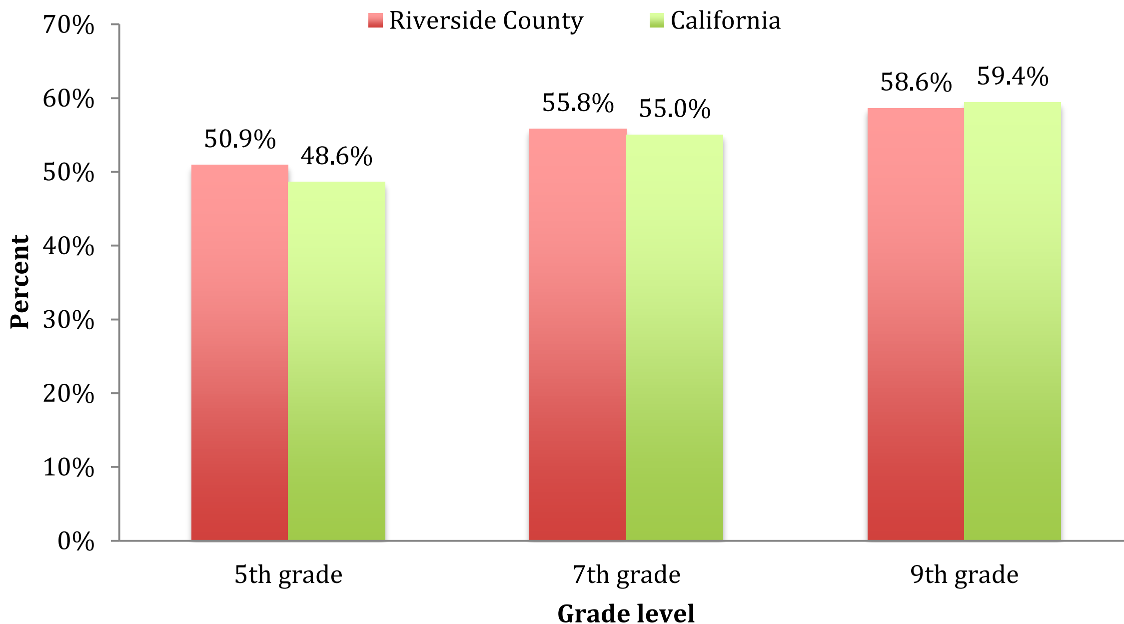
- Riverside County (21.50%)
- California (18.41%)
- United States (23.67%)

Percent with No Leisure-Time Physical Activity



	Riverside County	California
Percent Males with No Leisure-Time Physical Activity	19.90%	16.87%
Percent Females with No Leisure-Time Physical Activity	23.10%	19.83%

Data Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System, 2009. As presented in http://www.chna.org



Data Source: California Department of Education, Statewide Assessment Division. (2013). Physical fitness testing results, 2007 – 2012. Note: The Fitness Areas include Aerobic Capacity, Body Composition, Abdominal Strength, Trunk Extensor Strength, Upper Body Strength, and Flexibility.

Key Findings

- A higher percent of both males and females in Riverside County are physically inactive, in comparison to California.
- The percent of 9th graders meeting physical activity fitness standards were lower in Riverside County in comparison to California.

Tobacco Use

Importance to Community Health Development

Tobacco use is attributable to a number of diseases, including heart disease, stroke, and various cancers, especially lung cancer. It remains the single most preventable cause of morbidity and mortality in the United States. Specifically, cigarette smoking results in more deaths than deaths due to AIDS, alcohol, cocaine, heroin, homicide, suicide, more vehicle crashes, and fires, combined. Each year, approximately 443,000 Americans die due to tobacco-related illnesses and for every person who dies from such a cause, 20 more Americans suffer at least one serious tobacco-related illness.

Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2005-2011. As *presented in http://www.chna.org*

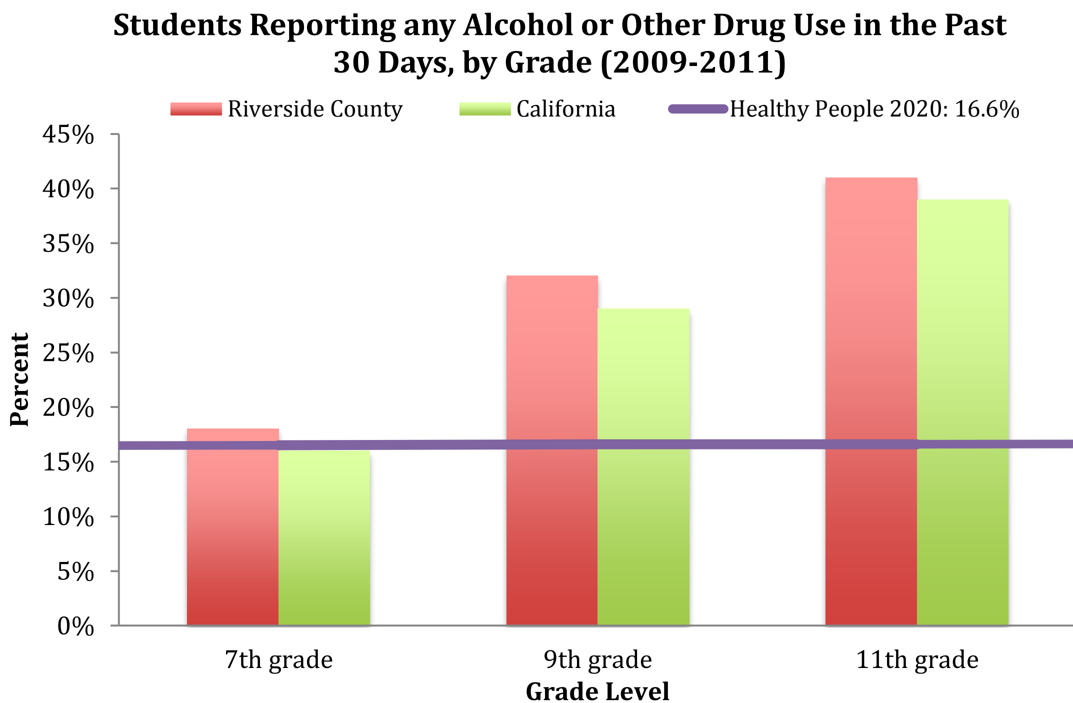
Key Finding

- Riverside County has a higher percentage of current smokers in comparison to the State and the Healthy People objective.

Substance Abuse/Heavy Alcohol Use

Importance to Community Health Development

Substance abuse has a major impact on individuals, families, and communities. The effects of substance abuse are cumulative, significantly contributing to costly social, physical, mental, and public health problems. This indicator reports the percentage of adults aged 18 and older who self-report heavy alcohol consumption (defined as more than two drinks per day for men and one drink per day for women).



Data Source: California Healthy Kids Survey, WestEd, California Department of Education. (2013)., Current alcohol and other drug use, Past 30 days, Table A4.3, 2009-2011.Healthy People 2020 Objective is to reduce the percent of adolescent (aged 12-17) who use alcohol or any illicit drugs during the past 30 days to 16.6%. Since data specific to age group is not available for the Inland Empire, grade-specific data is provided here. Given that the key grade groups displayed here are representative of the 12-17 age group, the results are comparable to Healthy People 2020 target.

Key Findings

- In comparison to the Healthy People 2020 target, a higher percentage of adolescents in Riverside County report alcohol or other drug use in the past 30 days.

Hospitalizations

Importance to Community Health Development

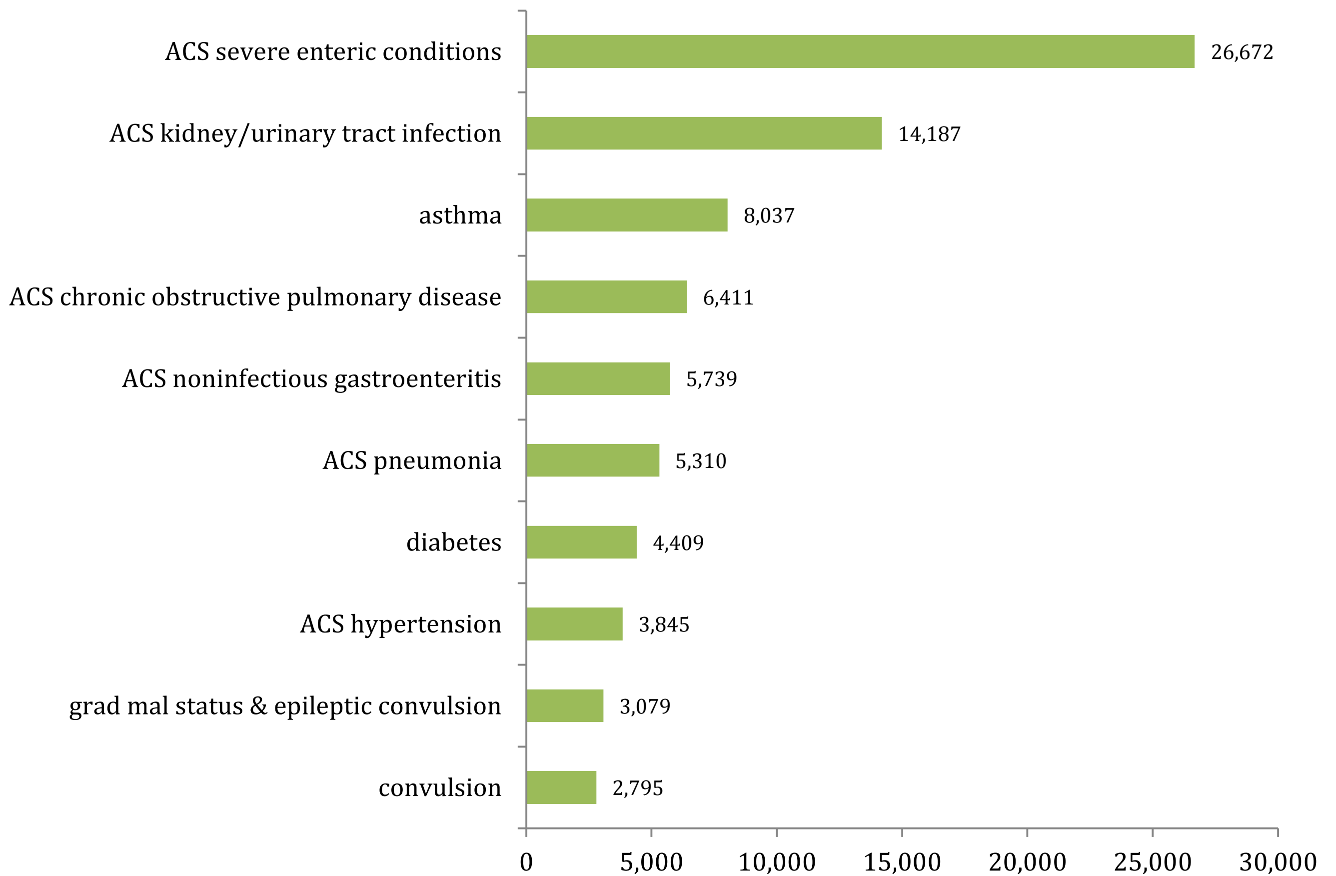
In the continuum of the disease process, hospitalization is the last step for patient care, resulting in separation from community resources and family support. Patients are placed in a hospital setting because of advanced disease processes, complex health issues, or catastrophic accidents requiring highly specific care, state-of-the-art diagnostic and surgical interventions for the preservation of life and restoration of health.

The focus of Community Health Development is to promote appropriate hospital utilization; therefore we will focus on Ambulatory Care Sensitive Condition Hospitalizations (ACSC). **ACSCs are situations in which hospital admission could be prevented by utilization of suitable interventions during primary care.** One marker of access to ambulatory care that has been widely used in literature is ACSC hospitalizations. It is important to address such an indicator as ACSC discharge analysis demonstrates a possible "return on investment" from interventions that reduce admissions through better healthcare access.

Preventable Hospital Events, 2003-2007

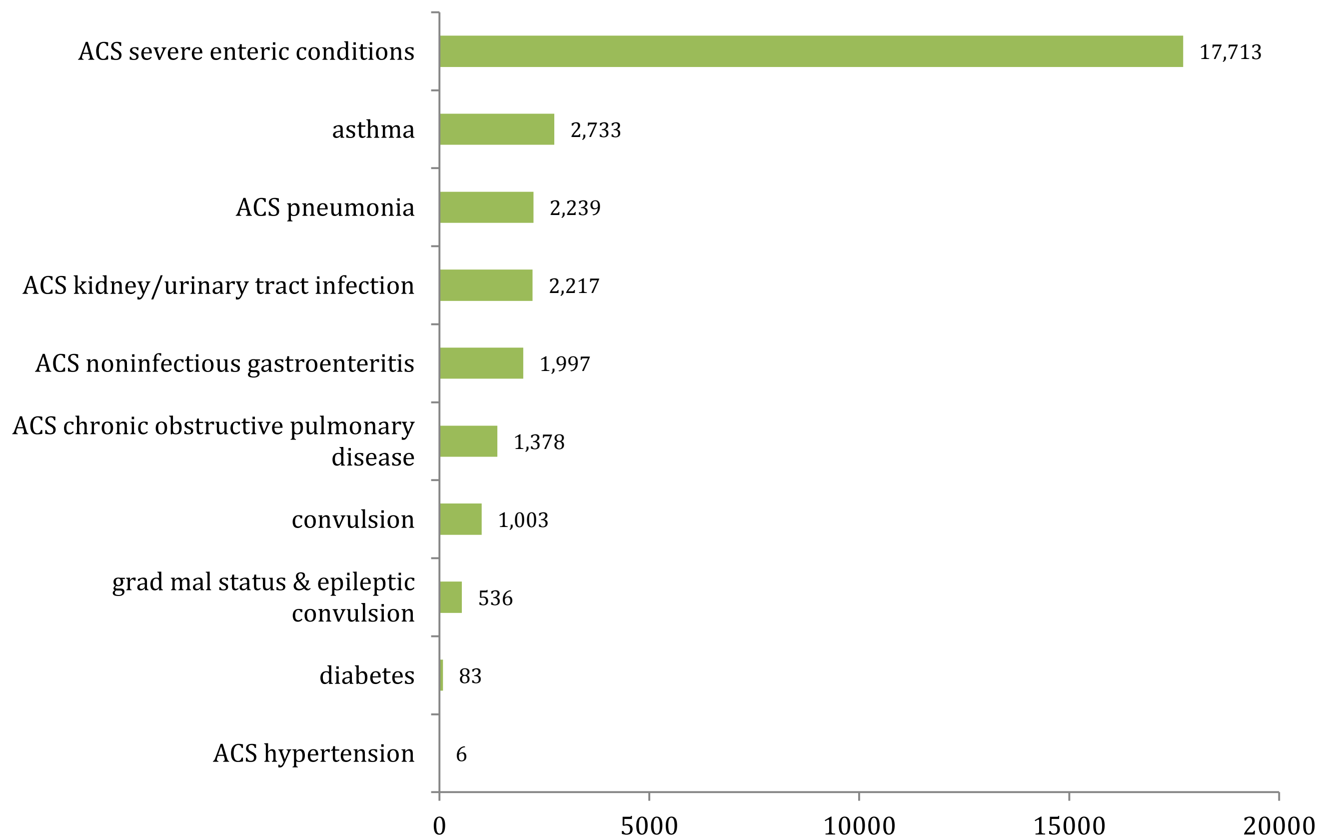
Region	Total Medicare Enrollees (Age 65-75)	Preventable Hospital Admissions (ACSCs)	Preventable Hospital Admission (ACSC) Rate (Per 1,000 Medicare Enrollees)
Riverside County	94,317	6,285	66.64
San Bernardino County	64,261	5,255	81.78
Los Angeles County	500,084	36,816	73.62
Orange County	154,422	8,934	57.85
San Diego County	154,150	8,368	54.28
Ventura County	54,582	2,783	50.99
California	2,051,648	127,965	62.37
United States	53,239,865	4,053,740	76.14

Data Source: Dartmouth Atlas of Healthcare, Selected Measures of Primary Care Access and Quality, 2003-2007. As presented in http://www.chna.org



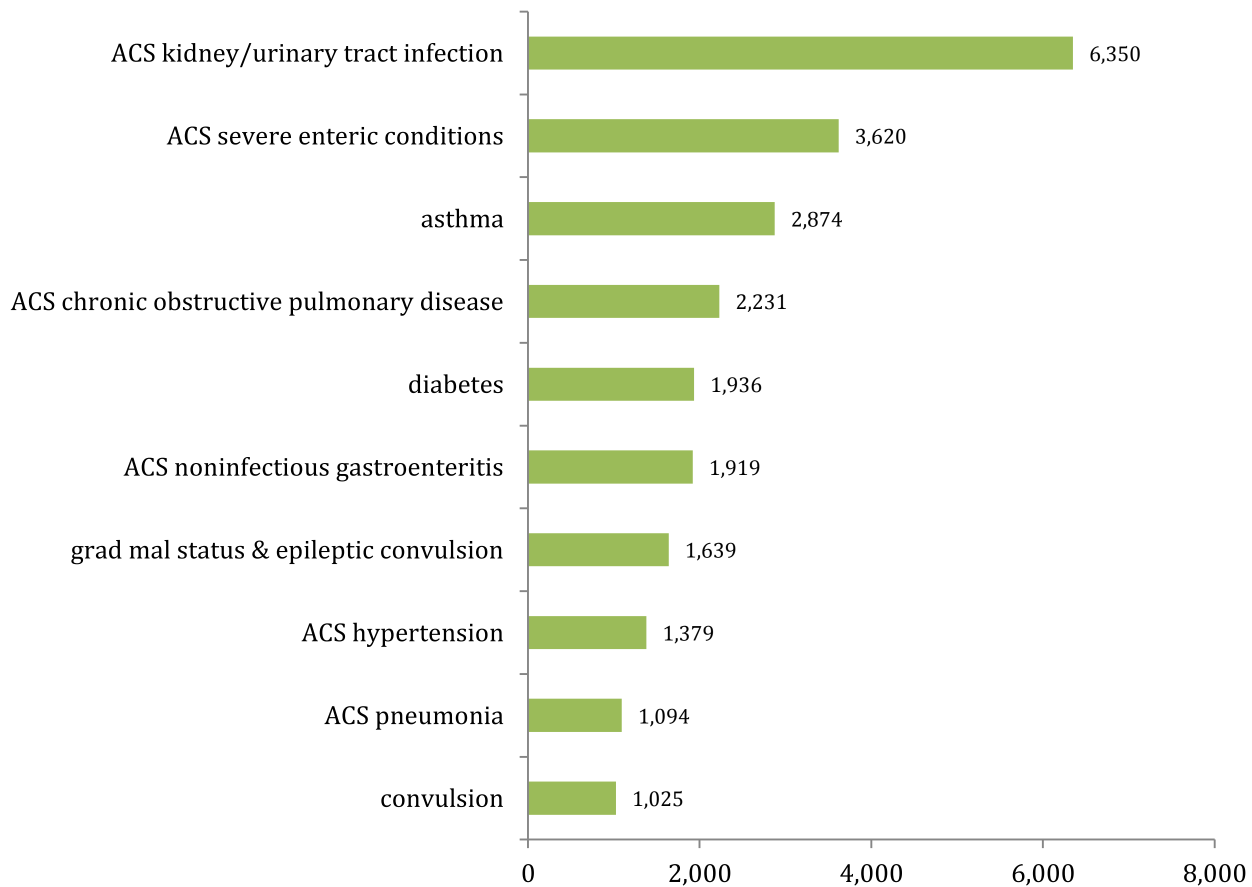
Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Emergency department encounters for ambulatory care sensitive (ACS) conditions among 0-17 years olds, 2010



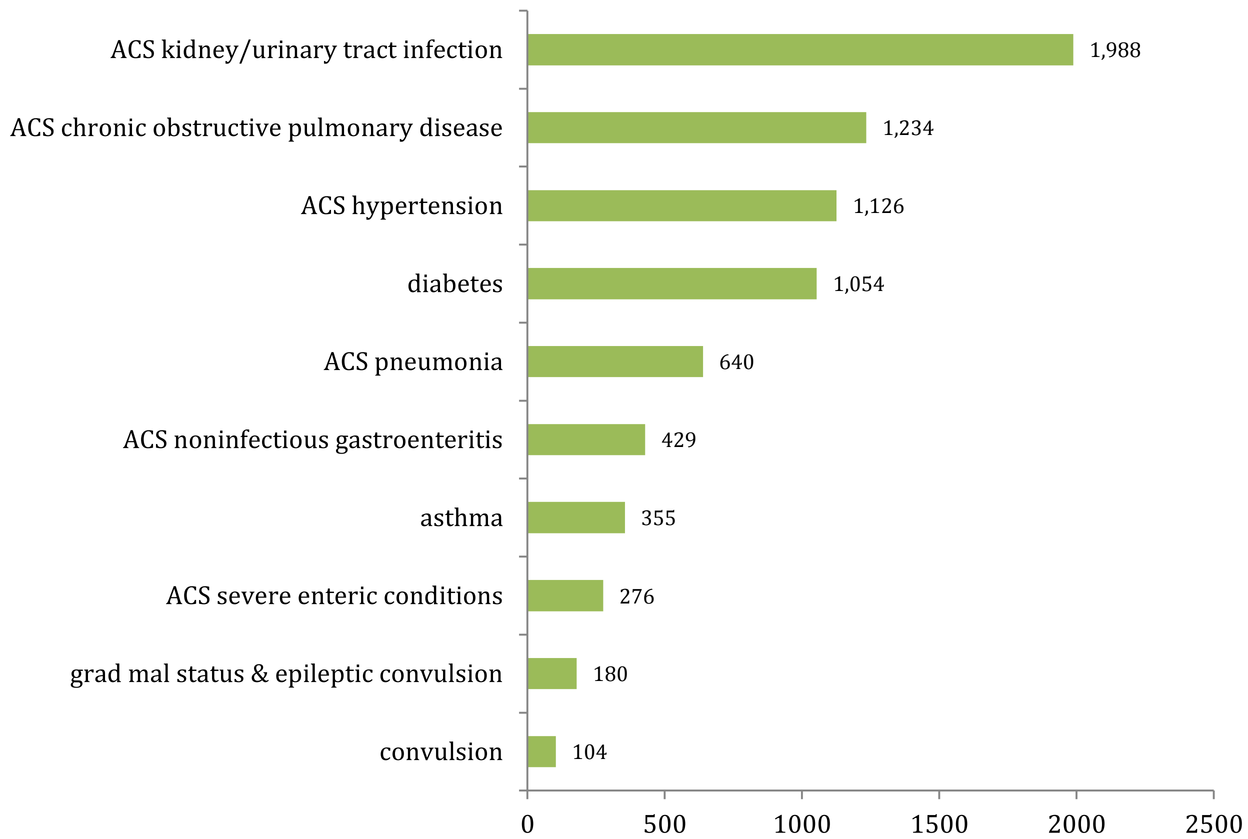
Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Emergency department encounters for ambulatory care sensitive (ACS) conditions among 18-59 years olds, 2010



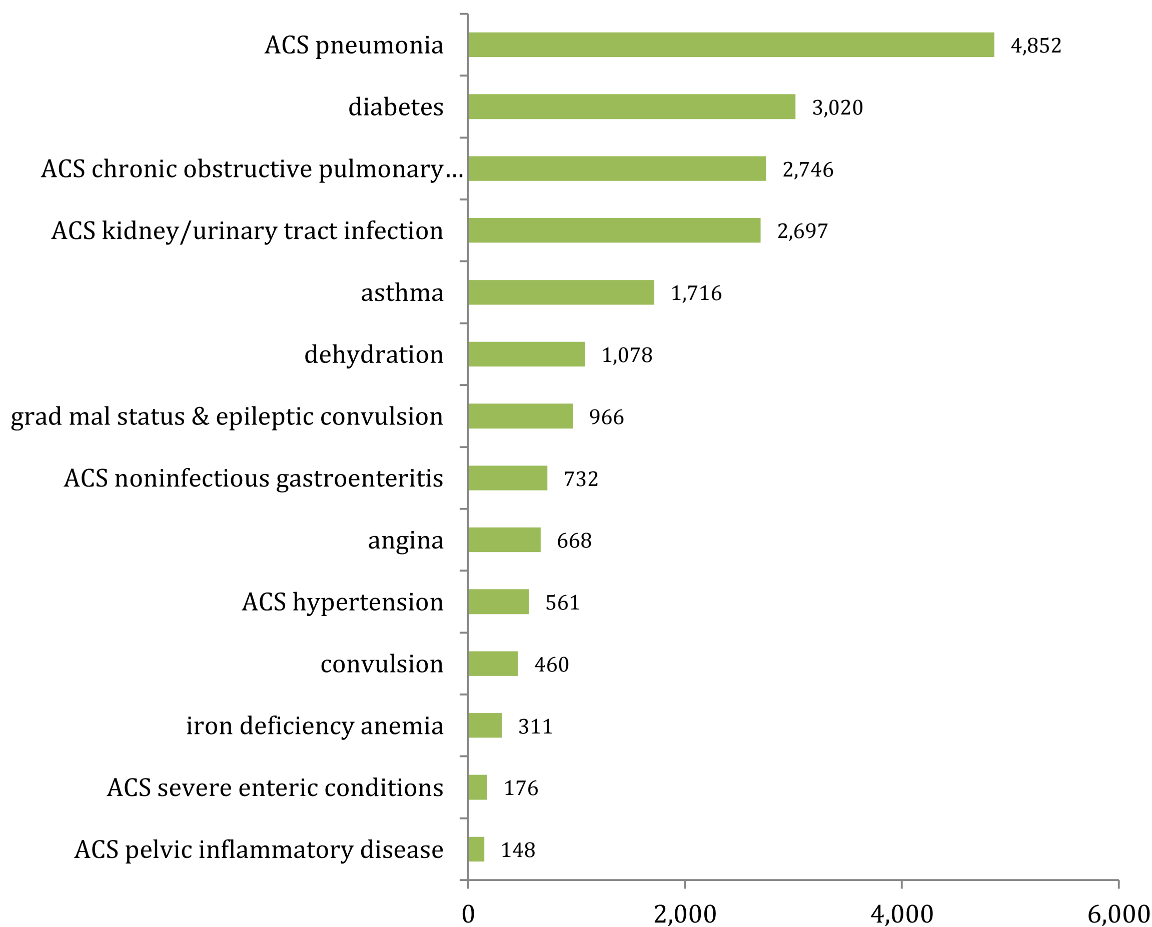
Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Emergency department encounters for ambulatory care sensitive (ACS) conditions among those 60+ years old, 2010



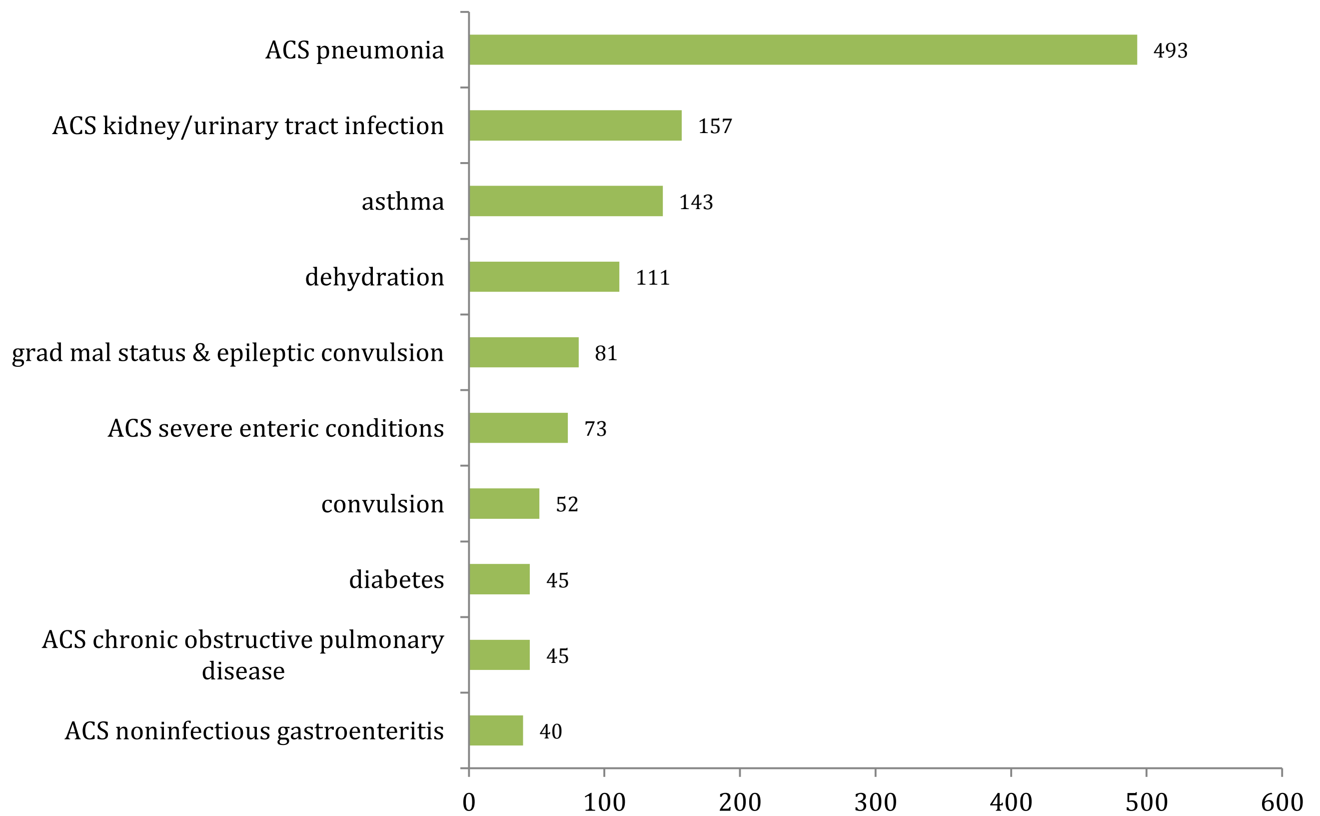
Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Hospitalizations for ambulatory care sensitive (ACS) conditions, 2010



Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Hospitalizations for ambulatory care sensitive (ACS) conditions among 0-17 years olds, 2010



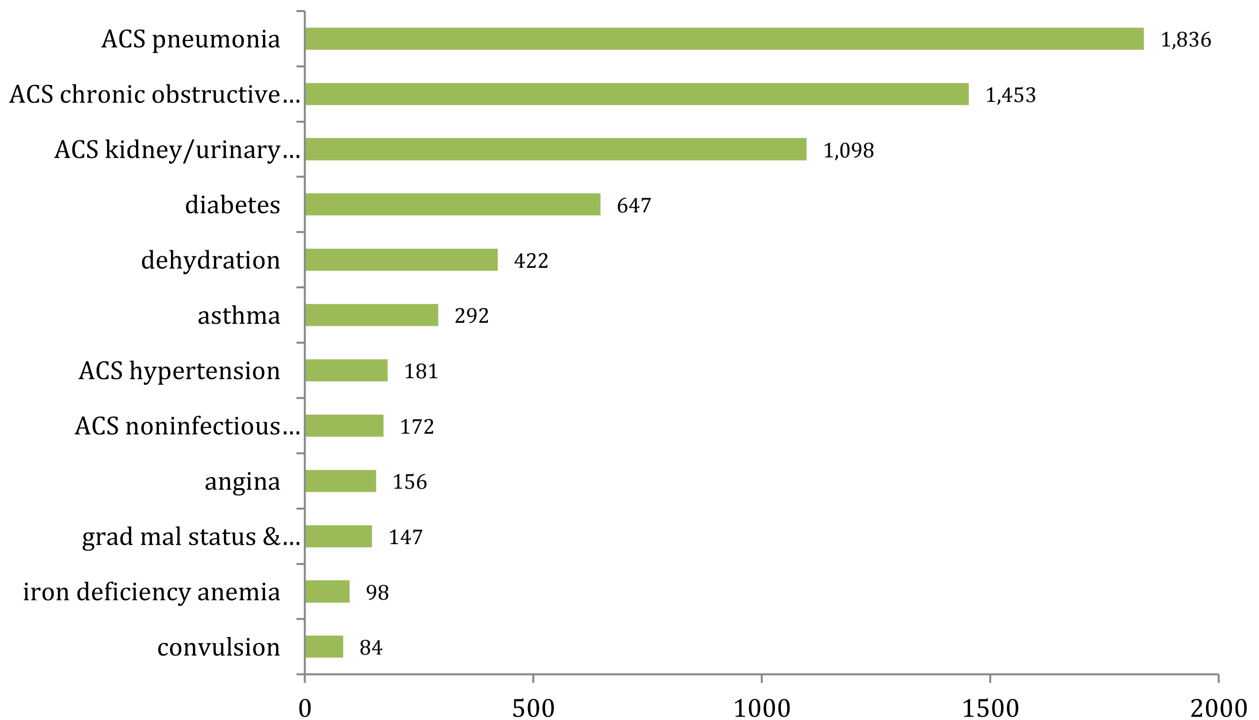
Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Hospitalizations for ambulatory care sensitive (ACS) conditions among18-59 years olds, 2010

Condition	Hospitalizations
diabetes	793
ACS pneumonia	488
ACS kidney/urinary tract infection	356
ACS chronic obstructive pulmonary disease	316
asthma	293
grad mal status & epileptic convulsion	191
ACS noninfectious gastroenteritis	172
angina	120
dehydration	106
ACS hypertension	85
convulsion	60
ACS pelvic inflammatory disease	57
iron deficiency anemia	43

0 200 400 600 800 1000

Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.



Data Source: OSHPD (2010). Prepared by San Bernardino County Department of Public Health.

Key Findings

- The leading cause of emergency room visits for ACS among 0-17 year olds was ACS severe enteric conditions
  - ACS kidney/urinary tract infections were the leading cause of emergency room visits for ACS among 18-59 year olds, and those aged 60 years or older.

- Pneumonia was the leading cause of hospitalizations among 0-17 year olds and those aged 60 years or older.
  - Diabetes was the leading cause of hospitalizations among 18-59 year olds.

Health Systems' Readiness

Importance to Community Health Development
Lack of access to adequate healthcare can pose barriers to healthy outcomes. The rates of mortality, morbidity, and emergency hospitalizations can all be reduced if residents have appropriate access to healthcare services, routine tests, vaccinations, screenings, etc.

Health insurance

Health insurance is often a critical determinant of health care utilization and is considered a key driver of one's health status.

Because lack of insurance is often a barrier to accessing basic health care services (including primary care, preventive care and specialty care), addressing **the percent of those without health insurance** is relevant to community health development.

Additionally, understanding the **percent of the population enrolled in Medicaid** helps policymakers assess vulnerable populations likely to have multiple health care associated needs.

Percent of Population Uninsured, 2008-2010

Region	Percent
Riverside County	20.31
San Bernardino County	20.45
Los Angeles County	22.58
Orange County	17.44
San Diego County	17.28
Ventura County	16.35
California	17.92
United States	15.05

Data Source: U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

Population Receiving Medicaid, 2008-2010			
Region	**Population (for Whom Insurance Status is Determined)**	**Population Receiving Medicaid**	**Percent Population Receiving Medicaid**
Riverside County	2,153,256	391,460	18.38
San Bernardino County	2,020,045	409,682	20.68
Los Angeles County	9,784,322	1,929,703	19.88
Orange County	2,987,911	387,500	13.04
San Diego County	3,063,103	394,520	13.36
Ventura County	815,730	109,915	13.63
California	36,414,292	6,580,942	18.07
United States	301,501,760	48,541,096	16.1

Data Source: U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates.

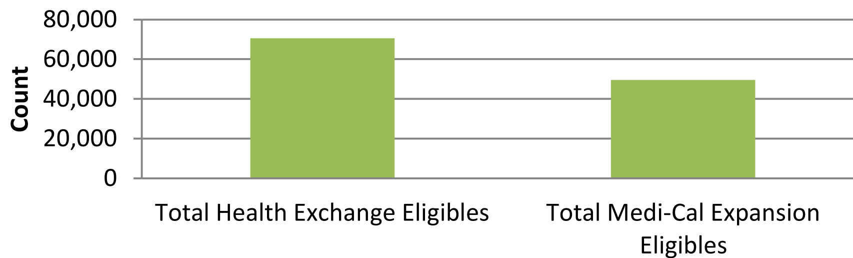
Access to Primary Care

Importance to Community Health Development

The Primary Care Provider rate reports the number of primary care physicians per 100,000 population, highlighting areas that have a shortage of health care professionals.

Access to Primary Care, 2011	
Region	**Primary Care Provider Rate (Per 100,000 Pop.)**
Riverside County	42.33
San Bernardino County	62.94
Los Angeles County	80.67
Orange County	100.29
San Diego County	84.32
Ventura County	73.72
California	83.2
United States	84.7

Data Source: U.S. Health Resources and Services Administration Area Resource File, 2011.



Health professional shortage areas

Importance to Community Health Development

The following indicator reports number and location of healthcare facilities designated as Health Professional Shortage Areas (HPSAs). HPSAs are defined as having shortages of primary medical care, dental care, and/or mental health providers.

HPSAs are designated on several criteria, often based on type of designation. For example, designation could be due to medical professionals being over-utilized in certain areas, being significantly distant from the population and thus inaccessible, or population-to-clinic ratio. Usually this ratio is 3,500 to 1 for primary care, 5,000 to 1 for dental care, and 30,000 to 1 for mental care. Also, all Federally Qualified Health Centers and Rural Health Clinics that provide access to care, regardless of patient ability to pay, receive automatic facility HPSA designation.

Facilities Designated as HPSAs, 2012

Report Area	Primary Care Facilities	Mental Healthcare Facilities	Dental Healthcare Facilities	Total HPSA Facility Designations
Riverside County, CA	**9**	**9**	**8**	**26**
San Bernardino County, CA	8	5	7	20
California	349	251	273	873
United States	3,163	2,630	2,547	8,340

Data Source: U.S. Health Resources and Services Administration, Health Professional Shortage Area File, 2012. As presented in http://www.chna.org

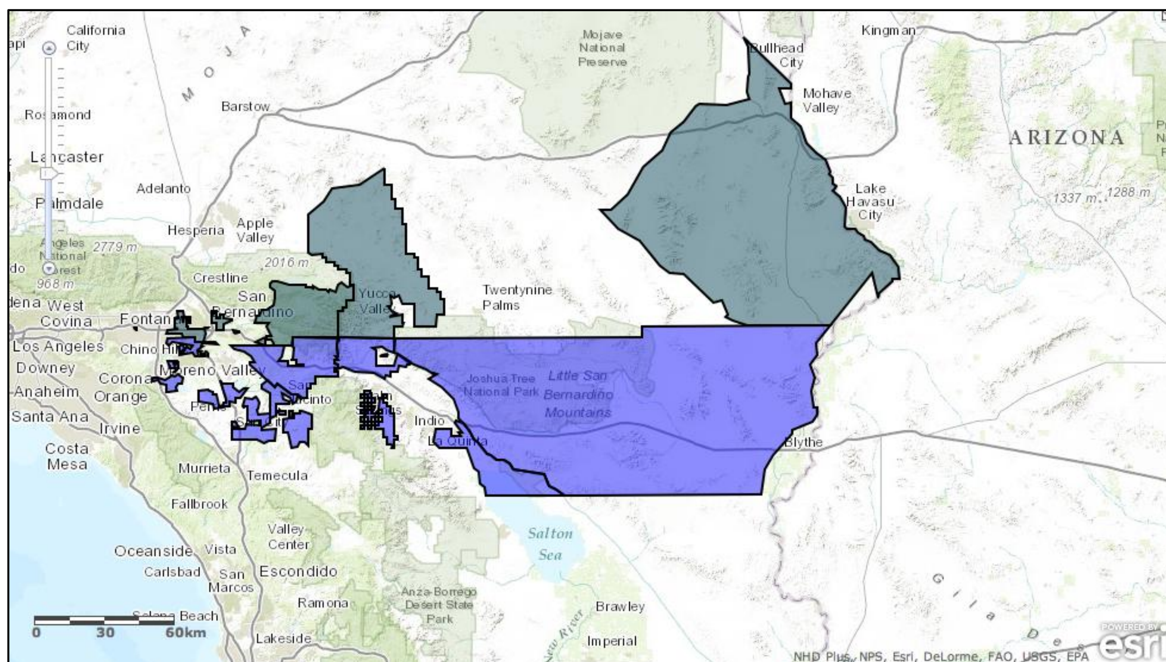
Medically Underserved Areas and Populations

Importance to Community Health Development

Medically underserved areas and populations (MUAs/Ps) are specific geographic areas or populations designated by the Health Resources and Services Administration (HRSA) as having: too few primary care providers, a high infant mortality rate, a high poverty level, and/or a high elderly population.

MUA designation involves application of the Index of Medical Underservice (IMU) to data on a service area ranging from 0 to 100, where 0 designates a completely underserved area. An area with an IMU of 62.0 or less qualifies as a MUA. IMU takes in such variables as the ratio of primary medical care physicians per 1,000 people, infant mortality rate, percent of population with income below federal poverty level, and percent of population 65-years-of-age or older.

Medically underserved areas in San Bernardino and Riverside Counties.



Data Source: Created by Loma Linda University Medical Center in collaboration with ESRI.

Physical Environmental Quality

Importance to Community Health Development

Our physical environment affects our health behaviors and outcomes. Where people live often determines how they live. Access to healthy food items and physical activity resources can often determine our long-term health. According to the World Health Organization, approximately 25% of all deaths are attributable to environmental factors (WHO, 2006). Air pollution is a significant environmental risk factor and improving air quality can in turn improve various health outcomes, such as hypertension, asthma, and COPD.

The Retail Food Environment Index Score (RFEI) is a ratio of the relative abundance of different types of retail food outlets in a given area. RFEI is constructed by dividing the total number of fast-food restaurants and convenience stores by the total number of supermarkets and produce vendors in the area. As a result, the ratio is indicative of retail food outlets that offer little options for fruits and vegetables and other healthy food options. Understanding the RFEI can provide scopes of interventions to create a better built environment that provides the community adequate access to healthy food items.

Unhealthy Air Quality Days

Air Quality in Inland Empire			
	Riverside County	**California**	**United States**
Average Daily Ambient Ozone Concentration	50.34	41.3	38.98
Number of Days Exceeding Emissions Standards	31.39	8.45	1.59
Percentage of Days Exceeding Standards, Crude Average	8.60%	2.31%	0.44%
Percentage of Days Exceeding Standards, Pop. Adjusted Average	8.53%	2.47%	0.47%

Data Source: Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network, 2008

Retail Food Environment Index

Riverside County

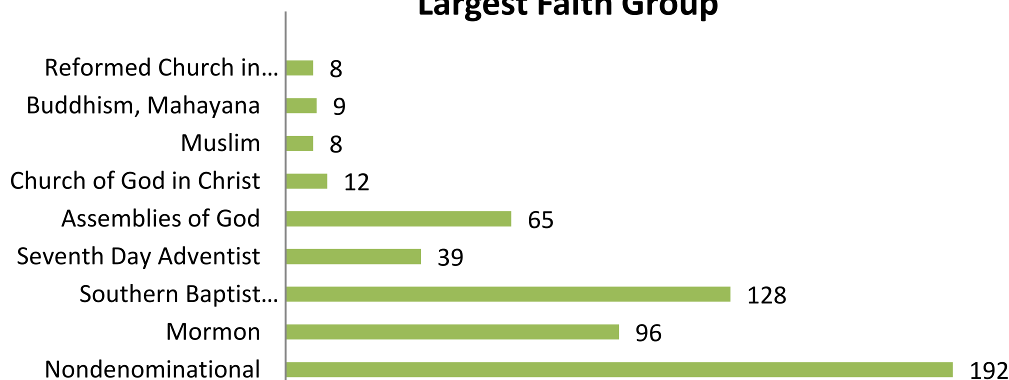
- RFEI for Riverside County is 4.63
- 55% of restaurant establishments in the County, in comparison to 49% in California, are fast food restaurants.

Data Source: California Center for Public Health Advocacy and San Bernardino County: Our Community Vital Signs, 2013.

Faith and Health

Importance to Community Health Development

It has long been established that there is an indelible connection between the health of a person and their faith connection and journey. There is also a connection between the health of a community and its faith expressions. While the correlates are not as easy to see, it is an important aspect to be considered in the assessment of a community's health. Furthermore, faith communities can become significant centers of health, wholeness, and healing when congregations understand their role in promoting population health, and its impact on their local communities.



The Art of Listening and Stories Behind the Statistics

A community health assessment would not be complete without hearing from the population of concern: the local community. As professionals at an academic health institution, we occupy a unique position, which allows for the modeling of health programming, initiatives, and agendas capable of addressing local social determinants and inequalities in our surrounding community.

Yet, as our communities continue to diversify and our needs and the needs of our neighbors seem to increase and become more pressing, past approaches have proven insufficient. In turn, our approach must shift to place emphasis on the importance of community participation in our efforts. This begins by using one of an often forgotten God-given gift—the ability to listen.

More importantly, general health trends have raised growing concerns from the professional and general health community hoping of improving the quality and capacity of service delivery. Our strategy must adapt to meet health needs and an increasingly diverse population. To facilitate the necessary growth and change in health status seen in our communities, policies have adapted to include standards such as the following:

1. Incentivizing agencies and practitioners to shift their focus to upstream interventions as part of service delivery

2. Recommending the exploration of the dynamic and potential partnership between healthcare and providers and communities.

Both strategies emphasize flexibility and exhibit allocative efficiency by remaining responsive to the needs of the community. It is in the context of these two strategies that qualitative research methods were employed to explore health outcomes in the LLUMC service area, to explore the perceptions of health and relative needs as expressed by the community, and to highlight existing assets and networks in the local community. This also helps us to remember there is a story behind every statistic listed in our assessment. Join us as we explore opportunities for working together as a health system to improve the health in our community.

Overview

LLUH conducted multiple focus groups, key informant interviews, community surveys, physician surveys, and internet questionnaires. The focus groups and key informant interviews had three main questions:

1. ***What is your vision of a healthy community?***
2. ***What is your perception of LLU Health (hospital in service area) overall and of specific programs and services?***
3. ***What can LLU Health do to improve health and quality of life in the community?***

LLUH conducted community agency surveys that asked about the health problems and health needs of the community. Physician surveys were conducted to identify perceived barriers to treatment, as well as, the positive and negative features in the patients' lives that are affecting the patients' health.

In addition to conducting our qualitative analysis of the community, LLUH has drawn data from the National Research Corporation (NRC) Consumer Health Report. The NRC Consumer Health Report provides a detailed view of the health need, health status, behaviors, and perceptions of residents within the LLU-TOTAL SERVICE AREA. The NRC Consumer Health Report is conducted annually across communities in over 200 of the nation's largest metropolitan statistical areas (MSAs), and is also available at state and national levels.

Objectives

Our main objective for each conversation and survey was to discover strategies in which Loma Linda University Health could better collaborate and better serve the community. LLUH recognizes the need for the health system to change and adapt to the changing community and wants to make sure that we are serving our community as best we can.

Target Audience

The focus groups were conducted in all the Healthy Communities cities that have been established in San Bernardino and Riverside counties. Additionally, LLUH held focus groups across the area to try and get a representation of everyone in the service area.

Key informant interviews were comprised of community leaders from an array of agencies across the Inland Empire. Agencies included not-for-profits, faith based organizations, policy groups, elected officials and their staff, education, and local businesses. These were conducted through email, phone, or in person.

The community agency survey was emailed to organizations that collaborate with Loma Linda University Health and was available online. The survey addressed: which community the organization serves, what is healthy in their community, what is not healthy in their community, and what their community needs to be healthy. In addition, the survey asked about perceived barriers to treatment.

The physician survey was emailed to Department Chairs for each department at the Loma Linda University School of Medicine and was available online. The survey addressed which age groups and ethnicities the physicians serve, as well as what is healthy, what is not healthy, and needed resources for patients to live healthier lifestyles.

The NRC survey was an internet-based questionnaire that invited respondents through emailed invitations. The questionnaires were developed utilizing NRC's experience in the design and implementation of hundreds of consumer research studies. Questions were designed to meet the objectives determined from the combined input of marketing directors and strategic planners nationwide.

What We Did with the Data

LLUH reviewed all the information given, found the common themes and summarized the key points (below). By identifying the common themes LLUH can address the needs of the entire community.

NRC Benchmarks

The Riverside-San Bernardino-Ontario CA Core Based Statistical Area sample for 2012 was comprised of 3,305 households. The standard error range for a sample of 3,305 households is ± 1.7 percent at the 95 percent confidence level.

The California sample for 2012 was comprised of 31,481 households. The standard error range for a sample of 31,481 households is ± 0.6 percent at the 95 percent confidence level.

The National sample for 2012 was comprised of 268,175 households which includes the largest 180 MSAs within the U.S. The standard error range for a sample of 268,175 households is ± 0.2 percent at the 95 percent confidence level.

Emergent Themes from the Community

Analysis of community voices showed several emergent themes including the importance of access to information and services for healthy living, social support, and health literacy. The importance of a faith-based organization is well received, though opportunities remain to better promote the mission to all community members and create an environment of inclusion. Such themes highlight several opportunities for improving health outcomes.

The Voice of Our Community for a Healthy Living Environment

- A comprehensive approach to health that addresses the physical environment, behaviors, and information on healthy lifestyle options.
- A healthy community incorporates many sectors of the population, hospital and other agencies, in health decision making and improving community health.
- A community with gardens, outdoor living spaces, walking trails, and even one that supports spiritual growth improves health outcomes.
- A healthy environment should enable all members of a community equity in access to care to improve their health status.

"A healthy community is an active community."

The Voice of Our Community for an Unhealthy Living Environment

- There is an abundance of fast food restaurants and very few healthy eating options.
- Overall there are limited initiatives that focus on healthy eating.
- There is a lack of physical space for exercising.
- There is a significant lack of safe exercising opportunities.

- Limited initiatives that focus on physical activity options make such a behavior difficult.
- Together these limited opportunities have given rise to higher prevalence of obesity and chronic diseases.

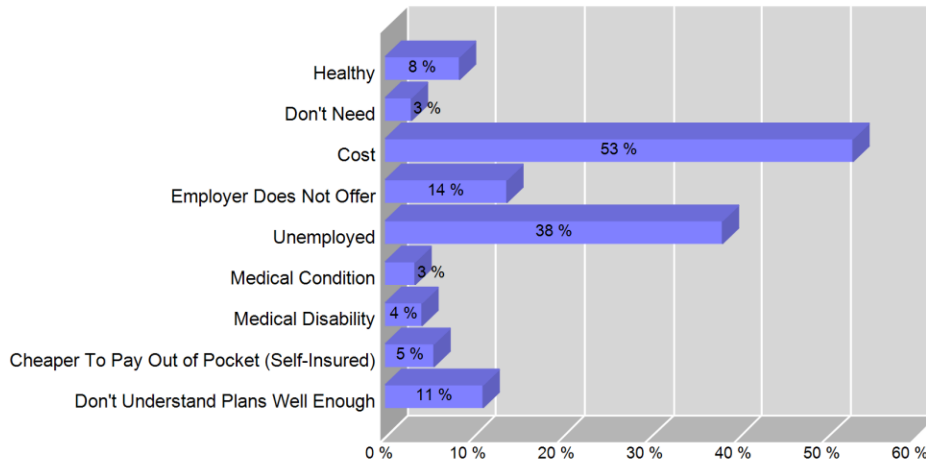
The Voice of Our Community on Opportunities for Improvement

Our community understands the importance of healthcare access and utilization of services but lacks adequate resources.

- Improved participation from hospitals and collaborating agencies to enhance community engagement.
- Improved patient care by reducing wait time, better patient-physician communication, and improved access to healthcare and healthy lifestyle information.
- Increased partnership and investment in collaborating agencies to promote patient care and injury prevention beyond the hospital.
- Collaboration between the community and the hospital is necessary to ensure that the community is an integral part of the decision making and evaluation process to improve health.
- There is a need to address childhood obesity through multi-sectoral collaboration.
- Increase the presence of food banks and farmer’s markets to enhance access to healthy food options.
- The hospital needs to expand by adding a cardiac catheterization lab, pediatric trauma care, level 1 trauma center, stroke center, and base for first responders with MICN.

National Resource Corporation

Shown below is a presentation of self-reported responses to questions pertaining to insurance, and reasons for individuals being uninsured.

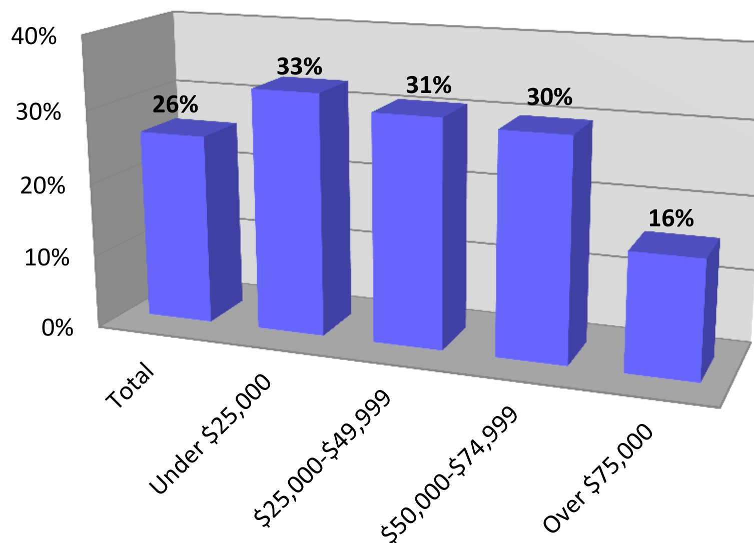


Source: National Research Corporation, 2012

- The main reason to not have health insurance is because the cost is too high
- The second reason is being unemployed which leads back to the cost being too high

This graph shows percent of all people that responded as having both a poor or fair health status and then the percent of people in each range of income that responded as having a poor or fair health status.

LLU-TOTAL SERVICE AREA Household health status by income (fair and poor)



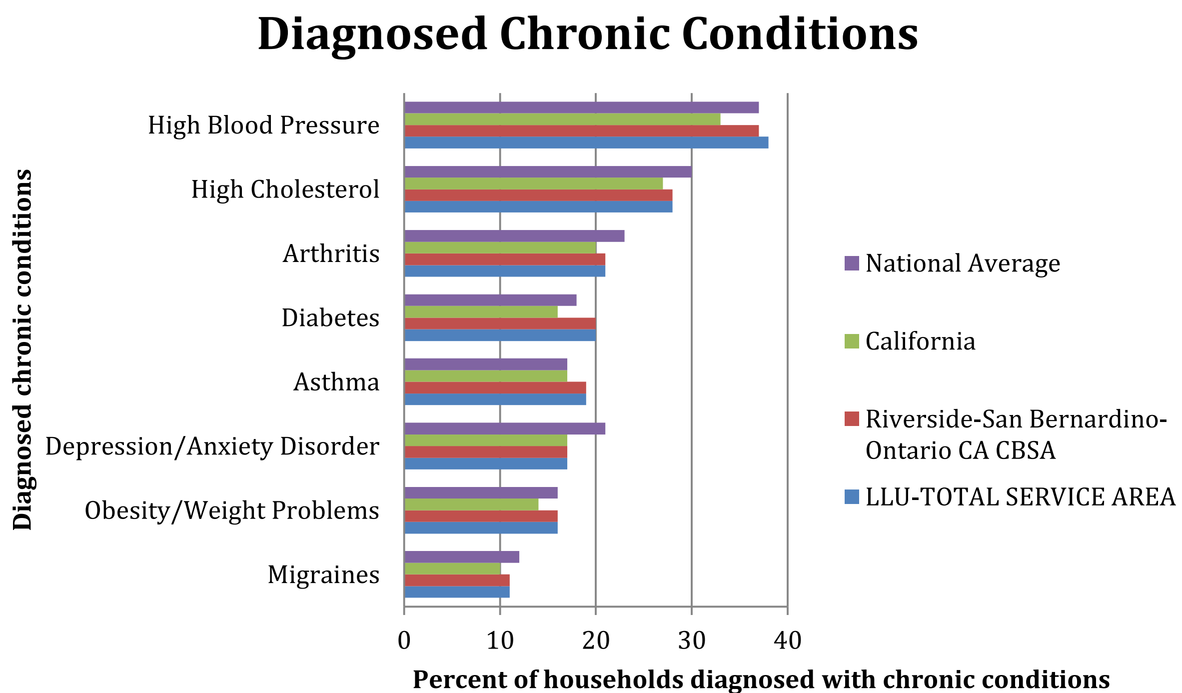
26% of our area feels they have a poor or fair health status

Source: National Research Corporation, 2012

Health Risk Profiles

This section reports various self-reported measures of general physical health among LLU-TOTAL SERVICE AREA residents, including information regarding existence of various health risks, health behaviors, and chronic conditions.

Represented below is the percentage of LLU-TOTAL SERVICE AREA households that reported one or more household members who have been diagnosed with having the following chronic conditions. Comparison benchmarks are given for the MSA, state, and national.



Data Source: National Research Corporation, 2012

- This supports data reporting heart failure as the leading chronic condition in our area, as well as, the national data

Next Steps: Creating a Healthier Community in 2014

After conducting the CHNA we asked the following questions: **1) What is really hurting our communities? 2) How can we make a difference? 3) What are the high impact interventions? 4) Who are our partners?** and**, 5) Who needs our help the most?**

The preceding sections of this report identified numerous indicators reflective of community health status for the LLUMC-Murrieta service area. From this analysis, three primary focus areas were identified:

- Whole Child Care
- Whole Behavioral Care
- Whole Chronic Disease Care

Whole Child Care

Our assessment identified a significant lack of adequate resources for children including behavioral health services, medical services, and social services. Fragmentation of the system as a whole has further added to this gap in services. Our health system and communities have been unable to respond to children raised in poverty because they are lacking resources.

As the smallest voice in a region of minimal resources children are our most at-risk population. The United States Surgeon General has identified the obesity epidemic as one of the greatest health problems facing the nation today. Currently, approximately 25 million U.S. children and adolescents are overweight or obese. Since 1980, the percentage of children who are overweight has more than doubled, while rates among adolescents have more than tripled. Although the rising trend in obesity rates is present in all social classes, the risk is greater in lower income and in certain ethnic populations.

Childhood obesity has been associated with a number of problems including health, social, and economic consequences. Childhood obesity is related to numerous chronic adult disease including Type II diabetes, cardiovascular disease, several types of cancer, and osteoarthritis. Children and adolescents who are overweight are more likely to become overweight or obese adults. If a child is obese at the age of four, he or she will have a 20 percent likelihood of being overweight as an adult.

Meeting the health needs of our children will require a symphony of care and coordinated response from healthcare access, access to nutritious foods, family support, access to open space for physical activity, and collaboration with our local schools. Most strategies to prevent or reduce childhood obesity have focused on individual behavior modification and pharmacological treatment, but have been met with limited success.

Loma Linda University Health recognizes that our children are our future. LLUH is committed to improving the health of all children living in the region by promoting lifelong healthy eating patterns through education and behavior change practices, promoting physically active lifestyles, and supporting community programs that promote overall health.

Whole Behavioral Health

Good mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. It is estimated that only about 17% of U.S adults are considered to be in a state of optimal mental health. Depression is the most common type of mental illness, affecting more than 26% of the U.S. adult population. It has been estimated that by the year 2020, depression will be the second leading cause of disability throughout the world, trailing only ischemic heart disease. In Riverside County, residents, on average, reported having four mentally unhealthy days reported in past 30 days (age-adjusted). This figure is double the National Benchmark of 2.3 days. Focusing on behavioral health is important, because there is emerging evidence that positive mental health is associated with improved health outcomes and lowered risk factors for many diseases. Riverside County lacks a sufficient number of mental health providers, further highlighting the need to address healthcare access.

High rates of 5150's in Emergency Departments in the Inland Empire and lack of behavioral health services for children also contribute to the importance of addressing behavioral health in our service area. **LLUH, as a faith-based healthcare leader, is building partnerships with interfaith communities to change the health status in our region.** Participation in a community of faith significantly improves the likelihood for congregation members of becoming healthy and staying healthy. LLUH is helping faith communities to redefine themselves as 'health centers,' where the whole person is treated: emotionally, spiritually, relationally, and physically.

Whole Chronic Disease Care

…with a Special Emphasis on Heart Disease and Cancer

Chronic diseases are outpacing acute illnesses as the dominant healthcare need among Americans. 1 in 2 American adults have at least one chronic disease and 70% (1.7 million) of all annual deaths are attributable to such diseases. Overall, heart disease and stroke are the first and third leading causes of death, respectively. In Riverside County, American Indians and African Americans are the groups most impacted by heart disease with a rate of 289.6 and 269.3 per 100,000, respectively. In addition, African Americans experienced a 14.2% jump in mortality from stroke between 2006-2010. Understanding, the most impacted groups for chronic disease is important in moving forward with the implementation of a Community Health Plan and targeted interventions.

Chronic disease management is a broad term that encompasses many different models for improving care for people with chronic diseases. Elements of a structured chronic disease management program may include a treatment plan with regular monitoring, coordination of care between multiple providers and/or settings, medication management, evidence-based care, measuring care quality and outcomes, community based interventions supporting healthy behaviors, and support for patient self-management. **LLUH is taking an active role to improve the continuum of care for individuals experiencing chronic disease. We are committed to improving the efficiency of healthcare delivery and bridging preventive strategies in the clinical setting and the community.** This strategy will emphasize interventions for diabetes, heart disease, and obesity related co-morbidities.

The cancer objectives for Healthy People 2020 support monitoring trends in cancer incidence, mortality, and survival to better assess progress made towards decreasing the burden of cancer in the United States. The objectives reflect the importance of promoting evidence-based screening for cervical, colorectal, and breast cancer by measuring the use of screening tests. For cancers with evidence-based screening tools, early detection must include the continuum of care from screening to appropriate follow-up of abnormal test results and referral to cancer treatment.

At LLUH we are committed to treating interrelated factors that contribute to the risk of developing cancer. These same factors contribute to the observed disparities in cancer incidence and death among racial, ethnic, and underserved groups. The most obvious factors are associated with a lack of healthcare coverage and low socioeconomic status (SES), defined by income, education, or geographic location.

References

California Breathing (2012). *Riverside County Asthma Profile*. Retrieved from http://www.californiabreathing.org/asthma-data/county-asthma-profiles/riverside- county-asthma-profile

California Department of Finance. Report P-1 (Age): *State and County Population Projections by Major Age Groups, 2010-2060 (by decade).*

California Department of Health Care Services, Pediatric Nutrition Surveillance System. (2013). *Growth indicators by race/ethnicity and age, 2006-2010.*

California Department of Public Health (2013). *Birth statistical data tables*. Retrieved from http://www.cdph.ca.gov/data/statistics/Pages/CountyBirthStatisticalDataTables.as px

California Healthy Kids Survey, WestEd, California Department of Education. (2013). *Current alcohol and other drug use, Past 30 days, Table A4.3, 2009-2011.*

Centers for Disease Control and Prevention (2013). *Chronic obstructive pulmonary disorder (COPD)*. Retrieved from http://www.cdc.gov/copd/index.htm

Centers for Disease Control and Prevention (2013). *Stroke facts and statistics*. Retrieved from http://www.cdc.gov/stroke/index.htm

Community Commons (2013) [Database]. *Community health needs assessment: Riverside County*. Retrieved from http://assessment.communitycommons.org/CHNA/

County Health Rankings & Roadmaps; Robert Woods Johnson Foundation (2013). *Riverside County*. Retrieved from countyhealthrankings.org/

Economics & Politics, Inc. (2013). *Inland Empire state of the region speech, April 2013.* Retrieved from http://www.johnhusing.com/

Loma Linda University Health; Center for Innovation & Strategy, Community Health Development (2013). *Whole Community Care Model*. Loma Linda, CA.

National Network of Libraries of Medicine (2013). *Health literacy*. Retrieved from http://nnlm.gov/outreach/consumer/hlthlit.html

Office of Statewide Health Planning & Development (2013). *Custom data*.

Riverside County Department of Public Health (2013) [PDF document]. *Community Health Profile 2013.* Retrieved from http://www.rivcoph.org/Portals/0/pdf/2013_Community_Health_Profile.pdf

State of California Department of Justice, Office of the Attorney General (2013) [Database]. *CJSC statistics: Arrests*. Retrieved from http://oag.ca.gov/crime/cjsc/stats/arrests

University of California, Los Angeles (2013) [Database]. Community health interview survey: *Ask CHIS*. Retrieved from http://ask.chis.ucla.edu/main/DQ3/topic.asp?page=first

U.S. Census Bureau (2013) [Database]. *American fact finder*. Retrieved from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

Appendix A: Community Partners

LLUH believes that partnerships are effective tools in improving the health of our community. Together, we are able to leverage our resources and strengths and have a greater impact. We can build a greater sense of community and a shared commitment towards health improvement.

We would like to thank our partners for their service to our community.

- Air Quality Management District (AQMD)
- American Cancer Society
- American College of Cardiology
- American Heart Association
- American Lung Association
- American Red Cross
- AmeriCorps
- Boys and Girls Club
- C.E.R.T. - Community ER Response Team
- California Association of Marriage & Family Therapists
- California Bicycle Coalition
- California Safe Program
- California Thoracic Society
- Catholic Diocese of San Bernardino
- Central City Lutheran Mission
- Chamber of Commerce – Inland Empire
- Childhood Cancer Foundation of Southern California, Inc.
- Community Clinic Association of San Bernardino County
- CVEP Career Pathways Initiative
- First 5 of San Bernardino and Riverside
- Faith Based Communities
- Inland Coalition for Health Professions
- Inland Empire Children's Health Initiative
- Inland Empire United Way
- Inland Empire Women Fighting Cancer
- Latino Health Collaborative
- Jefferson Transitional Program
- Nu Voice Society Inland Empire
- Omnitrans
- Partners for Better Health
- Reach Out
- Riverside County Emergency Medical Services (RCEMS)
- Riverside County Department of Public Health
- Ronald McDonald House
- Riverside County Department of Public Health
- SAC Health System
- Safe Kids Inland Empire Coalition
- San Bernardino Associated Governments (SANBAG)
- San Bernardino City Schools Wellness Committee
- San Bernardino County Medical Society
- San Bernardino County Department of Public Health
- San Bernardino Mexican Consulate
- San Manuel Band of Mission Indians
- Think Together

San Bernardino County Healthy Communities

▪ Healthy Adelanto ▪ Healthy Apple Valley ▪ Healthy Big Bear Lake and Greater Big Bear Valley ▪ City of Bloomington ▪ Healthy Chino ▪ Healthy Chino Hills ▪ Healthy Colton ▪ Healthy Fontana ▪ Healthy Hesperia ▪ Healthy High Desert ▪ Healthy Highland ▪ Healthy Loma Linda	▪ Healthy Montclair ▪ Healthy Muscoy ▪ Healthy Ontario ▪ Healthy Rancho Cucamonga ▪ Healthy Redlands ▪ Healthy Rialto ▪ Healthy Rim of the Mountain Communities ▪ Healthy San Bernardino ▪ Healthy Upland ▪ Healthy Victorville ▪ Healthy Yucaipa

Appendix B: Existing Facilities and Resources

As part of our assessment, we compiled a list of existing facilities and resources in the area who were working to address health needs in our community. This was done not only to fulfill the legal requirements set forth by ACA, but also to educate ourselves on community partners and to look for potential connections.

Name	Location	Facility Type
Arrowhead Regional Medical Center	400 N Pepper Ave, Colton, CA 92324	Hospital
Beaver Medical Group: Highland Church Street Office	7223 Church St, Suite C Highland, CA 92346	Family and Internal Medicine
Beaver Medical Group: Highland Main Office	7000 Boulder Ave Highland, CA 92346	Chemotherapy Infusion Centers, Gastroenterology Lab Services, Radiology, Audiology, Cardiology, Dermatology, Family Medicine, Internal Medicine Neurology, OB-GYN Oncology and Hematology Orthopedic Surgery Otolaryngology , Pediatrics Urgent Care
Beaver Medical Group: Redlands Main Office	2 W. Fern Ave Redlands, CA 92373	Laboratory, Pharmacy, Radiology, Allergy and Immunology, Cardiology, Endocrinology, Family and Internal Medicine, General Surgery, OB/GYN, Orthopedic Surgery, Pulmonology, Urology
Beaver Medical Group: Redlands Oasis Medical Plaza	1690 Barton Road Redlands, CA 92374	Ophthalmology, Optometry, Rheumatology
Beaver Medical Group: Redlands Orthopedic Office	259 Terracina Blvd Redlands, CA 92373	Radiology, Orthopedic Surgery
Beaver Medical Group: Terracina Pediatrics, Redlands	245 Terracina Blvd, Suite 202 Redlands, CA 92373	Pediatrics
Community Hospital of San Bernardino	1805 Medical Center Drive San Bernardino, CA 92411	Hospital
Inland Behavioral and Health Services, Inc.	1963 North ‘E’ Street San Bernardino, CA 92405	Psychology, Substance Abuse Counseling, Homeless Support Services, Prevention/Outreach

Name	Location	Facility Type
Inland Family Community Health Center	665 North 'D' Street San Bernardino, CA 92401	Medical, Pharmacy, Dental, OB/GYN, SNAP Program, Urgent Care
Kaiser Permanente: Redland Medical Offices	1301 California Street, Redlands, CA 92374	Family and Internal Medicine, Pediatrics
Kaiser Permanente: San Bernardino Medical Offices	1717 Date Place San Bernardino, CA 92404	Family Medicine, Psychiatry
Kaiser Permanente: San Bernardino Mental Health Offices	325 West Hospitality Lane San Bernardino, CA 92408	Psychology/Psychiatry
Planned Parenthood: San Bernardino Health Center	1873 S Commercenter Drive West San Bernardino, CA 92408	Family Planning and Reproductive Health
Redlands Community Hospital	350 Terracina Boulevard Redlands, CA 92373	Hospital
Redlands Beaver Advantage Health Center	1600 E. Citrus Ave, Suite A Redlands, CA 92374	Family and Internal Medicine, Pediatrics, Laboratory, Radiology
Robert H. Ballard Rehabilitation Hospital	1760 West 16th Street San Bernardino, CA 92411	Physical and Occupational Therapy, Speech/Language Pathology, Psychologists, Respiratory Therapy, Neurologists
San Bernardino County, Department of Public Health: Redlands Clinic	800 E. Lugonia Ave. Suite F Redlands, CA 92373	Reproductive Health/STD Services
San Bernardino County, Department of Public Health: San Bernardino Clinic	799 East Rialto Ave San Bernardino, CA 92415	Reproductive Health/STD Services, Immunizations, Tuberculosis Skin Testing, Primary Care, HIV Clinical Services
St. Bernardine Medical Center	2101 North Waterman Avenue San Bernardino, CA 92404	Hospital
Totally Kids, Specialty Healthcare	1720 Mountain View Ave. Loma Linda, CA 92354	Pediatric sub-acute care
VA Loma Linda Healthcare System	11201 Benton Street Loma Linda, CA 92354	Veteran's Administration
Whitney Young Family Health Clinic	1755 Maple Street San Bernardino, CA 92411	Medical and Dental Services

Appendix C: Key Informants

The following is a list of key informants who were interviewed as a part of this community health needs assessment. Key informant interviews were comprised of community leaders from an array of agencies across San Bernardino and Riverside Counties, as well as, employees within the LLUH system. These were conducted through email, phone, or in person. When applicable, their comments were also intended to represent the underserved, low income, minority, and chronically ill populations. We would like to acknowledge and thank these leaders for contributing to this process and for being a valuable resource.

Name, Title	Organization
Angela Jones **School Nurse**	San Bernardino County Schools
Cynthia Luna **Executive Director**	Latino Health Collaborative
Evelyn Trevino **Healthy Community Coordinator**	San Bernardino County Department of Public Health
Gary Ovitt	County of San Bernardino Board of Supervisors; District 4
Jin Peterson **Executive Director**	San Bernardino County Medical Society
John Husing, PhD **Chief Economist**	Economics & Politics, Inc.
Josh Lee **Data Analyst**	San Bernardino Associated Governments (SANBAG)
Dr. Maxwell Ohikuare **Chief Medical Officer**	San Bernardino County Department of Public Health
Paul Granillo **President & CEO**	Inland Empire Economic Partnership
Paul Leon **Mayor**	City of Ontario, California
Rich Swafford, PhD **Executive Director**	Inland Empire Health Information Exchange