

An Analysis of Health Equity in the San Joaquin Valley Region

A Report from the San Joaquin Valley Public Health Consortium

February, 2022



Health Equity for All
SAN JOAQUIN VALLEY
PUBLIC HEALTH CONSORTIUM

Calaveras • Fresno • Kings • Madera • Mariposa • Merced
San Benito • San Joaquin • Stanislaus • Tulare • Tuolumne



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The San Joaquin Valley Public Health Consortium

The [San Joaquin Valley Public Health Consortium](#) is made up of public health department leaders in eleven counties located in California's San Joaquin Valley. Its Leadership Committee consists of Public Health Directors, Assistant/Deputy Directors, and Health Officers from member counties; subcommittees and workgroups support the work of the Consortium. California State University Fresno's Central California Center for Health and Human Services serves as the fiscal and administrative backbone. SJVPHC was created in 1999 to support the work of local public health jurisdictions to improve the health of communities in the region.



The San Joaquin Valley

Landscape

California's San Joaquin Valley (the Valley) is the southern part of what's known as the Central Valley and is primarily rural, although it contains multiple urban centers. This report includes information on twelve of the region's counties: Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Benito, San Joaquin, Stanislaus, Tulare, and Tuolumne.

Challenges

The Valley is known for its extremely hot, dry summers and densely foggy winters. The area has long experienced a severe [drought](#)¹ and is experiencing the effects of the [climate crisis](#)² in multiple ways, including record [wildfires](#)³ and low [groundwater levels](#)⁴ due to increased water extraction for agricultural production (the region's primary industry). One of the most polluted regions in both the

¹ Boxall, B. (2017, April 7) Gov. Brown Declares California Drought Emergency is Over. *Los Angeles Times*. <https://www.latimes.com/local/lanow/la-me-brown-drought-20170407-story.html>

² Santiago Fernandez-Bou, A., Ortiz-Partida, J.P., Pells, C., Classen-Rodriguez, L.M., Espinoza, V., Rodríguez-Flores, J.M., Booth, L., Burmistrova, J., Cai, A., Cairo, A., Capitman, J.A., Cole, S., Flores-Landeros, H., Guzman, A., Maskey, M.I., Martínez-Escobar, D., Sanchez-Perez, P.A., Valero-Fandiño, J., Viers, J. H., Westerling, L., & Medellín-Azuara, J.. (2021). *Regional Report for the San Joaquin Valley Region on Impacts of Climate Change*. California Natural Resources Agency. Publication number: SUM-CCCA4-2021-003. https://www.energy.ca.gov/sites/default/files/2022-01/CA4_CCA_SJ_Regional_Eng_ada.pdf

³ Ortiz, P. (2021, Dec 18). The Warning Shot the US is Ignoring: Climate Change Impacts on California Central Valley. *Clean Technica*. <https://cleantechnica.com/2021/12/18/climate-change-impacts-on-california-central-valley-warning-shot/>

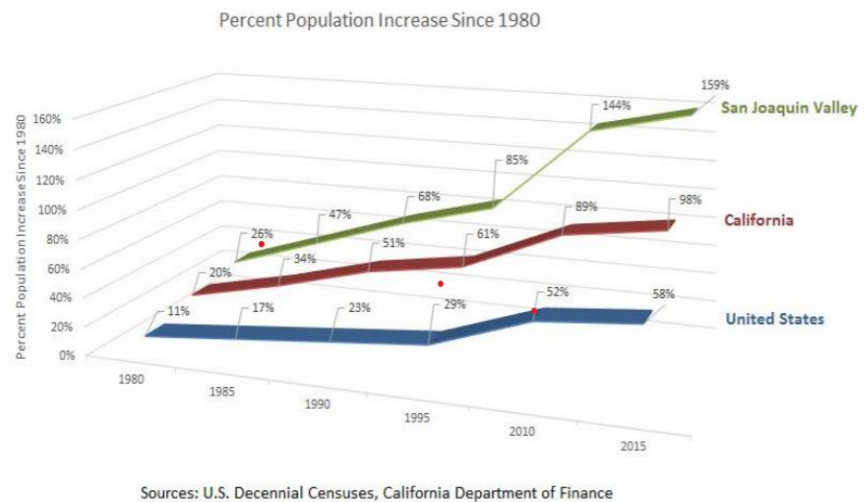
⁴ Woods, M. (2018, Jan 30). The San Joaquin Valley is Sinking Due to Over Pumping Groundwater and Some Areas May be Past the Point of No Return. *KXTV-TV*. <https://www.abc10.com/article/news/local/california/valley-sinking-due-to-groundwater-depletion-threat-to-aqueduct-remains/103-436087226>

state and the nation, the Valley experiences high levels of toxic contamination in its [air](#)⁵, [water](#)⁶, and [land](#)⁷.

Other challenges for residents of the San Joaquin Valley include [low educational attainment](#)⁸, [widespread poverty](#)⁹, a swiftly growing and exceptionally diverse [population](#)⁸, significant [health needs](#)¹⁰, and limited [public health](#)¹¹ and [healthcare](#)¹² resources. Large portions of the landscape are rural, creating significant challenges related to access to resources that support health, prosperity, social connectedness, and longevity.

Assets and Strengths

Some of the Valley's most prominent challenges are also its greatest assets, however. The diversity, commitment, ingenuity, and resiliency of the region's people have carried them through decades of hardship and adversity and make the Valley a unique and valuable place to live for many. As such, the region is one of the fastest growing in the state, with a 2019 total population of over 4 million and a projected population of almost 6.5 million by 2060.¹³



⁵ United States Environmental Protection Agency. (2021, July 19). *EPA Activities for Cleaner Air*. <https://www.epa.gov/sanjoaquinvalley/epa-activities-cleaner-air>

⁶ The Water Foundation. (2020, June). *Groundwater Management and Safe Drinking Water in the San Joaquin Valley: Analysis of Critically Overdrafted Basins' Groundwater Sustainability Plans*. <https://static1.squarespace.com/static/5e83c5f78f0db40cb837cfb5/t/5f3ebffebb17054ef1f0358f/1597947907425/Groundwater-Management-and-Safe-Drinking-Water-in-the-San-Joaquin-Valley-Brief-6-2020.pdf>

⁷ United States Environmental Protection Agency. (2021, July 26). *Cleaning Up Contaminated Land*. <https://www.epa.gov/sanjoaquinvalley/cleaning-contaminated-land>

⁸ United States Census Bureau. (2020). *Quick Facts: California*. <https://www.census.gov/quickfacts/fact/table/CA/EDU635219>

⁹ Hartzog, C., Abrams, C., Erbstein, N., London, J.K., & Watterson, C. (2016). *California's San Joaquin Valley: A Region and Its Children Under Stress*. Report commissioned by Sierra Health Foundation and conducted by the UC Davis Center for Regional Change. https://www.sierrahealth.org/assets/pubs/A_Region_and_Its_Children_Under_Stress-Web.pdf

¹⁰ California Department of Public Health. (2021, April). *County Health Status Profiles*. https://www.cdph.ca.gov/Programs/CHSI/CDPH%20Document%20Library/CHSP_2021_ADA_FINAL.pdf

¹¹ Sohn, R.; Ibarra, A.B.; & Tobias, M. (2021, Sept 29). *So you think your California county is tracing contacts of sick people? Maybe not*. CalMatters. <https://calmatters.org/health/2020/07/california-contact-tracing-coronavirus/>

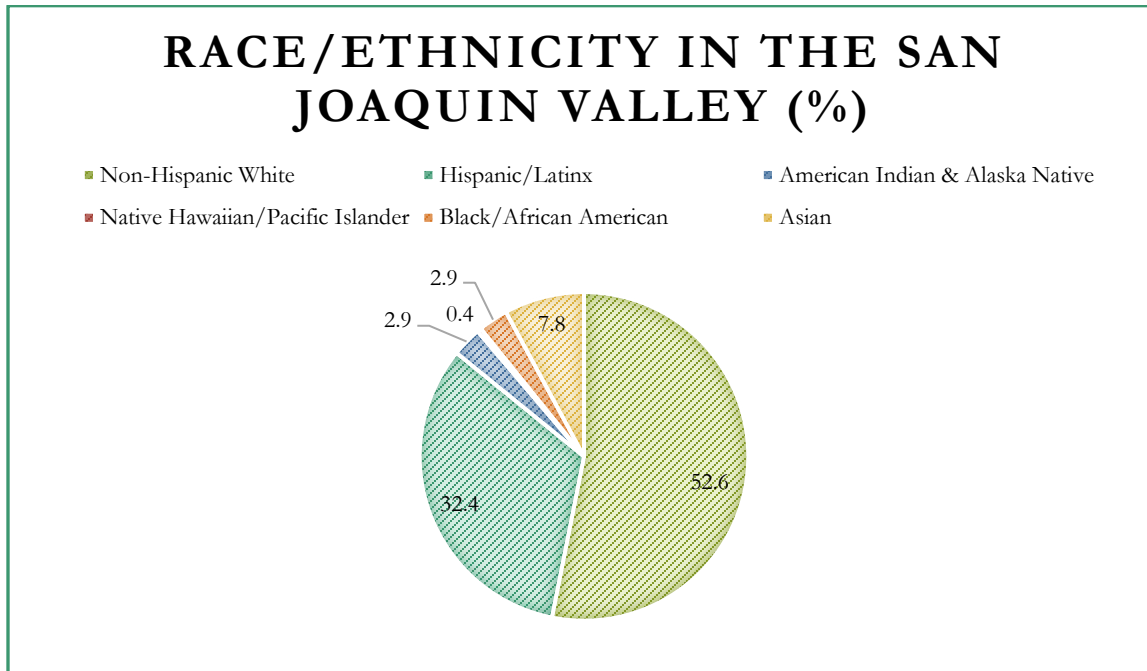
¹² Coffman, J., Bates, T., & Geyn, I. (2017, July) *Current & Future Health Professions Workforce Needs in the San Joaquin Valley*. Healthforce Center at UCSF. <https://www.ucop.edu/uc-health/files/sjv-health-workforce-report-july-2017.pdf>

¹³ Stanislaus Council of Governments. (2018, Aug 15). *2018 Regional Transportation Plan Sustainable Communities Strategy: Appendix V, Valleywide Chapter*. <http://www.stancog.org/pdf/rtp2018/appendix-v-valleywide-chapter.pdf>

The region's population has increased by more than 159% since 1980, and 24 US states have smaller population sizes.

Racial and Ethnic Diversity

The 2019 racial composition of the twelve counties that are the focus of this report are provided in the following chart¹⁴.



The Valley is home to many sizable and eclectic racial/ethnic communities, including Assyrians, Dutch, Sikhs, Croats, Portuguese, Armenians, Basques, East Indians (natives of Punjab, Gujarat and Southern India), Pakistanis, Syrians, Azorean Portuguese, and Filipinos. In addition, communities of immigrants from Indochina- Hmong, Thai, Laotian, Cambodian, and Vietnamese- have settled in the cities of Stockton, Modesto, Merced, and Fresno following the War in Vietnam.

The eight counties that make-up what is traditionally referred to as the San Joaquin Valley (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare) have a combined foreign-born population of 900,000. Over two-thirds of this population are Latino immigrants, many from the Mexican regions of Oaxaca, Sinaloa, and Guerrero and speak languages other than Spanish.¹⁵

The Valley has a rich history filled with noteworthy achievements by minority groups which continues to influence the culture today. Just a few of these include Allensworth (the only town in California founded, funded, and governed by African Americans) in Tulare County, the first permanent Sikh house of worship established in the United States (in San Joaquin County), and the

¹⁴ United States Census Bureau. (2020, June 25). *Census Population Estimates*. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2019/counties/>

¹⁵ Kissam, E., Mines, R., Quezada, C., Intili, J.A., & Wadsworth, G. (2019, Jan). San Joaquin Valley Latino Immigrants: Implications of Survey Findings for Census 2020- Executive Summary. <https://cviic.org/san-joaquin-valley-latino-immigrants-and-the-2020-census/>

United Farm Worker movement led by César Chávez and Dolores Huerta that originated in Kern County during the 1960s.

Economic Contribution

The San Joaquin Valley's economic contribution to both the nation and the state is significant; its largest contributions come through its agricultural and energy production. According to California's Department of Food and Agriculture¹⁶, eight of the state's top ten agriculture producing counties in 2019 were Valley counties. In the same year, the twelve Valley counties highlighted in this report (just 21% of California's 58 counties) produced 60% of the state's income from agriculture. The Valley produced \$37 billion in agricultural products in 2019- more than twice the rest of the state and more than the state of Iowa, the next highest producer in the country. If it were its own state, the region would be the top agricultural producing state in the nation.¹³

In addition, several of the largest oil fields in the country exist in the region; the San Joaquin basin in Kern County is the most prolific oil-producing area in California¹⁷.

¹⁶ California Department of Food & Agriculture. (2020, Aug 16). *California Agricultural Statistics Review: 2019-2020*. https://www.cdfa.ca.gov/Statistics/PDFs/2020_Ag_Stats_Review.pdf

¹⁷ U.S. Energy Information Administration. (2021, Feb 18). *California State Energy Profile*. <https://www.eia.gov/state/print.php?sid=CA#:~:text=California%20Quick%20Facts,refined%20in%20California%20in%202019,->

About this Report

Purpose and Design

While the report is not a statistical analysis, it is intended to bring light to the greatest needs in the region and to identify areas of priority for future investment, collaboration, planning, and action. Solutions to inequities will need to be grounded in addressing upstream causes to create sustained, effective change. Data measuring social determinants of health have therefore been included to highlight areas for potential upstream intervention and to provide context for health outcomes across the region.

The goals for this report are to:

- Provide regional information to local health departments to support the important work they do in their jurisdictions and provide a tool for increased collaboration across counties
- Inform policymakers, communities and community-based organizations about similarities and disparities within the region and across regions in California (both related to health outcomes and to their social determinants), and to support their efforts to improve health and quality of life in the Valley
- Inform the goals and activities of SJVPHC, to include the development of a legislative/policy platform and policy priorities, workforce training, and subcommittee and workgroup efforts

Methods

Collaboration and Support

A workgroup was created to provide feedback on the selection of indicators and data sources for the analysis. Staff from public health departments (including public health directors, program managers, project directors, epidemiologists, and health education specialists) in San Joaquin, Stanislaus, Mariposa, Tulare, Fresno, and Madera counties provided insight, expertise, and feedback to inform the analysis. In addition, experts from the [Central Valley Health Policy Institute](#) (CVHPI), the [Stanford Center for Population Health Sciences](#) (PHS), and [Berkeley Media Studies Group](#) (BMSG) generously provided additional expertise relevant to their work. Workgroup meetings were held to determine goals for report utilization, identify intended audiences, and determine priority indicators and data sources. Additional meetings were held with BMSG, CVHPI and PHS for technical assistance.

Data Collection

Regional data from the [Healthy Places Index](#) (HPI) was collected and analyzed but was ultimately not included due to the availability of more recent data from other sources. Identification of areas of

high need for the region were identified through this analysis of HPI data, however, and these informed the final selection of indicators included in the analysis.

Data for each county in California was then downloaded from the following websites:

- [PLACES: Local Data for Better Health](#)
- [County Health Rankings and Roadmaps](#)
- [KidsData](#)
- [County Health Status Profiles](#)
- [CalEnviroScreen 4.0](#)

Regional Groupings

Filters were applied in Excel and SPSS to datasets downloaded from the above sources, based on four regional/sub-regional categories:

<i>Central San Joaquin Valley (Central SJV)</i>	The eight valley-floor counties traditionally described as the San Joaquin Valley (Fresno, Kern, Kings, Madera, Merced, Stanislaus, San Joaquin, and Tulare)
<i>San Joaquin Valley-Adjacent (SJV-Adjacent)</i>	The four SJVPHC counties that lie adjacent to the <i>Central San Joaquin Valley</i> counties listed above (Calaveras, Mariposa, San Benito, and Tuolumne)
<i>San Joaquin Valley (SJV)</i>	All twelve San Joaquin Valley counties (eight <i>Central SJV</i> and four <i>SJV-Adjacent</i>)
<i>CA</i>	All 58 counties in the state, including the twelve in the <i>SJV</i> regional grouping
<i>Non-San Joaquin Valley (Non-SJV)</i>	The 46 counties in the state located outside the San Joaquin Valley

The following rationale was applied to the creation of these regional and sub-regional groups:

- Eleven of the twelve counties included in the *SJV* grouping are members of the San Joaquin Valley Public Health Consortium. Kern County, while not a member of the consortium, is typically included in geographic descriptions of the Valley, and was included in the analysis to provide the most accurate picture of the region.
- The *Non-SJV* grouping was created to provide an accurate picture of the uniqueness of the Valley's needs and strengths related to population health, in relation to the rest of the state. Including numbers for the twelve counties in the *SJV* grouping when calculating means for the state results in a limited picture of the higher need in the region for many of the selected indicators, as the numbers for counties in the Valley often pull the state number in their direction (either higher or lower, depending on the indicator).

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- Similarly, upon reviewing county-level data for the twelve-county *SJV* region, sub-regional disparities between the eight counties located in the central valley floor and the four counties that lie adjacent to them (the three foothill/mountain counties to the east and San Benito County to the west) were identified. Thus, the *Central-SJV* and *SJV-Adjacent* grouping were added to provide greater accuracy and elevated understanding.

Data Analysis

Data for these regional groupings was then analyzed according to the data value type provided in each dataset (prevalence, rate per 1,000, etc.), most frequently by calculating means. While numerators for each county were provided in some datasets for some indicators, data collected for many indicators included only state and county percentages (for example, % of adults who smoke). Where raw numbers were provided, regional and state percentages were calculated by adding numerators and denominators for all counties and dividing the total numerator by the total denominator to identify regional/state percentage. For indicators that included data in rates, indexes, or percentages, means were calculated across counties using the data as provided. Age-adjusted rates were used where provided in the original datasets.

Limitations

Several limitations to this analysis have been identified, as follows:

- While an attempt was made to use the most recent available data, the included data was collected prior to the COVID-19 pandemic. It is likely that conditions in the state and its regions (including the San Joaquin Valley) have been hugely affected by the pandemic, and this should be considered when reading the report.
- Aggregated, county-level data, rather than data on individual persons, was used in the analysis. Because of this, differences in county population sizes are not accounted for. All counties hold the same weight in the analysis, regardless of size.
- The *Non-SJV* grouping includes counties with several diverse geographical sub-regions (from far northern rural to urban Los Angeles), whereas the *SJV* group and its sub-groups (*Central SJV* and *SJV-Adjacent*) are more homogeneous geographically. In addition, this grouping includes a much larger number of counties (46 as opposed to just twelve, for example).
- No statistical analysis was conducted, and it can therefore not be confirmed whether identified differences are not the result of chance.
- Logical assumptions must be made about possible connections between social determinants of health and health outcomes based on the results of this analysis, as we did not include an investigation of how indicators included in the report relate to each other. In addition, information about historical and existing systems and root causes for disparities was not included (for example, probable causes for lower high school completion rates in the Valley). A great deal of [evidence](#)¹⁸ has established a connection between social conditions (such as

¹⁸ United States Center for Disease Control and Prevention. (2021, Sept 30). *Sources for Data on Social Determinants of Health*. <https://www.cdc.gov/socialdeterminants/data/index.htm>

structural racism and poverty) and health outcomes, however, and it is now widely accepted to address social conditions as determinants of health.

- Data on race/ethnicity was available for only a handful of indicators and the data for different racial and ethnic groups that was collected did not include all the racial and ethnic groups that exist in the state and the Valley. In addition, many of the numbers for several racial/ethnic groups were missing for smaller counties. Racial and ethnic breakdowns and comparisons will be provided in a separate, upcoming report.
- Data for several indicators was missing or unreliable for smaller counties, both in the Valley and in other counties in the state (see Appendix A).
- The report does not include information at the level of individual counties, which would provide additional context and clarity about the findings. A follow-up analysis of data for individual counties in the Valley is planned for the near future.
- Several indicators (all of those from the CDC PLACES dataset) are based on self-report data from the Behavioral Risk Factor Surveillance Survey (BRFSS), and therefore dependent on respondents' knowledge about their health conditions and willingness to disclose them. It is possible that some respondents had undiagnosed health conditions they were not aware of when interviewed.

Results

The tables below show the results of the analysis for each of the five regional groupings by indicator, as well as the numerical value for the difference between the group(s) faring the best (green cells) and worst (red cells) for each indicator. In the Determinants of Health table, indicator titles including an * are those for which higher values correspond to better health outcomes (for example, opportunities to exercise). In both tables, red cells indicate the regional group faring the worst on the indicator, while green cells indicate those faring the best. In addition, cells with ** indicate missing or unreliable data for at least one county in the applicable regional group (see Appendix A for details).

Determinants of Health

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Education						
High School Completion* <i>Percentage of Adults Ages 25+ with a High School Diploma or Equivalent 2015-2019</i>	76	75	88	83	84	13% fewer adults in Central SJV counties
Some College* <i>Percentage of Adults Ages 25 to 44 with Some Post-Secondary Education 2015-2019</i>	51.1	50.9	57	66	67	16% fewer adults in Central SJV counties
Poverty and Housing						
Children Living in Poverty <i>Percentage of Population Under 18, Average Across Counties 2019</i>	22	23	18	17	16	7% more children in Central SJV counties

11 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Children Enrolled in Free or Reduced Lunch Program <i>Percentage of Children in Public Schools, Average Across Counties 2018-2019</i>	67	72	56	58	55	17% more children in Central SJV counties
Children Living in Single-Parent Households <i>Percentage of Population Under 18 2015-2019</i>	25	25	24	23	22	3% more children in Central SJV counties
Median Household Income* <i>Average Across Counties 2019</i>	\$62,187	\$59,538	\$67,487	\$71,038	\$73,347	\$13,809 less income in Central SJV counties
Unemployment <i>Percentage of People Ages 16+ Unemployed but Seeking Work 2019</i>	7.2	7.3	4.5	4	3.7	3.6% more adults in Central SJV counties
Homeownership* <i>Percentage of Occupied Housing Units, Average Across Counties 2015-2019</i>	61.1	56.5	70.3	62.1	62.4	14% fewer units in Central SJV counties
Overcrowded Housing <i>Percentage of Households, Average Across Counties 2013-2017</i>	7	9	4	6	5	5% more households in Central SJV counties
Severe Housing Cost Burden <i>Percentage of Households That Spend 50% or More of Their Income on Housing, Average Across Counties 2015-2019</i>	17.3	17.4	17.2	17.3	17.2	.2% more households in Central SJV counties

12 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Neighborhood and Social						
Adverse Childhood Experiences <i>Prevalence Among Adult Survey Respondents (Retrospective), Average Across Counties 2011-2017</i>	61.7	65.3	54.5	60	59.5	11% more adults in Central SJV counties
Residential Segregation Index (Non-White/White) <i>Index of Dissimilarity (0 to 100, Lower is More Integrated), 5 Year Average Percentage of Non-White People Who Would Need to Move for Complete Integration, Average Across Counties 2015-2019</i>	21	23	18	26**	27**	9% less integration in Non-SJV counties
Income Inequality <i>Ratio of Highest to Lowest Household Income Percentiles, Average Across Counties 2015-2019</i>	4.5	4.6	4.4	4.7	4.8	.4% more income disparity in Non-SJV counties
Exercise Opportunities* <i>Percentage of Population with Adequate Access to Locations for Physical Activity, Average Across Counties 2010 & 2019</i>	70	72	65	82	85	20% fewer people in SJV-Adjacent counties
Social Connectedness						
Not Proficient in English <i>Percentage of Population, Average Across Counties 2015-2019</i>	9	11	3	7	6	8% more adults in Central SJV counties

13 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Rural <i>Percentage of Population Living in a Rural Area, Average Across Counties 2010</i>	30	14	62	29	28	48% more people in SJV-Adjacent counties
Broadband Access * <i>Percentage of Households with Broadband Internet Connection, Average Across Counties 2015-2019</i>	81.6	81.2	82.3	83.4	83.9	3% fewer households in Central SJV counties
Social Associations * <i>Rate of Membership Associations per 10,000 People, Average Across Counties 2018</i>	5.6	4.7	7.5	6.1	6.2	3 fewer in Central SJV counties
Pollution						
Drinking Water Violations <i>Percent of Counties with a Health-Related Violation 2019</i>	92	100	75	70	63	37% higher in Central SJV counties
Drinking Water Contaminants <i>Index for Selected Contaminants, Average Across Counties 2011-2019</i>	742	749	608	530	506	243 higher index score in Central SJV counties
Pesticides <i>3 Year Average of Total Pounds of Active Pesticide Ingredients Used in Production-Agriculture, per Square Mile, Average Across Counties 2016-2018</i>	692	720	122	280	234	598 more pounds per square mile used in Central SJV counties

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Air- Toxic Chemical Release from Facilities <i>3 Year Average of Emissions of Toxicity-Weighted Concentrations, Average Across Counties 2014-2016</i>	1649	1731	15	1860	1713	1716 higher emissions in <i>Central SJV</i> counties
Air- Maximum 8 Hour Ozone Particulate Matter <i>3 Year Concentration Average, Average Across Counties 2016-2018</i>	.057	.057	.051	.047	.046	.01 more concentration in <i>Central SJV</i> counties
Air- Diesel Particulate Matter <i>Spatial Distribution of Gridded Emissions (Tons per Year), Average Across Counties 2016</i>	.16	.17	.04	.225	.233	.193 more tons per year in <i>Non-SJV</i> counties
Food Access						
Food Insecurity <i>Percentage of Population Who Lack Access to Food 2018</i>	13.7	13.8	10.7	10.4	10	4% more people in <i>Central SJV</i> counties
Limited Access to Healthy Food <i>Percentage of Population Who Are Low-Income and Do Not Live Near a Grocery Store 2015</i>	5.1	5.1	5.4	3.1	2.8	3% more people in <i>SJV-Adjacent</i> counties
Food Environment Index (0 to 10) * <i>Index of Healthy Food Environment, Average Across Counties 2015 & 2018</i>	7.7	7.5	8.1	7.9	8	.6 less healthy in <i>Central SJV</i> counties

15 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Healthcare Access						
Uninsured (Adults and Children) <i>Percentage of Population Under 65, Average Across Counties 2018</i>	8.3	8.7	7.5	7.9	7.8	1% fewer people in Central SJV counties
Uninsured Adults <i>Percentage of Adults Under 65, Average Across Counties 2018</i>	10.7	11.6	8.9	9.8	9.5	3% fewer adults in Central SJV counties
Uninsured Children <i>Percentage of Children Under 19, Average Across Counties 2018</i>	3.2	3.1	3.5	3.3	3.3	.4% more children in SJV-Adjacent counties
Physical Exam (Self-Report) * <i>Age-Adjusted Percentage, Average Across Counties 2018</i>	68.7	68.9	68.4	68.9	69	.6% fewer adults in SJV-Adjacent counties
Dental Visit (Self-Report) * <i>Age-Adjusted Percentage, Average Across Counties 2018</i>	59	56	65	63	64	9% fewer adults in Central SJV counties
Primary Care Physicians * <i>Rate per 10,000 People, Average Across Counties 2018</i>	49	51	45	69	74	29 fewer in SJV-Adjacent counties
Other Primary Care Providers * <i>Rate per 10,000 People, Average Across Counties 2020</i>	64	68	58	71	73	15 fewer in SJV-Adjacent counties

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Mental Health Providers * <i>Rate per 10,000 People, Average Across Counties 2020</i>	222	235	194	372	412	218 fewer in <i>SJV-Adjacent</i> counties
Dentists * <i>Rate per 10,000 People, Average Across Counties 2019</i>	60	55	69	75	79	24 fewer in <i>Central SJV</i> counties
Preventable Hospital Stays <i>Rate of Stays for Ambulatory-Care Sensitive Conditions per 100,000 Medicare Enrollees, Average Across Counties 2018</i>	3,652	4,101	2,753	3,211	3,096	1,348 more in <i>Central SJV</i> counties
Prenatal Care						
Early Prenatal Care* <i>First Trimester Care, 3 Year Average Percentage, Average Across Counties 2017-2019</i>	78.3	79.24	76.4	79**	79.17	3% fewer people in <i>SJV-Adjacent</i> counties
Adequate Prenatal Care* <i>Adequacy of Prenatal Care Utilization Index, 3 Year Average Percentage, Average Across Counties 2017-2019</i>	75.9	75.2	77.3	75.3**	75.1**	2% fewer people in <i>Non-SJV</i> counties
Health Behaviors/Opportunities						
Annual Flu Vaccinations * <i>Percentage of Fee-for-Service Medicare Enrollees, Average Across Counties 2018</i>	41.5	41.5	41.5	41.1	40.9	.6% fewer in <i>Non-SJV</i> counties

17 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator <i>*Higher is healthier</i>	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Lack of Physical Activity (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	25	28	20	22	21	8% more adults in Central SJV counties
Insufficient Sleep (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	34.5	35.4	32.8	33.4	33.2	3% more adults in Central SJV counties
Excessive/Binge Drinking (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	18.1	17	20.3	19	19.3	3% more adults in SJV-Adjacent counties
Smoking (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	15.9	16.3	15.2	14.9	14.7	2% more adults in Central SJV counties

Health Outcomes

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Frequent Physical Distress (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	15	16	13	14	13	3% more people in <i>Central SJV</i> counties
Premature Deaths (Died Before Age 75) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	347	359	325	332	328	34 more deaths in <i>Central SJV</i> counties
Years of Potential Life Lost (Died Before Age 75) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	7,039	7,044	7,029	6,541**	6,405**	639 more years of life lost in <i>Central SJV</i> counties
Child Deaths <i>4 Year Rate Among Children Under 18 per 100,000 People, Average Across Counties 2016-2019</i>	46.2**	44.6	50.4**	44.1**	43.5**	7 more children in <i>SJV-Adjacent</i> counties
Cancer						
Cancer Diagnosis, Except Skin (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	5.94	5.78	6.28	6.06	6.08	.5% more adults in <i>SJV-Adjacent</i> counties
Breast Cancer Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	19.27**	19.33	19.15**	17.7**	17.2**	2 more deaths in <i>Central SJV</i> counties

19 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Colorectal Cancer Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	12.69**	13.3	11.48**	12.73**	12.74**	2 more deaths in Central SJV counties
Lung Cancer Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	29.4	29.6	29.1	28.6**	28.4**	1 more death in Central SJV counties
Prostate Cancer Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	18.1**	18.9	16.5**	19**	19.2**	23 more deaths in Non-SJV counties
Chronic Disease						
Chronic Kidney Disease Diagnosis (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	3.1	3.4	2.7	2.9	2.8	1% more adults in Central SJV counties
Chronic Liver Disease & Cirrhosis Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	17.3**	18.1	15.8**	16.4**	16.1**	2 more deaths in Central SJV counties
Chronic Obstructive Pulmonary Disease Diagnosis (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	6.6	6.9	6.1	6.1	5.9	1% more adults in Central SJV counties
Chronic Lower Respiratory Disease Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	39.7	41.6	35.8	37**	36.3**	6 more deaths in Central SJV counties

20 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Asthma Diagnosis (Self-Report) <i>Age-Adjusted Prevalence in Adults, Average Across Counties 2018</i>	9.86	9.95	9.68	9.54	9.46	.5% more adults in Central SJV counties
Asthma ER Visits <i>3 Year Spatially Modeled, Age-Adjusted Rate per 10,000 People, Average Across Counties 2015-2017</i>	71	72	51	52	50	22 more ER visits in Central SJV counties
Coronary Heart Disease Diagnosis (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	6.3	6.7	5.7	5.8	5.6	1% more adults in Central SJV counties
Cardiovascular Disease ER Visits <i>3 Year Spatially Modeled, Age-Adjusted Rate per 10,000 People, Average Across Counties 2017-2019</i>	17	17	18	13	12	6 more ER visits in SJV-Adjacent counties
Coronary Heart Disease Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	94	101	81	83**	80**	21 more deaths in Central SJV counties
High Blood Pressure Diagnosis (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2017</i>	29.5	30.6	27.3	28	27.6	3% more adults in Central SJV counties
Stroke Diagnosis (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	3.34	3.55	2.93	3.04	2.96	.6% more adults in Central SJV counties

21 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Stroke Deaths <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	37.8	41.3	30.9	37.6**	37.6**	10 more deaths in Central SJV counties
Obesity (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	31.9	34.3	27	28	27	7% more adults in Central SJV counties
Diabetes Diagnosis (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	11.2	12.2	9.0	9.9	9.6	3% more adults in Central SJV counties
Diabetes Prevalence <i>Prevalence in Adults Aged 20+ (Diagnosed), Average Across Counties 2017</i>	10.5	11.1	9.2	9.9	9.7	2% more adults in Central SJV counties
Diabetes Deaths <i>3 Year Average Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	23**	26	17**	21**	20**	9 more deaths in Central SJV counties
Sexually Transmitted Infections						
Gonorrhea Incidence (Males 15 - 44) <i>3 Year Crude Case Rate per 100,000 People, Average Across Counties 2017-2019</i>	331**	396	201**	354**	361**	195 more cases in Central SJV counties
Syphilis Incidence (Primary and Secondary, Males) <i>3 Year Crude Case Rate per 100,000 People, Average Across Counties 2017-2019</i>	30**	31	24**	26**	25**	7 more cases in Central SJV counties

22 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Congenital Syphilis Incidence <i>3 Year Crude Case Rate per 100,000 People, Average Across Counties 2017-2019</i>	233**	233**	**	125**	57**	176 more cases in Central SJV counties
Chlamydia Diagnosis <i>Number of Newly Diagnosed Cases per 100,000 People, Average Across Counties 2018</i>	511	626	280	462	449	346 more cases in Central SJV counties
Chlamydia Incidence (3 Years) <i>3 Year Crude Case Rate per 100,000 People, Average Across Counties 2017-2019</i>	502	619	266	446**	431**	353 more cases in Central SJV counties
HIV Prevalence <i>Rate per 100,000 People Aged 13+ With a Diagnosis, Average Across Counties 2018</i>	159	182	114	231**	251**	137 more cases in Non-SJV counties
HIV Prevalence (3 Years) <i>3 Year Crude Case Rate per 100,000 People, Average Across Counties 2017-2019</i>	155	179	107	237**	259**	152 more cases in Non-SJV counties
Infant/Maternal Health						
Infant Death Rate (3 Years) <i>3 Year Birth Cohort Rate per 100,000 People, Average Across Counties 2016-2018</i>	4.8**	4.8	**	4.2**	4**	1 more death in Central SJV counties

23 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Infant Death Rate (7 Years) <i>7 Year Rate per 1,000 Live Births, Average Across Counties 2013-2019</i>	5.5	5.3	6.8**	4.6	4.3	2.5 more deaths in SJV-Adjacent counties
Low Birth Weight Infants (3 Years) <i>3 Year Prevalence, Average Across Counties 2017-2019</i>	6.79	6.93	6.53	6.76**	6.75**	.4% more infants in Central SJV counties
Low Birth Weight Infants (7 Years) <i>7 Year Prevalence, Percentage of Live Births with Weight < 2,500 Grams, Average Across Counties 2013-2019</i>	6.67	6.81	6.39	6.68**	6.69**	.4% more infants in Central SJV counties
Teen Birth Rate (3 Years) <i>3 Year Age-Specific Birth Rate per 1,000 Females Ages 15 to 19, Average Across Counties 2017-2019</i>	19.3	21.6	14.5	14.8**	13.6**	8 more births in Central SJV counties
Teen Birth Rate (7 Years) <i>7 Year Rate per 1,000 Females Ages 15 to 19, Average Across Counties 2013-2019</i>	26	30	17	20**	18**	13 more births in Central SJV counties
Oral Health						
Total Tooth Loss (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	15.3	16.8	12.3	13	12.5	4.5% more adults in Central SJV counties

24 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Mental/Behavioral Health						
Drug Overdose Deaths (3 Years) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	17.7**	17	19**	19.2**	19.6**	3 more deaths in Non-SJV counties
Drug Overdose Deaths (3 Years) <i>3 Year Rate per 100,000 People, Average Across Counties 2017-2019</i>	15.6**	15	17.4**	17.4**	17.9**	3 more deaths in Non-SJV counties
Frequent Mental Distress (Self-Report) <i>Age-Adjusted Prevalence, Average Across Counties 2018</i>	14.6	14.9	14	13.8	13.6	1% more adults in Central SJV counties
Accidents						
Alcohol-Impaired Driving Deaths <i>Percentage of MVA Fatalities 2015-2019</i>	30.4	29.9	38.9	28.7	28.3	11% more deaths in SJV-Adjacent counties
Motor Vehicle Accident Deaths (3 Years) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	19**	17	22**	16**	15**	7 more deaths in SJV-Adjacent counties
Motor Vehicle Accident Deaths (7 Years) <i>7 Year Rate per 100,000 People, Average Across Counties 2013-2019</i>	18	16	23	15**	14**	9 more deaths in SJV-Adjacent counties
Accident/Unintentional Injury Deaths (3 Years) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	50	47	55	50.6**	50.7**	8 more deaths in SJV-Adjacent counties

25 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Accident/Unintentional Injury Deaths (5 Years) <i>5 Year Rate per 100,000 People, Average Across Counties 2015-2019</i>	74	65	91	79	80	26 more deaths in SJV-Adjacent counties
Guns, Crime, and Suicide						
Violent Crime (Reported) <i>Rate per 100,000 People, Average Across Counties 2014 & 2016</i>	486	557	343	421	404	214 more crimes in Central SJV counties
Homicides (3 Years) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2017-2019</i>	6.3**	7.1	4.1**	5.9**	5.7**	3 more deaths in Central SJV counties
Homicides (7 Years) <i>7 Year Rate per 100,000 People, Average Across Counties 2013-2019</i>	6.3**	7.2	3.7**	5.2**	4.9**	3.5 more deaths in Central SJV counties
Gun-Related Deaths (3 Years) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties (Includes Homicides, Suicides, and Accidents) 2017-2019</i>	10.3**	9.8	11.2**	12.2**	12.7**	3 more deaths in Non-SJV counties
Gun-Related Deaths (5 Years) <i>5 Year Rate per 100,000 People, Average Across Counties 2015-2019</i>	11.5	9.8	14.9	11.7**	11.8**	5 more deaths in SJV-Adjacent counties
Suicides (3 Years) <i>3 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2015-2019</i>	14**	12	18**	16**	17**	6 more deaths in SJV-Adjacent counties

26 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Indicator	12 SJV Counties	8 Central SJV Counties	4 SJV-Adjacent Counties	All 58 CA Counties	46 Non-SJV CA Counties	Difference Between Highest and Lowest Groups
Suicides (5 Years) <i>5 Year Age-Adjusted Rate per 100,000 People, Average Across Counties 2015-2019</i>	14.4	11.5	20.1	15.6**	15.9**	9 more deaths in <i>SJV-Adjacent</i> counties

27 ** Data for some counties missing due to unreliable data/low numbers of events. See Appendix A for details.

Summary of Results

For most indicators- both social determinants and health outcomes- the San Joaquin Valley region fares worse than other California counties, often by a large difference.

Of the 98 indicators measured, the twelve-county SJV region shows the greatest need for investment and resources on 87 indicators (89%).

The table below lists these indicators and shows the difference between the region and the rest of the state for each.

Indicators for Which the SJV Average Fares Worse Than the Non-SJV County Average

Indicator <i>*Higher is healthier</i>	Value for 12 SJV Counties	Value for 46 Non-SJV Counties	Difference
Determinants of Health			
High School Completion*	76	84	8% fewer adults
Some College*	51	67	16% fewer adults
Children Living in Poverty	22	16	6% more children
Children Enrolled in Free or Reduced Lunch Program	67	55	12% more children
Children Living in Single-Parent Households	25	22	3% more children
Median Household Income*	\$62,187	\$73,347	\$11,160 less income
Unemployment	7	4	3% more people
Homeownership*	61	62	1% fewer housing units
Overcrowded Housing	7	5	2% more households
Adverse Childhood Experiences (Adult Retrospective)	62	60	2% more adults
Exercise Opportunities*	70	85	15% fewer people
Not Proficient in English	9	6	3% more adults
Rural Residency	30	28	2% more households
Broadband Access	82	84	2% fewer households

Indicator <i>*Higher is healthier</i>	Value for 12 SJV Counties	Value for 46 Non-SJV Counties	Difference
Social Associations*	5.6	6.2	.6 fewer per 10,000 people
Drinking Water Violations	92	63	29% more counties
Drinking Water Contaminants	742	506	236 higher index of contaminants
Pesticides	692	234	458 more pounds per square mile
Air- Ozone Concentration	.06	.05	.01 higher concentration
Food Insecurity	14	10	4% more people
Limited Access to Healthy Food	5	3	2% more people
Food Environment Index (0 to 10) *	7.7	8	.3 lower index score
Uninsured (All Under Age 65)	8.3	7.8	.5% more people
Uninsured Adults	11	10	1% more adults
Annual Physical Exam *	68.7	69	.3% fewer adults
Dental Visits*	59	64	5% fewer adults
Primary Care Physicians*	49	74	25 fewer physicians per 100,000 people
Other Primary Care Providers*	64	73	9 fewer providers per 100,000 people
Mental Health Providers*	222	412	190 fewer providers per 100,000 people
Dentists*	60	79	19 fewer dentists per 100,000 people
Preventable Hospital Stays	3,652	3,096	556 more hospital stays per 100,000 Medicare enrollees
Early Prenatal Care*	78	79	1% fewer people
Lack of Physical Activity	25	21	4% more people
Insufficient Sleep	35	33	2% more people
Smoking	16	15	1% more people
Health Outcomes			
Frequent Physical Distress	15	13	2% more adults
Premature Deaths	347	328	19 more deaths per 100,000 people

Indicator	Value for 12 SJV Counties	Value for 46 Non-SJV Counties	Difference
Years of Potential Life Lost	7,039	6,405	634 more years of life lost
Child Deaths	46	44	2 more child deaths per 100,000 people
Breast Cancer Deaths	19	17	2 more deaths per 100,000 people
Lung Cancer Deaths	29	28	1 more death per 100,000 people
Chronic Kidney Disease	3.1	2.8	.3% more adults
Chronic Liver Disease & Cirrhosis Deaths	17	16	1 more death per 100,000 people
Chronic Obstructive Pulmonary Disease	7	6	1% more adults
Chronic Lower Respiratory Disease Deaths	40	36	4 more deaths per 100,000 people
Asthma Diagnosis	9.9	9.5	.4% more adults
Asthma ER Visits	71	50	21 more ER visits per 10,000 people
Coronary Heart Disease	6.3	5.6	.7% more adults
Coronary Heart Disease ER Visits	17	12	5 more ER visits per 10,000 people
Coronary Heart Disease Deaths	94	80	14 more deaths per 100,000 people
High Blood Pressure	30	28	2% more adults
Strokes	3.3	3	.3% more adults
Stroke Deaths	37.8	37.6	.2 more deaths per 100,000 people
Obesity	32	27	5% more adults
Diabetes Diagnosis (Self-Report)	11.2	9.6	1.6% more adults
Diabetes	10.5	9.7	1% more adults
Diabetes Deaths	23	20	3 more deaths per 100,000 people
Syphilis (Males)	30	25	5 more cases per 100,000 people
Congenital Syphilis	233	57	176 more infants per 100,000 people
Chlamydia (1 Year)	511	449	62 more cases per 100,000 people
Chlamydia (3 Years)	502	431	70 more cases per 100,000 people

Indicator	Value for 12 SJV Counties	Value for 46 Non-SJV Counties	Difference
Infant Deaths (3 Years)	5	4	1 more death per 1,000 live births
Infant Deaths (7 Years)	5.5	4.3	1 more death per 1,000 live births
Low Birth Weight Infants (3 Years)	6.79	6.75	.04% more infants
Teen Births (3 Years)	19	14	5 more births per 1,000 female adolescents
Teen Births (7 Years)	26	18	8 more births per 1,000 female adolescents
Total Tooth Loss	15	13	2% more adults
Frequent Mental Distress	15	14	1% more adults
Alcohol-Impaired Driving Deaths	30	28	2% more deaths
Motor Vehicle Accident Deaths (3 Years)	19	15	4 more deaths per 100,000 people
Motor Vehicle Accident Deaths (7 Years)	18	14	4 more deaths per 100,000 people
Violent Crime	486	404	82 more crimes per 100,000 people
Homicides (3 Years)	6.3	5.7	.6 more deaths per 100,000 people
Homicides (7 Years)	6.3	4.9	1.4 more deaths per 100,000 people

For ten additional indicators, however, the disparity between the value for the eight *Central SJV* counties and that for the four *SJV-Adjacent* counties was large enough to skew the number for the twelve-county *SJV* region so that it appears at first glance that the *Non-SJV* county group fares the worst when, in reality, one of the *SJV* subregions actually fares worse.

On six of these ten indicators, *SJV-Adjacent* counties fare the worst, while the *Central SJV* counties fare the worst on four.

SJV-Adjacent Fares Worst	Central SJV Fares Worst
Uninsured children	Air pollution- toxic chemical release
Excessive drinking	Colorectal cancer
Cancer diagnosis (all except skin cancer)	Gonorrhea
Accident/injury deaths (both 3- and 5-year rates)	Low birthweight infants (1 year rate only)
Gun-related deaths (5-year rate only)	
Suicides (both 3- and 5-year rates)	

The twelve-county *SJV* region genuinely did fare better than *Non-SJV* counties on the following nine indicators:

1. Residential segregation (white/non-white)
2. Income inequality
3. Flu vaccinations
4. Adequate prenatal care
5. Air pollution- diesel particulate matter
6. Prostate cancer deaths
7. HIV (both 1- and 3-year rates)
8. Drug overdose deaths (both sources)
9. Gun-related deaths (3-year rate only)

For the greatest number of indicators, the eight *Central SJV* counties fare worse than all other regional groups.

The table below lists the 65 indicators for which *Central SJV* counties fare the worst, as well as the difference between this group and the regional group faring the best in the analysis- that with the highest or lowest value, depending on the indicator (i.e., 75% of adults in *Central SJV* counties have completed high school, while 88% of adults in *SJV-Adjacent* counties have; *SJV-Adjacent* counties had the highest percentage of all groups on this indicator and the difference between the two groups is 13%).

Indicators for Which Central SJV Counties Fare the Worst

Indicator <i>*Higher is healthier</i>	Value	Difference from the Group Faring Best
Determinants of Health		
High School Completion *	75	13% fewer adults
Some College *	51	16% fewer adults
Children Living in Poverty	23	7% more children
Children Enrolled in Free Lunch Program	72	17% more children
Children Living in Single-Parent Households	25	3% more children
Median Household Income *	\$59,538	\$13,809 less income
Unemployment	7	3.6% more adults

Indicator <i>*Higher is healthier</i>	Value	Difference from the Group Faring Best
Homeownership *	56.5	14% fewer units
Overcrowded Housing	9	5% more households
Severe Housing Cost Burden	17.4	.2% more households
Adverse Childhood Experiences (Adults)	65	11% more adults
Not Proficient in English	11	8% more adults
Broadband Access *	81	3% fewer households
Social Associations *	4.7	3 fewer per 10,000 people
Drinking Water Violations	100	37% more counties with violations
Drinking Water Contaminants	749	243 higher index score
Pesticides	720	598 more pounds per square mile
Air- Toxic Chemical Release from Facilities	1731	1716 higher emissions
Air- Ozone Concentration	.06	.01 more particulate matter concentration
Food Insecurity	14	4% more people
Food Environment Index (0 to 10) *	7.5	.6 higher index score
Uninsured (Adults and Children)	8.7	1% fewer people
Uninsured Adults	11.6	3% fewer adults
Dental Visit *	56	9% fewer adults
Dentists	55	24 fewer per 10,000 people
Preventable Hospital Stays	4,101	1,348 more per 100,000 Medicare enrollees
Lack of Physical Activity	28	8% higher
Insufficient Sleep	35.4	2.6% higher
Smoking	16	1.6% higher
Health Outcomes		
Frequent Physical Distress	16	3% more people
Premature Deaths	359	34 more deaths per 100,000 people

Indicator	Value	Difference from the Group Faring Best
Years of Potential Life Lost	7,044	639 more years of life
Breast Cancer Deaths	19	2 more deaths per 100,000 people
Colorectal Cancer Deaths	13	2 more deaths per 100,000 people
Lung Cancer Deaths	29.6	1 more death per 100,000 people
Chronic Kidney Disease	3.4%	1% more adults
Chronic Liver Disease & Cirrhosis Deaths	18	2 more deaths per 100,000 people
Chronic Obstructive Pulmonary Disease	7%	1% more adults
Chronic Lower Respiratory Disease Deaths	41.6	6 more deaths per 100,000 people
Asthma Diagnosis	10	.5% more adults
Asthma ER Visits	72	22 more ER visits per 10,000 people
Coronary Heart Disease	6.7	1% more adults
Coronary Heart Disease Deaths	101	21 more deaths per 100,000 people
High Blood Pressure	30.6	3% more adults
Strokes	3.6	.6% more adults
Stroke Deaths	41	10.4 more deaths per 100,000 people
Obesity	34	7% higher
Diabetes (Self-Report)	12	3% more adults
Diabetes	11	2% more adults
Diabetes Deaths	26	9 more deaths per 100,000 people
Gonorrhea (Males)	396	195 more males per 100,000 people
Syphilis (Males)	31	7 more males per 100,000 people
Congenital Syphilis	233	176 more infants per 100,000 people
Chlamydia (1 Year Average)	626	346 more cases per 100,000 people
Chlamydia (3 Year Average)	619	353 more cases per 100,000 people
Infant Deaths (3 Year Average)	4.8	1 more death per 1,000 live births

Indicator	Value	Difference from the Group Faring Best
Low Birth Weight Infants (3 Year Average)	7	.4% more infants
Low Birth Weight Infants (7 Year Average)	7	.4% more infants
Teen Births (3 Year Average)	21.6	8 more births per 1,000 females ages 15 to 19
Teen Births (7 Year Average)	30	13 more births per 1,000 females ages 15 to 19
Total Tooth Loss	17	4.5% more adults
Frequent Mental Distress	15	1% more adults
Violent Crimes	557	214 more crimes per 100,000 people
Homicides (3 Year Average)	7	3 more deaths per 100,000 people
Homicides (7 Year Average)	7	3.5 more deaths per 100,000 people

The four *SJV-Adjacent* counties fare the worst on the indicators listed in the table below. Although the Rural Residency indicator is not included in the table, the *SJV-Adjacent* sub-region has the highest percentage of people living in rural areas (48% more people in these counties live in a rural area than in the *Central-SJV* subregion, for instance). The rurality of these counties is likely strongly related to their results on other indicators, such as low rates of healthcare providers and high rates of motor-vehicle accident death.

Indicators for Which SJV-Adjacent Counties Fare the Worst

Indicator <i>*Higher is healthier</i>	Value	Difference from the Group Faring Best
Determinants of Health		
Exercise Opportunities *	65	20% fewer people
Limited Access to Healthy Food	5.4	2.6% more people
Uninsured Children	3.5	.4% more children
Physical Exam *	68.4	.6% fewer adults
Primary Care Physicians *	45	29 fewer per 100,000 people
Other Primary Care Providers *	58	15 fewer per 100,000 people
Mental Health Providers *	194	218 fewer per 100,000 people
Early Prenatal Care (3 Year Average) *	76.4	3% fewer people

Excessive/Binge Drinking	20	3% more adults
Health Outcomes		
Child Deaths	50.4	7 more children per 100,000 people
Cancer Diagnosis (All Except Skin)	6.28	.5% more adults
Cardiovascular Disease ER Visits	18	6 more ER visits per 10,000 people
Infant Deaths (7 Year Average)	7	2.5 more deaths per 1,000 live births
Alcohol-Impaired Driving Deaths	39	10.6% more deaths
Motor Vehicle Accident Deaths (3 Year Average)	22	7 more deaths per 100,000 people
Motor Vehicle Accident Deaths (7 Year Average)	23	9 more deaths per 100,000 people
Accident/Unintentional Injury Deaths (3 Year Average)	55	8 more deaths per 100,000 people
Accident/Unintentional Injury Deaths (5 Year Average)	91	26 more deaths per 100,000 people
Gun-Related Deaths (5 Year Average)	15	5 more deaths per 100,000 people
Suicides (3 Year Average)	18	6 more deaths per 100,000 people
Suicides (5 Year Average)	20	8.6 more deaths per 100,000 people

The twelve-county *SJV* region was split on many indicators, with one of the sub-regions (the *Central SJV* counties or the *SJV-Adjacent* counties) faring the best and the other faring the worst. In most of these cases, the *SJV-Adjacent* counties fare better than *Non-SJV* counties. For some indicators, however, the *Central SJV* sub-region fare the best out of all regional groups and the *SJV-Adjacent* counties fare the worst.

Indicators for which *SJV-Adjacent* counties fare best, while *Central SJV* counties fare the worst:

Determinants of Health	Health Outcomes
High school completion	Frequent physical distress
Homeownership	Premature deaths
Overcrowded housing	Colorectal cancer deaths
Severe housing cost burden	Chronic kidney disease
Adverse childhood experiences	Chronic liver disease and cirrhosis deaths
Not English proficient	Chronic lower respiratory disease deaths
Social associations	Obesity
Pesticides	Diabetes
Air pollution- toxic chemical release	Diabetes deaths
Food Environment Index	Gonorrhea (males)
Uninsured (adults and children)	Syphilis (males)
Uninsured adults	Chlamydia
Dental exams	Low birthweight infants
Preventable hospital stays	Teen births (1 year rate only)
Lack of physical activity	High blood pressure
Insufficient sleep	Strokes
	Stroke deaths
	Total tooth loss
	Violent crime
	Homicides

(In addition, data was missing for congenital syphilis for *SJV-Adjacent* counties due to low numbers, while *Central SJV* counties had a much higher average rate than *Non-SJV* counties and the state overall).

Indicators for which *SJV-Adjacent* counties fare the worst, while *Central SJV* counties fare the best:

Determinants of Health	Health Outcomes
Uninsured children	Cancer diagnosis (all except skin cancer)
Early prenatal care	Accident/unintentional injury deaths
Excessive drinking	Gun-related deaths
	Suicides

(As mentioned previously, *SJV-Adjacent* counties had the highest percentage of people living in a rural area, as well).

Conclusions and Recommendations

The findings of this analysis show clearly that **residents of the San Joaquin Valley region have an elevated need for support** in relation to the rest of California in many areas related to health, lifespan, and well-being.

Of the 98 indicators selected for analysis, 87 (89%) show greater need for Valley residents (80% of the 44 metrics for social determinants of health and 87% of the 45 metrics for health outcomes), especially those living in the region's eight most central counties.

Not only do San Joaquin Valley residents have shorter lifespans than residents in other parts of California, but the quality of their lives and their access to necessary and important resources and opportunities appears to be lower as well.

We have learned from an expansive body of [research](#)¹⁹ that health is determined largely by the social conditions we find ourselves in, based on where we live at all levels- from the home we live in to the nation we live in. The findings presented here show **notable disparities in the social determinants of health in multiple areas of life**, including education, economic well-being, pollution, and access to healthy foods. It is not therefore surprising that regional **disparities related to health outcomes were also found** in this analysis, with the San Joaquin Valley region having the greatest need for support in improving outcomes of health for all its residents.

Recommendations

1. Policy Development and Implementation

Effective policy development must consider existing burdens faced by the San Joaquin Valley and must account for existing inequities. Policy development and implementation of policies should be driven by dynamic collaboration between public health experts, San Joaquin Valley residents, and community-based organizations. Effective communication with policymakers must include region-specific data presented in a way that is values-driven and digestible. The following actions are recommended by the San Joaquin Valley Public Health Consortium:

¹⁹ Koo, D., O'Carroll, P. W., Harris, A., & DeSalvo, K. B. (2016). *An Environmental Scan of Recent Initiatives Incorporating Social Determinants in Public Health. NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. <https://doi.org/10.31478/201606f>

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- **Develop and implement data-driven policies at all levels of government** that address the especially high needs of the region’s under-resourced residents and emphasize addressing the root causes of poor health outcomes and inequity in both health and social outcomes.
 - **Work to identify and then alter policies** that contribute to inequitable outcomes in the San Joaquin Valley, including policies that allow racial and ethnic disparities to persist and thrive.

2. Infrastructure Development and Support

To truly address the inequitable health and social outcomes in the San Joaquin Valley, **the region needs a significant influx of investment to propel it into sustainable solutions** for complex health and social issues. Investment simply made on a per-capita basis may allow the region to maintain the status quo but will not be sufficient for addressing inequity or allowing the region to catch up to the rest of the state. We therefore recommend the following activities:

- **Advocate for investment relative to the level of inequities.** An entire region is facing inequitable health and social outcomes and addressing these outcomes for the long term will require disproportionate, upfront investment at national, state, and county levels.
- **Develop flexible and adequate support for rural parts of the San Joaquin Valley and adjoining counties,** especially in the realms of Emergency Medical Services and public health and healthcare workforce development.

3. Region-Driven Research

While this report easily demonstrates the disparities experienced by the region as a whole, a lack of region-specific data (especially demographic data) contributes to a lack of understanding of the unique experiences of San Joaquin Valley residents and glosses over disparities that exist among different demographic groups within the region itself that may or may not be reflected at the state and national level. Furthermore, to identify effective solutions to inequitable health and social outcomes, **it is critical to understand the unique causal and systemic pathways that exist in the region between a variety of social and health outcomes,** and for this, accurate and aggregated regional data is necessary. The following actions are recommended:

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- **Expand research capacity and funding for research within the region:** research efforts should be led by those living and working in the region and should be informed by community members
 - **Pursue additional research analyzing the impact of social determinants on health outcomes** in the San Joaquin Valley: Research efforts should include investigation of specific causal pathways that lead to inequitable outcomes both within the region and in comparison to other regions (i.e., how poverty and health insurance access in the Valley impact maternal and infant health).
 - **Expand limited race/ethnicity categories included in surveys, records, and other data collection instruments** to reflect the diversity of the region more effectively.

Appendices

- A. Missing/Unreliable Data
- B. Data Sources and Years

Appendix A.

Missing/Unreliable Data by Indicator and Data Source

CHSP			
<i>Unreliable- relative standard error greater than or equal to 23%</i>			
<i>No data/events- zero events or suppressed values due to low numbers</i>			
Indicator	Number of SJV Counties with Missing or Unreliable Values	Number of Non-SJV Counties with Missing Values	SJV Counties
Early Prenatal Care	0	1 no data/events	
Adequate Prenatal Care	0	1 unreliable	
Breast Cancer Deaths	2 unreliable	11 unreliable 2 no data/events	Unreliable- Mariposa, San Benito
Colorectal Cancer Deaths	2 unreliable	10 unreliable 1 no data/events	Unreliable- Mariposa, San Benito
Lung Cancer Deaths	0	6 unreliable	
Prostate Cancer Deaths	2 unreliable	11 unreliable 1 no data/events	Unreliable- Mariposa, San Benito
Chronic Liver Disease Deaths	2 unreliable	9 unreliable	Unreliable- Mariposa, San Benito
Chronic Lower Respiratory Disease Deaths	0	3 unreliable	
Heart Disease Deaths	0	3 unreliable	
Stroke Deaths	0	6 unreliable	
Diabetes Deaths	1 unreliable	6 unreliable 2 no data/events	Unreliable- Mariposa
Gonorrhea Incidence (Males)	1 unreliable	5 unreliable 4 no data/events	Unreliable- Mariposa
Syphilis Incidence (Males)	3 no data/events	3 unreliable 14 no data/events	No data/events- Calaveras, Mariposa, San Benito
Congenital Syphilis Incidence	1 unreliable 7 no data/events	1 unreliable 38 no data/events	Unreliable- Tulare No data/events- Calaveras, Kings, Madera, Mariposa, Merced, San Benito, Tuolumne
Chlamydia Incidence	0	1 unreliable	
HIV Prevalence	0	3 unreliable	
Infant Deaths	4 no data/events	5 unreliable 16 no data/events	No data/events- Calaveras, Mariposa, San Benito, Tuolumne
Low Birth Weight Infants	0	1 unreliable 2 no data/events	
Teen Births	0	2 unreliable 2 no data/events	

Drug Overdose Deaths	1 unreliable	11 unreliable	Unreliable- Mariposa
MVA Deaths	1 unreliable	11 unreliable	Unreliable- Mariposa
Accident/Injury Deaths	0	3 unreliable	
Homicide	3 unreliable 1 no events	21 unreliable 2 no data/events	No data/events- Calaveras, San Benito, Tuolumne Mariposa
Gun-Related Deaths	4 unreliable	13 unreliable	Unreliable- Calaveras, Mariposa, San Benito, Tuolumne
Suicide	2 unreliable	10 unreliable	Unreliable- Mariposa, San Benito

County Health Rankings

Indicator	Number of SJV Counties with Missing Values	Number of Non-SJV Counties with Missing Values	SJV Counties
Residential Segregation Index <i>A missing value is reported for counties with non-White populations less than 100 in the five-year period.</i>	0	2	
Years of Potential Life Lost <i>A missing value is reported for counties with fewer than twenty deaths in the three-year period.</i>	0	2	
Child Deaths <i>A missing value is reported for counties with fewer than ten child deaths in the four-year period.</i>	1	6	No data- Mariposa
HIV Prevalence <i>A missing value is reported for counties with 1 to 4 HIV cases in the one-year period.</i>	0	2	
Low Birth Weight Infants <i>A missing value is reported for counties with fewer than ten low birthweight births in the seven-year period.</i>	0	1	
Teen Births <i>A missing value is reported for counties with fewer than ten teen births in the seven-year period.</i>	0	1	
Drug Overdose Deaths <i>A missing value is reported for counties with fewer than ten drug poisoning deaths in the three-year period.</i>	1	6	No data- Mariposa

MVA Deaths <i>A missing value is reported for counties with fewer than ten motor vehicle crash deaths in the seven-year period.</i>	0	3	
Homicide Rate <i>A missing value is reported for counties with fewer than ten homicide deaths in the seven-year period.</i>	1	7	No data- Mariposa
Gun-Related Deaths <i>A missing value is reported for counties with fewer than ten firearm fatalities in the five-year period.</i>	0	5	
Suicide Rate <i>A missing value is reported for counties with fewer than ten suicide deaths in the five-year period.</i>	0	3	

There were no missing or unreliable data values reported in the PLACES, CalEnviroScreen, or KidsData datasets.

Appendix B.

List of Indicators, with Years and Sources

Determinants of Health

Indicator	Data Sources	Year(s)
High School Completion	County Health Rankings- American Community Survey, 5-year Estimates	2015-2019
Some College	County Health Rankings- American Community Survey, 5-year Estimates	2015-2019
Children in Poverty	County Health Rankings- Small Area Income and Poverty Estimates	2019
Children Enrolled in Free or Reduced Lunch Program	County Health Rankings- National Center for Education Statistics	2018-2019
Children Living in Single Parent Households	County Health Rankings- American Community Survey, 5-year Estimates	2015-2019
Median Household Income	County Health Rankings- Small Area Income and Poverty Estimates	2019
Unemployment	County Health Rankings- Bureau of Labor Statistics	2019
Homeownership	County Health Rankings- American Community Survey, 5-year estimates	2015-2019
Overcrowded Housing	County Health Rankings- Comprehensive Housing Affordability Strategy (CHAS) data	2013-2017
Severe Housing Cost Burden	County Health Rankings- American Community Survey, 5-year Estimates	2015-2019
Adverse Childhood Experiences	KidsData- UC Davis Violence Prevention Research Program, tabulation of data from the California Behavioral Risk Factor Surveillance System and American Community Survey	2011-2017
Residential Segregation Index	County Health Rankings- American Community Survey, 5-year estimates	2015-2019
Income Inequality Ratio	County Health Rankings- American Community Survey, 5-year estimates	2015-2019
Exercise Opportunities	County Health Rankings- Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files	2010 & 2019
Not English Proficient	County Health Rankings- American Community Survey, 5-year Estimates	2015-2019
Rural	County Health Rankings- Census Population Estimates	2010
Broadband Access	County Health Rankings- American Community Survey, 5-year Estimates	2015-2019
Social Associations	County Health Rankings- County Business Patterns	2018
Drinking Water Violations	County Health Rankings- Safe Drinking Water Information System	2019

Drinking Water Contaminants Index	CalEnviroscreen 4.0- Tracking California - Water Boundary Tool (WBT), Public Land Survey System – Townships, California State Water Resources Control Board (SWRCB) – Safe Drinking Water Information System (SDWIS), EDT Library and Water Quality Analyses Data and Download Page, Permits, Inspections, Compliance, Monitoring and Enforcement (PICME) database, California Department of Public Health (database is no longer in active use), California State Water Resources Control Board (SWRCB) – Groundwater Ambient Monitoring and Assessment (GAMA) Program’s Groundwater Information System	2011-2019
Pesticides	CalEnviroscreen 4.0- Pesticide Use Reporting, California Department of Pesticide Regulation (DPR)	2016-2018
Toxic Chemical Release from Facilities	CalEnviroscreen 4.0- Toxics Release Inventory (TRI), US Environmental Protection Agency (US EPA)	2014-2016
Air- Ozone Concentration	CalEnviroscreen 4.0- Air Monitoring Network, California Air Resources Board (CARB)	2016-2018
Air- Diesel Particulate Matter	CalEnviroscreen 4.0- EMISSION FACTors (EMFAC) model2017, the 2016 CEPAMv1.05 Inventory for criteria pollutants, and the California Emissions Inventory Development and Reporting System (CEIDARS) 2012 database, California Air Resources Board (CARB)	2016
Food Insecurity	County Health Rankings- Map the Meal Gap	2018
Limited Access to Healthy Food	County Health Rankings- USDA Food Environment Atlas	2015
Food Environment Index	County Health Rankings- USDA Food Environment Atlas, Map the Meal Gap from Feeding America	2015 & 2018
Uninsured (All)	County Health Rankings- Small Area Health Insurance Estimates	2018
Uninsured Adults	PLACES- Behavioral Risk Factor Surveillance System	2018
Uninsured Children	County Health Rankings- Small Area Health Insurance Estimates	2018
Annual Health Exam	PLACES- Behavioral Risk Factor Surveillance System	2018
Dental Visit	PLACES- Behavioral Risk Factor Surveillance System	2018
Primary Care Physicians	County Health Rankings- Area Health Resource File/American Medical Association	2018
Other Primary Care Providers	County Health Rankings- CMS, National Provider Identification	2020
Mental Health Providers	County Health Rankings- CMS, National Provider Identification	2020
Dentists	County Health Rankings- Area Health Resource File/ National Provider Identification File	2019
Preventable Hospitalizations	County Health Rankings- Mapping Medicare Disparities Tool	2018
Early Prenatal Care	County Health Status Profiles- CDPH, 2017 Birth Statistical Master File; CDPH, 2018-2019 California Comprehensive Master Birth Files	2017-2019
Adequate Prenatal Care	County Health Status Profiles- CDPH, 2017 Birth Statistical Master File; CDPH, 2018-2019 California Comprehensive Master Birth Files	2017-2019
Flu Vaccinations	County Health Rankings- Mapping Medicare Disparities Tool	2018

No Leisure-Time Physical Activity	PLACES- Behavioral Risk Factor Surveillance System	2018
Insufficient Sleep	PLACES- Behavioral Risk Factor Surveillance System	2018
Excessive/Binge Drinking	PLACES- Behavioral Risk Factor Surveillance System	2018
Smoking	PLACES- Behavioral Risk Factor Surveillance System	2018

Health Outcomes

Indicator	Data Sources	Year(s)
Frequent Physical Distress	PLACES- Behavioral Risk Factor Surveillance System	2018
Premature Death Rate (3 Years)	County Health Rankings- National Center for Health Statistics - Mortality Files	2017-2019
Years of Potential Life Lost (3 Years)	County Health Rankings- National Center for Health Statistics - Mortality Files	2017-2019
Child Death Rate (4 Years)	County Health Rankings- National Center for Health Statistics – Mortality Files	2016-2019
Cancer Diagnosis, Except Skin	PLACES- Behavioral Risk Factor Surveillance System	2018
Breast Cancer Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Colorectal Cancer Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Lung Cancer Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Prostate Cancer Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Chronic Kidney Disease Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2018
Chronic Liver Disease Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Chronic Obstructive Pulmonary Disease Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2018
Chronic Lower Respiratory Disease Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Asthma Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2018

Asthma ER Visits (3 Years)	CalEnviroScreen 4.0- Emergency Department and Patient Discharge Datasets from the State of California, Office of Statewide Health Planning and Development (OSHPD)	2015-2017
Coronary Heart Disease Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2018
Cardiovascular Disease ER Visits (3 Years)	CalEnviroScreen 4.0- Emergency Department and Patient Discharge Datasets from the State of California, Office of Statewide Health Planning and Development (OSHPD)	2015-2017
Coronary Heart Disease Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
High Blood Pressure Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2017
Stroke Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2018
Stroke Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Obesity	PLACES- Behavioral Risk Factor Surveillance System	2018
Diabetes Diagnosis	PLACES- Behavioral Risk Factor Surveillance System	2018
Diabetes Prevalence	County Health Rankings- United States Diabetes Surveillance System	2017
Diabetes Death Rate (3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Gonorrhea Incidence (Males, 3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Syphilis Incidence (Males, 3 Years)	County Health Status Profiles- CDPH, California Comprehensive Master Death Files, [2017-2019]; CA Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020	2017-2019
Congenital Syphilis Incidence (3 Years)	County Health Status Profiles- CDPH, STD Control Branch. Data Requested, October 2020; CDPH, 2017 Birth Statistical Master File; CDPH, 2018-2019 California Comprehensive Master Birth Files	2017-2019
Chlamydia Rate	County Health Rankings- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2018
Chlamydia Incidence (3 Years)	County Health Status Profiles- CDPH, STD Control Branch. Data Requested, October 2020; CDPH, 2017 Birth Statistical Master File; CDPH, 2018-2019 California Comprehensive Master Birth Files	2017-2019
HIV Prevalence	County Health Rankings- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2018
HIV Prevalence (3 Years)	County Health Status Profiles- California Department of Public Health, Office of AIDS, Surveillance Section. Data Requested, July 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2016-2018
Infant Death Rate (3 Years)	County Health Status Profiles- California Department of Public Health, 2016-2018 Birth Cohort-Perinatal Outcome Files.	2016-2018

Infant Death Rate (7 Years)	County Health Rankings- National Center for Health Statistics - Mortality Files	2013-2019
Low Birth Weight Infants (3 Years)	County Health Status Profiles- California Department of Public Health, 2017 Birth Statistical Master File. California Department of Public Health, 2018-2019 California Comprehensive Master Birth Files.	2017-2019
Low Birth Weight Infants (7 Years)	County Health Rankings- National Center for Health Statistics - Natality files	2013-2019
Teen Birth Rate (3 Years)	County Health Status Profiles- California Department of Public Health, 2017 Birth Statistical Master File. California Department of Public Health, 2018-2019 California Comprehensive Master Birth Files. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Teen Birth Rate (7 Years)	County Health Rankings- National Center for Health Statistics - Natality Files	2013-2019
Total Tooth Loss	PLACES- Behavioral Risk Factor Surveillance System	2018
Drug Overdose Death Rate (3 Years)	County Health Status Profiles- California Department of Public Health, California Comprehensive Master Death Files, [2017-2019]. Compiled, October 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Drug Overdose Death Rate (3 Years)	County Health Rankings- National Center for Health Statistics - Mortality Files	2017-2019
Frequent Mental Distress	PLACES- Behavioral Risk Factor Surveillance System	2018
Alcohol-Impaired Driving Deaths (5 Years)	County Health Rankings- Fatality Analysis Reporting System	2015-2019
Motor Vehicle Accident Death Rate (3 Years)	County Health Status Profiles- California Department of Public Health, California Comprehensive Master Death Files, [2017-2019]. Compiled, October 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Motor Vehicle Accident Death Rate (7 Years)	County Health Rankings- National Center for Health Statistics- Mortality Files	2013-2019
Accidental Injury Death Rate (3 Years)	County Health Status Profiles- California Department of Public Health, California Comprehensive Master Death Files, [2017-2019]. Compiled, October 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Accidental Injury Death Rate (5 Years)	County Health Rankings- National Center for Health Statistics- Mortality Files	2015-2019
Violent Crime Rate	County Health Rankings- Uniform Crime Reporting – FBI	2014 & 2016

Homicide Rate (3 Years)	County Health Status Profiles- California Department of Public Health, California Comprehensive Master Death Files, [2017-2019]. Compiled, October 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Homicide Rate (7 Years)	County Health Rankings- National Center for Health Statistics - Mortality Files	2013-2019
Gun-Related Death Rate (3 Years)	County Health Status Profiles- California Department of Public Health, California Comprehensive Master Death Files, [2017-2019]. Compiled, October 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Gun-Related Death Rate (5 Years)	County Health Rankings-National Center for Health Statistics - Mortality Files	2015-2019
Suicide Rate (3 Years)	County Health Status Profiles- California Department of Public Health, California Comprehensive Master Death Files, [2017-2019]. Compiled, October 2020. State of California, Department of Finance, Demographic Research Unit, State and County Population Projections 2010-2060 [computer file]. Sacramento, California. January 2020.	2017-2019
Suicide Rate (5 Years)	County Health Rankings- National Center for Health Statistics - Mortality Files	2015-2019