

APPENDIX A: DATA REVIEW QUESTIONNAIRE TEMPLATE

For the data source selected (i.e. NIS, BRFSS, CHIS, etc), please provide the following information.

1. Name of the Data Source
2. URL (web address) where methodology, data, and/or reports are posted
3. Timeframe
 - a. How often are results published?
 - b. What is the latest data collection timeframe/period that was published?
4. What geographic areas in California are sampled, reported on?
5. How are the data collected (i.e. random digit dial, record review, internet survey, etc)? If the data source is a telephone survey, are cell phone users included?
6. What age groups are covered by the data source?
7. Which vaccines/vaccine series were addressed in the latest data collection period?
8. What race/ethnicity categories are included in the latest dataset published?
 - a. How many records were sampled for each race/ethnic group in the latest data published? Please disaggregate by age if relevant.
9. In addition to race/ethnicity, what demographic and/or socioeconomic data were collected/reported for the latest data collection period?
10. What questions regarding immunization beliefs and attitudes were collected/reported for the last data collection period?
11. Does the data from the most recent data collection timeframe/period suggest that there are disparities in immunization rates based on race/ethnicity, demographic and/or socioeconomic characteristics?
 - b. If yes, please briefly describe key findings/conclusions and indicate strength of the findings. For instance, were the results statistically significant? Are the confidence intervals narrow? Do the sample sizes seem to be large enough to suggest confidence in conclusions?
12. Do the authors discuss limitations to the data or biases due to the way the data was collected?
 - a. If yes, what concerns are presented with the methods or with the reported rates or findings
 - b. Have you identified any published critiques of this data source? Please provide reference or URL for any critique that you find valuable.
13. Has the data been collected systematically so that we can look at trends over time? If so, for how long has the data been consistently collected? Are there any apparent limitations when reviewing current reports against previous reports from this data source (for example, any change in the methods of sampling, or the way the information was collected or verified or reported)?
14. Please share any additional information that would help the Health Disparities Data Task Force evaluate the suitability of this data source for guiding disparities efforts.

APPENDIX B: OVERVIEW OF IMMUNIZATION-RELATED DATA SOURCES REVIEWED BY THE CIC HEALTH DISPARITIES DATA TASK FORCE

	BRFSS	CHIS	CA Childcare Assessment	CA Kinder Assessment	CA Kinder Retro	CA 7th Grade Assessment	NIS	NHIS	CAIR	HEDIS	REACH US Risk Factor Survey	Insurance Status	Morbidity and Mortality
Frequency of Publication	Annually	<ul style="list-style-type: none"> • Every two years. • Most recently published data: 2009 	Annually	Annually	Annually	Annually	CHILDREN AND ADOLESCENTS: Published annually. Most recently published data: 2011 ADULTS: Not Routinely Administered. Most recent published data: 2007	<ul style="list-style-type: none"> • Selected early estimates: Quarterly • Raw data for all survey questions: Released in late June in the year following data collection. 	<ul style="list-style-type: none"> • Not publicly available • Some data can be gathered from the CDC's Information System Annual Progress Report (IISAR), which is published annually, most recently in 2011. 	<ul style="list-style-type: none"> • Annually (June) • Most recent published data: 2011 	Completed only for 2009, 2010, 2011, and 2012	<ul style="list-style-type: none"> • California Healthcare Almanac: Published on an ongoing basis. • Covering Kids: Children's Health Insurance in California: Published in 2012. 	<ul style="list-style-type: none"> • CalREDIE: Available online for CalREDIE users (local health jurisdictions) • California Cancer Registry (CCR): Published annually.
File Location	http://www.cdc.gov/brfss/	http://healthpolicy.ucla.edu/chis/Pages/default.aspx	http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx	http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx	http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx	http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx	www.cdc.gov/nchs/nis/about_nis.htm	www.cdc.gov/nchs/nhis.htm	www.cairweb.org and www.cdc.gov/vaccines/programs/iis/annual-report-IISAR/index.html	www.ncqa.org/HEALTHQUALITYMEASUREMENT.aspx	Not publicly available.	http://www.chcf.org/almanac#ixzz2PcR0CwQj	<ul style="list-style-type: none"> • CalREDIE: https://calredie.cdph.ca.gov/WEBCMR/Pages/Login/login.aspx (Login and password required). • CCR: http://www.cdph.ca.gov/data/informatics/tech/Pages/CDQS.aspx

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Geographic Level	<ul style="list-style-type: none"> National and California (statewide) Metro areas in California: LA/Long Beach, Oakland, Riverside, Sacramento, San Diego, San Francisco, San Jose, and Santa Ana 	<ul style="list-style-type: none"> California (statewide). County-level data for larger counties 	<ul style="list-style-type: none"> California (statewide) County By Facility (if facility has 10 or more childcare enrollees for the included age ranges) 	<ul style="list-style-type: none"> California (statewide) County By School (if school has 10 or more students enrolled in the grade range) 	<ul style="list-style-type: none"> California (statewide) Regional 	<ul style="list-style-type: none"> California (statewide) County By School (if school has 10 or more students enrolled in the grade range) 	<ul style="list-style-type: none"> National California (statewide) 	<ul style="list-style-type: none"> National (Early Release Reports) Raw data can be requested but it is not evident whether sample sizes are large enough to generate California-level or County-level rates. 	<ul style="list-style-type: none"> Regional Data from all 10 regions is included in the IISAR reports. (Northern California, Greater Sacramento Area, Bay Area, San Joaquin Valley, Central Valley, Central Coast, Los Angeles-Orange, Inland Empire, San Diego, and Imperial County) 	<ul style="list-style-type: none"> National California (statewide) 	<ul style="list-style-type: none"> Service Planning Area 6 (South Los Angeles) 	<ul style="list-style-type: none"> California (statewide) 	<ul style="list-style-type: none"> CalREDIE: 53 local health jurisdictions (as of April 1, 2013) Los Angeles, San Francisco, San Diego, and Alameda counties are among 8 jurisdictions not participating CCR: All California areas that report cancer incidence data.
Data Collection Methods	<ul style="list-style-type: none"> Random digit dialing telephone survey Cell phones are not included Results are not validated through a provider record review. 	<ul style="list-style-type: none"> Random digit dialing telephone survey Has included cell phones since 2009 Results are not validated through a provider record review. 	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records 	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records 	<ul style="list-style-type: none"> Through site visits to schools, local health departments collect immunization data recorded on students' immunization records 	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records 	<ul style="list-style-type: none"> Random digit dialing telephone survey Has included cell phones since 2011 Results are validated through a provider record review. 	<ul style="list-style-type: none"> Door-to-door in-home survey Results are not validated through a provider record review. 	<ul style="list-style-type: none"> Electronic import of demographic information from the Automated Vital Statistics System (AVSS) Manual entry of immunization data by providers, schools, and public health employees. Data exchange of EHR and EMR data (daily or weekly basis) 	<ul style="list-style-type: none"> Administrative data: electronic records of services such as insurance claims and registration systems Hybrid data: review of insurance claims or automated immunization records 	<ul style="list-style-type: none"> Telephone survey with mailed survey (address-based sampling frame sequence file) for households with no matching land or cell phone number 	<ul style="list-style-type: none"> Extracted from the US Census Bureau CPS, CHIS, etc. 	<ul style="list-style-type: none"> CalREDIE: Collected by local health jurisdiction using multiple sources, including one-on-one patient interview (often using case report form as survey tool), lab reports, medical charts, immunization records, etc. CCR: Reported by hospitals/ facilities providing cancer therapy and providers diagnosing or providing cancer treatment

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	BRFSS	CHIS	CA Childcare Assessment	CA Kinder Assessment	CA Kinder Retro	CA 7th Grade Assessment	NIS	NHIS	CAIR	HEDIS	REACH US Risk Factor Survey	Insurance Status	Morbidity and Mortality
Notable Limitations	<ul style="list-style-type: none"> Concerns regarding response rate, which is a generalized measure of bias Missing values for income 	<ul style="list-style-type: none"> Sampling issues, including non-coverage bias, non-response bias, and bias associated with proxy interviews Difficulty discerning trends because the questionnaire varies from year to year 	<ul style="list-style-type: none"> Does not collect race/ethnicity data Only provides estimates for vaccines required for childcare entry Dependent on accuracy of information that is self-reported from childcare facilities Rates for childcare attendees (1/3 of children in this age group) may not be representative of rates for all children 	<ul style="list-style-type: none"> Does not collect race/ethnicity data Only provides estimates for vaccines required for school entry Dependent on accuracy of information that is self-reported from schools 	<ul style="list-style-type: none"> Retrospective survey so data represent coverage levels from 3-4 years prior to the time of data collection Only provides estimates for vaccines required for school entry Small sample sizes Represents rates for a small proportion of kindergarten students & may not be representative of rates for all children Race/ethnicity is derived from the student's Blue Card, which may not be a reliable source for this information Sampling methodology changed in 2004 or 2005, so previous results may not be comparable to current results 	<ul style="list-style-type: none"> Does not collect race/ethnicity data Only provides estimates for vaccines required for school entry Dependent on accuracy of information that is self-reported from schools 	<ul style="list-style-type: none"> Small sample sizes and wide confidence intervals for state estimates Not comparable from year-to-year because of dual frame sampling Exclusion of households without telephone service Non-response bias, which may persist even after weighting Recall bias minimized by exclusive use of provider reported vaccinations 	<ul style="list-style-type: none"> Subject to sampling and recall error Pre-2003 results may not be comparable to later results due to methodological changes Exclusion of statewide and regional data in Early Release Reports 	<ul style="list-style-type: none"> Subject to considerable selection biases with many groups being under- or un-represented including those with private insurance, non-school aged children, areas with low CAIR participation, regions that use non-CAIR software products, etc. Issues of timeliness and completeness 	<ul style="list-style-type: none"> Possible conflict of interest because NCQA works closely with managed-care industry Incomplete reporting of HEDIS measures, resulting in a lack of representative-ness 	<ul style="list-style-type: none"> Use of mixed methods, with the addition of mailed surveys and for earlier rounds, in person surveys. Age groups surveyed introduce an "older adult" bias, due to longer than expected lifespan Response bias for telephone and mailed survey Recall bias, since the survey relies on recall and self-report 	<ul style="list-style-type: none"> Uses data from a range of sources with varied sampling sizes, chronologies & methodologies Different methodologies for estimating the number of uninsured for CPS and CHIS included. 	<ul style="list-style-type: none"> CalREDIE: <ul style="list-style-type: none"> Reported cases only. Under-diagnosis, underreporting, and misdiagnosis are possible. Diagnostic testing & case defs. can change over time. Ex: intro. of a more sensitive test (i.e., PCR for pertussis) may increase reported cases. CCR: <ul style="list-style-type: none"> Cancers can be caused by conditions not preventable by vx. Vx. status for cancer cases is not known. There may not be a correlation between county vx rates & cancer rates, since cases may be vaccinated in one county & reported in another. Possible cancer misdiagnosis & underdiagnosis/reporting.

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Age Ranges	Adults (18 years of age and older)	<ul style="list-style-type: none"> All age groups, depending on the survey year. May include: Adults (18 years of age and older), Adolescents (12-17 years of age), and children (0-11 years of age) 	Children (2 years - 4 years, 11 months)	Children (kindergarten students)	Children (kindergarten students; 3, 5, 7, 13, 19, and 24 months of age checkpoints)	Children (7-12th grade students for 2011-2012; 7th grade students only in subsequent years)	CHILDREN: Children (19- 35 months of age) ADOLESCENTS: Adolescents (13-17 years of age) ADULTS: All adults ages 18 years of age and older	<ul style="list-style-type: none"> All age groups. Early Release Reports include data only for selected ranges. 	<ul style="list-style-type: none"> All age groups. CAIR initially focused on children 0-18 years of age but patients have aged into adulthood and adults are now also entered 	<ul style="list-style-type: none"> Children (under 2 years of age) Adolescents (10 - 13 years of age) 	Adults (18 years of age and older)	Children and Adolescents (0- 18 years of age)	<ul style="list-style-type: none"> CaIRENIE: All ages in most cases. Some diseases are only reportable by age criteria set by the disease case definition. For example, invasive Hib disease only reportable for children under 15 years of age. CCR: All age groups
Vaccines Included	<ul style="list-style-type: none"> Influenza Pneumococcal 	<ul style="list-style-type: none"> Influenza 	Vaccines required for childcare entry: <ul style="list-style-type: none"> DTaP Polio MMR Hib Hepatitis B Varicella 	Vaccines required for kindergarten entry: <ul style="list-style-type: none"> DTaP Polio MMR Hepatitis B Varicella 	Vaccines required for kindergarten entry: <ul style="list-style-type: none"> DTaP Polio MMR Hepatitis B Varicella 	Vaccines required for 7th grade entry: <ul style="list-style-type: none"> Tdap (or DTaP or DTP) on or after 7th birthday 	CHILDREN: <ul style="list-style-type: none"> DTaP Polio MMR Hib Hepatitis A Hepatitis B Varicella PCV Rotavirus ADOLESCENTS: <ul style="list-style-type: none"> MMR Hepatitis B Meningitis Td Tdap HPV ADULTS: <ul style="list-style-type: none"> Influenza Pneumococcal Td Tdap Shingles HPV Hepatitis A Hepatitis B 	CHILDREN: <ul style="list-style-type: none"> Influenza Count of all vaccines received ADULTS: <ul style="list-style-type: none"> Influenza Pneumococcal Hepatitis A Hepatitis B Shingles Td Tdap HPV 	<ul style="list-style-type: none"> Any vaccine may be entered into CAIR. Historically, data reports have focused on childhood vaccinations and vaccines in the 4:3:1 series. Current reports focus on the 4:3:1:3:1:4 series. 	CHILDREN: <ul style="list-style-type: none"> DTaP/DT Polio MMR Hib Hepatitis A Hepatitis B Varicella PCV Rotavirus Influenza ADOLESCENTS: <ul style="list-style-type: none"> Meningococcal Tdap HPV 	<ul style="list-style-type: none"> Influenza Pneumococcal 	Receipt of all of the following vaccines by two years of age: <ul style="list-style-type: none"> DTaP/DT Polio MMR Hib Hepatitis B Varicella 	<ul style="list-style-type: none"> Report of VPD morb. & mortality, not IZ rates. CaIRENIE: Reportable VPD diseases: diphtheria; Hib invasive disease in child <15 yrs of age; acute hep. A; acute, chronic, & perinatal hep. B; measles; influenza (deaths in persons 0-64 years of age); Neisseria meningitidis meningitis; pertussis; polio; rabies; smallpox; tetanus; & varicella (hosps. & deaths). CCR: Cancer incidence & mortality. Cervical cancer in situ (precancer) is not reported.

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SES: Income Level	Collected. Immunization rates by income level are reported for adults over 65 years of age.	Collected. Immunization rates by household income (% of FPL) are reported.	Not collected	Not collected	Not collected	Not collected	CHILDREN AND ADOLESCENTS: Collected. Immunization rates by poverty level (above poverty level or below poverty level) are reported.	Collected but immunization rates are not reported by income level.	Not collected, but Medi-Cal, WIC, or VFC eligibility could be used as proxies.	Collected as payor source, but immunization rates are not reported by income level.	Not collected	Collected. Examines insurance status by family income, sources of insurance and sources of care. However, immunization rates are not reported by income level.	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected.
SES: Educational Level	Collected. Immunization rates by educational level are reported for adults over 65 years of age.	Collected. Immunization rates by educational level are reported.	Not collected	Not collected	Not collected	Not collected	Collected but immunization rates are not reported by education level.	Collected but immunization rates are not reported by educational level.	Not collected	Not collected	Collected, but immunization rates are not reported by educational level	Not collected	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected
SES: Insurance Status	Collected but immunization rates are not reported by insurance status.	Collected. Immunization rates by insurance status are reported.	Not collected	Not collected	Not collected	Not collected	CHILDREN: Collected, but immunization rates are not reported by insurance status. However, immunization rates are reported by VFC status. ADOLESCENTS: Collected. Immunization rates are reported by insurance status.	Collected but immunization rates are not reported by insurance status.	Not collected. However, Medi-Cal or VFC eligibility could be used as proxies.	Collected as payor source, but immunization rates are not reported by insurance status.	Not collected	<ul style="list-style-type: none"> • Collected. Immunization rates are reported by Medi-Cal and Healthy Families participation. • Additional information is available through more narrowly focused studies that were not included on this grid due to the focus, sample, size, lack of generalizability. 	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected

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SES: Other Factors	The following indicators are collected: <ul style="list-style-type: none"> • Employment status • Gender • Number of children in the home • Pregnancy status • Marital status However, immunization rates are not reported by these indicators.	The following indicators are collected: <ul style="list-style-type: none"> • Healthcare access • Public program eligibility • Employment status • Gender • Veteran status • Marital/partnership status • Sexual orientation • Language (ELP; language spoken with peers, and language of TV, radio, and newspapers) • Immigration status • Country of birth • Time in the U.S. However, immunization rates are not reported by these indicators.	Not collected	Not collected	Not collected	Not collected	The following indicators are collected: <ul style="list-style-type: none"> • WIC participation (children only) • VFC status • Number of adults and children in household • Maternal marital status, race/ethnicity, age, and address. However, of these indicators, immunization rates are only reported by WIC participation and VFC status.	The following indicators are collected: <ul style="list-style-type: none"> • Work status • Usual source of care • Access to care • Marital status • Healthcare utilization • Place of birth • Residence • Citizenship However, immunization rates not reported by these indicators.	Not collected	Immunization rates are not reported by demographic or socioeconomic indicators.	The following indicators are collected: <ul style="list-style-type: none"> • Place of birth • Gender • Age • Number of adults in the household • Languages spoken at home • Regular type of telephone service However, immunization rates not reported by these indicators.	Insurance status is reported by: <ul style="list-style-type: none"> • Ethnicity • Citizenship status • Age of child. However, immunization rates are not reported by these indicators.	<ul style="list-style-type: none"> • CalREDIE: Not collected in case investigation forms but could be collected in notes section of report. • CCR: County of residence at time of diagnosis/ report.
Vaccine Attitudes and/or Beliefs	Not collected	Not collected in 2009. However, survey questions vary from year to year.	Personal Beliefs Exemption Rates are reported.	Personal Beliefs Exemption Rates are reported.	Personal Beliefs Exemption Rates are collected, but not reported, due to small sample sizes.	Personal Beliefs Exemption Rates are reported.	Not collected	Not collected	Identifies vaccines that are refused, deferred for various reasons, or contraindicated (waiver field). Data on PBEs is not collected.	Not collected	Not collected	Not collected	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected.

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Race/Ethnicity Categories	<p>Immunization rates are reported for the following groups:</p> <ul style="list-style-type: none"> • African American • Hispanic • White • Multiracial • Other <p>Raw data includes the following additional race/ethnic groups:</p> <ul style="list-style-type: none"> • Asian • Pacific Islander • Native American 	<p>Immunization rates are reported for the following groups:</p> <ul style="list-style-type: none"> • Latino • White non-Latino • African American non-Latino • American Indian/Alaskan non-Latino • Asian non-Latino • Hawaiian/ Pacific Islander non Latino • Multirace non-Latino 	<p>Immunization rates are not reported by race/ethnicity.</p>	<p>Immunization rates are not reported by race/ethnicity.</p>	<p>Immunization rates are reported for the following groups:</p> <ul style="list-style-type: none"> • White • Black • Hispanic • Asian • Other • Unknown 	<p>Immunization rates are not reported by race/ethnicity.</p>	<p>Immunization rates are reported for the following groups:</p> <p>CHILDREN:</p> <ul style="list-style-type: none"> • White-only, non-Hispanic • Black-only, non-Hispanic • Hispanic • American Indian or Alaska Native-only, non-Hispanic • Asian-only, non-Hispanic • Native Hawaiian or Pacific Islander-only, non-Hispanic • Multiple race-non-Hispanic <p>ADOLESCENTS:</p> <ul style="list-style-type: none"> • White-only, non-Hispanic • Black-only, non-Hispanic • Hispanic • American Indian or Alaska Native - only, non-Hispanic • Asian only- non-Hispanic <p>ADULTS:</p> <ul style="list-style-type: none"> • White • Black • Hispanic 	<p>Immunization rates are reported in the Early Release reports only for the following populations:</p> <ul style="list-style-type: none"> • Hispanic/ Latino • Non-Hispanic/ Latino, White • Non-Hispanic/ Latino, Black or African American. <p>Data for additional groups may be available in raw datasets.</p>	<p>35 race/ethnicity categories are offered as options in CAIR. Immunization rates are not reported by race/ethnicity.</p>	<p>Immunization rates are not reported by race/ethnicity.</p>	<p>Immunization rates are reported for the following groups:</p> <ul style="list-style-type: none"> • African American • Hispanic 	<p>Insurance coverage is reported for:</p> <ul style="list-style-type: none"> • Latino • White • Asian • African American • Other <p>Ethnicity data not available for all sources (CalKids and Healthy Kids Programs).</p>	<p>• CalREDIE:</p> <ul style="list-style-type: none"> - Hispanic/Latino - Non-Hispanic/Latino - Race - African American/Black - White - Native American Islander - Other (open text) <p>Multiple subcategories for Asian/PI: Asian Indian, Cambodian, Chinese, Filipino, Guamanian, Hawaiian, Japanese, Korean, Laotian, Samoan, Vietnamese, and Other with open field.</p> <p>• CCR:</p> <ul style="list-style-type: none"> - Hispanic - Black - White - Asian

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Statistically Significant Evidence of Disparities based on Race/Ethnicity	Yes	Yes	Immunization rates are not reported by race/ethnicity.	Immunization rates are not reported by race/ethnicity.	Yes	Immunization rates are not reported by race/ethnicity.	Yes	Yes	Immunization rates are not reported by race/ethnicity.	Immunization rates are not reported by race/ethnicity.	Yes	Yes	Yes
Statistically Significant Evidence of Disparities based on Income	Yes	Yes	Immunization rates are not reported by income.	Immunization rates are not reported by income.	Immunization rates are not reported by income.	Immunization rates are not reported by income.	Yes	Immunization rates are not reported by income in the Early Release reports.	Immunization rates are not reported by income.	Immunization rates are not reported by income.	Immunization rates are not reported by income.	Immunization rates are not reported by income.	Yes
Statistically Significant Evidence of Disparities based on Insurance Status	Immunization rates are not reported by insurance status.	Yes	Immunization rates are not reported by insurance status.	Immunization rates are not reported by insurance status.	Immunization rates are not reported by insurance status.	Immunization rates are not reported by insurance status.	Yes	Immunization rates are not reported by insurance status in the Early Release reports.	Immunization rates are not reported by insurance status.	Immunization rates are not reported by insurance status. (All data relates to the insured population.)	Immunization rates are not reported by insurance status.	Immunization rates are not reported by all types of insurance status, only by Medical Managed Care and Healthy Families status.	Morbidity and mortality are not reported by insurance status in the data sources reviewed.

Please see data sources for complete information.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

Frequency of Publication	<ul style="list-style-type: none"> Annually
File Location	http://www.cdc.gov/brfss/
Geographic Level	<ul style="list-style-type: none"> National and California (statewide) Metro areas in California: LA/Long Beach, Oakland, Riverside, Sacramento, San Diego, San Francisco, San Jose, and Santa Ana
Data Collection Methods	<ul style="list-style-type: none"> Random digit dialing telephone survey. Cell phones are not included. Results are not validated through a provider record review.
Notable Limitations	<ul style="list-style-type: none"> Concerns regarding response rate, which is a generalized measure of bias Missing values for income
Age Ranges	<ul style="list-style-type: none"> Adults (18 years of age and older)
Vaccines Included	<ul style="list-style-type: none"> Influenza Pneumococcal
Income Level	<ul style="list-style-type: none"> Collected. Immunization rates by income level are reported for adults over 65 years of age.
Educational Level	<ul style="list-style-type: none"> Collected. Immunization rates by educational level are reported for adults over 65 years of age.
Insurance Status	<ul style="list-style-type: none"> Collected but immunization rates are not reported by insurance status.
Other Factors	<p>The following indicators are collected:</p> <ul style="list-style-type: none"> Employment status Gender Number of children in the home Pregnancy status Marital status <p>However, immunization rates are not reported by these indicators.</p>
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Not collected.

Race/Ethnicity Categories

Immunization rates are reported for the following groups:

- African American
- Hispanic
- White
- Multiracial
- Other

Raw data includes the following additional race/ethnic groups:

- Asian
- Pacific Islander
- Native American

Selected Examples of Statistically Significant Disparities

ADULTS \geq 65 YEARS OF AGE

- **FLU AND PNEUMOCOCCAL VACCINATION:** African Americans were less likely to receive an annual flu and lifetime pneumococcal vaccine than Whites and Hispanics.
- **PNEUMOCOCCAL VACCINATION:**
 - Adults who earned less than \$15,000/year were less likely to receive a lifetime pneumococcal vaccine.
 - Adults with less than a high school education were less likely to have received a pneumococcal vaccine.

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CALIFORNIA HEALTH INTERVIEW SURVEY (CHIS)	
Frequency of Publication	<ul style="list-style-type: none"> • Every two years • Most recently published data: 2009
File Location	<ul style="list-style-type: none"> • http://healthpolicy.ucla.edu/chis/Pages/default.aspx
Geographic Level	<ul style="list-style-type: none"> • California (statewide) • County-level data for larger counties
Data Collection Methods	<ul style="list-style-type: none"> • Random digit dialing telephone survey • Has included cell phones since 2009 • Results are not validated through a provider record review.
Notable Limitations	<ul style="list-style-type: none"> • Sampling issues, including non-coverage bias, non-response bias, and bias associated with proxy interviews • Difficulty discerning trends because the questionnaire varies from year to year
Age Ranges	<ul style="list-style-type: none"> • All age groups, depending on the survey year. • May include: Adults (18 years of age and older), Adolescents (12-17 years of age), and children (0-11 years of age)
Vaccines Included	<ul style="list-style-type: none"> • Influenza
Income Level	<ul style="list-style-type: none"> • Collected. Immunization rates by household income (% of FPL) are reported.
Educational Level	<ul style="list-style-type: none"> • Collected. Immunization rates by educational level are reported.
Insurance Status	<ul style="list-style-type: none"> • Collected. Immunization rates by insurance status are reported.
Other Factors	<p>The following indicators are collected:</p> <ul style="list-style-type: none"> • Healthcare access • Public program eligibility • Employment status • Gender • Veteran status • Marital/ domestic partnership status • Sexual orientation • Language (ELP; language spoken with peers, and language of TV, radio, and newspapers) • Immigration status • Country of birth • Time in the U.S. <p>However, immunization rates are not reported by these indicators.</p>

Vaccine Attitudes and/or Beliefs

- Not collected in 2009. However, survey questions vary from year to year.

Race/Ethnicity Categories

Immunization rates are reported for the following groups:

- Latino
- White non-Latino
- African American non-Latino
- American Indian/Alaskan non-Latino
- Asian non-Latino
- Hawaiian/ Pacific Islander non-Latino
- Multirace non-Latino

Selected Examples of Statistically Significant Disparities

CHILDREN

- **FLU:** Whites and Latinos were less likely to have received an annual flu vaccine than Asians.

ADULTS

- **FLU:** African Americans and Hispanics were less likely to have received an annual flu vaccine than Asians and Whites.

HOUSEHOLDS

- **FLU:** Individuals living in households with income levels lower than 300% FPL were less likely to have received an annual flu vaccine than those with income levels above 300% FPL.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

CALIFORNIA CHILDCARE ASSESSMENT	
Frequency of Publication	<ul style="list-style-type: none"> Annually
File Location	<ul style="list-style-type: none"> http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx
Geographic Level	<ul style="list-style-type: none"> California (statewide) County By Facility (if facility has 10 or more childcare enrollees for the included age ranges)
Data Collection Methods	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records.
Notable Limitations	<ul style="list-style-type: none"> Does not collect race/ethnicity data Only provides estimates for vaccines required for childcare entry Dependent on accuracy of information that is self-reported from childcare facilities Rates for childcare attendees (1/3 of children in this age group) may not be representative of rates for all children in this age group.
Age Ranges	<ul style="list-style-type: none"> Children (2 years - 4 years, 11 months)
Vaccines Included	<p>Vaccines required for childcare entry:</p> <ul style="list-style-type: none"> DTaP Polio MMR Hib Hepatitis B Varicella
Income Level	<ul style="list-style-type: none"> Not collected.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Not collected.
Other Factors	<ul style="list-style-type: none"> No other SES indicators are collected.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Personal Beliefs Exemption Rates are reported.
Race/Ethnicity Categories	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity.
Selected Examples of Disparities	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity or SES factors.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

CALIFORNIA KINDERGARTEN ASSESSMENT	
Frequency of Publication	<ul style="list-style-type: none"> Annually
File Location	<ul style="list-style-type: none"> http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx
Geographic Level	<ul style="list-style-type: none"> California (statewide) County By School (if school has 10 or more students enrolled in the grade range)
Data Collection Methods	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records.
Notable Limitations	<ul style="list-style-type: none"> Does not collect race/ethnicity data Only provides estimates for vaccines required for school entry Dependent on accuracy of information that is self-reported from schools
Age Ranges	<ul style="list-style-type: none"> Children (kindergarten students)
Vaccines Included	<p>Vaccines required for kindergarten entry:</p> <ul style="list-style-type: none"> DTaP Polio MMR Hepatitis B Varicella
Income Level	<ul style="list-style-type: none"> Not collected.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Not collected.
Other Factors	<ul style="list-style-type: none"> No other SES indicators are collected.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Personal Beliefs Exemption Rates are reported.
Race/Ethnicity Categories	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity.
Selected Examples of Statistically Significant Disparities	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity or SES factors.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

CALIFORNIA KINDERGARTEN RETROSPECTIVE SURVEY	
Frequency of Publication	<ul style="list-style-type: none"> Annually
File Location	<ul style="list-style-type: none"> http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx
Geographic Level	<ul style="list-style-type: none"> California (statewide) Regional
Data Collection Methods	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records.
Notable Limitations	<ul style="list-style-type: none"> Retrospective survey so data represent coverage levels from 3-4 years prior to the time of data collection Only provides estimates for vaccines required for school entry Small sample sizes Represents rates for a small proportion of kindergarten students and may not be representative of rates for all children Race/ethnicity is derived from the student's Blue Card, which may not be a reliable source for this information Sampling methodology changed in 2004 or 2005, so previous results may not be comparable to current results
Age Ranges	<ul style="list-style-type: none"> Children (kindergarten students at 3, 5, 7, 13, 19, and 24 months of age checkpoints)
Vaccines Included	<p>Vaccines required for kindergarten entry:</p> <ul style="list-style-type: none"> DTaP Polio MMR Hepatitis B Varicella
Income Level	<ul style="list-style-type: none"> Not collected.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Not collected.
Other Factors	<ul style="list-style-type: none"> No other SES indicators are collected.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Personal Beliefs Exemption Rates are collected, but not reported, due to small sample sizes.

**Race/Ethnicity
Categories**

Immunization rates are reported for the following groups:

- White
- Black
- Hispanic
- Asian
- Other
- Unknown

**Selected
Examples of
Statistically
Significant
Disparities**

- Black students were less likely to have received age-appropriate vaccines (required for school entry) at the 7 and 19 month checkpoints. However:
 - The sample size for Black students was small (300).
 - Only the disparity at the 7 month checkpoint was consistently seen across past years of the Kindergarten Retrospective Survey.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

CALIFORNIA 7 TH GRADE ASSESSMENT	
Frequency of Publication	<ul style="list-style-type: none"> Annually
File Location	<ul style="list-style-type: none"> http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx
Geographic Level	<ul style="list-style-type: none"> California (statewide) County By School (if school has 10 or more students enrolled in the grade range)
Data Collection Methods	<ul style="list-style-type: none"> Schools complete assessment reports, using immunization data collected from students' immunization records.
Notable Limitations	<ul style="list-style-type: none"> Does not collect race/ethnicity data Only provides estimates for vaccines required for school entry Dependent on accuracy of information that is self-reported from schools
Age Ranges	<ul style="list-style-type: none"> Children (7-12th grade students for 2011-2012; 7th grade students only in subsequent years)
Vaccines Included	<p>Vaccines required for 7th grade entry:</p> <ul style="list-style-type: none"> Tdap (or DTaP or DTP) on or after 7th birthday
Income Level	<ul style="list-style-type: none"> Not collected.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Not collected.
Other Factors	<ul style="list-style-type: none"> No other SES indicators are collected.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Personal Beliefs Exemption Rates are reported.
Race/Ethnicity Categories	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity.
Selected Examples of Statistically Significant Disparities	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity or SES factors.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

NATIONAL IMMUNIZATION SURVEY (NIS)	
Frequency of Publication	<p>CHILDREN AND ADOLESCENTS</p> <ul style="list-style-type: none"> • Annually • Most recently published data: 2011 <p>ADULTS</p> <ul style="list-style-type: none"> • Not Routinely Administered. Most recent published data: 2007
File Location	<ul style="list-style-type: none"> • www.cdc.gov/nchs/nis/about_nis.htm
Geographic Level	<ul style="list-style-type: none"> • National • California (statewide)
Data Collection Methods	<ul style="list-style-type: none"> • Random digit dialing telephone survey • Has included cell phones since 2011 • Results are validated through a provider record review.
Notable Limitations	<ul style="list-style-type: none"> • Small sample sizes and wide confidence intervals for state estimates • Not comparable from year-to-year because of dual frame sampling • Exclusion of households without telephone service • Non-response bias, which may persist even after weighting • Recall bias minimized by exclusive use of provider reported vaccinations
Age Ranges	<p>CHILDREN</p> <ul style="list-style-type: none"> • Children (19- 35 months of age) <p>ADOLESCENTS</p> <ul style="list-style-type: none"> • Adolescents (13-17 years of age) <p>ADULTS</p> <ul style="list-style-type: none"> • All adults ages 18 years of age and older

Vaccines Included

CHILDREN

- DTaP
- Polio
- MMR
- Hib
- Hepatitis A
- Hepatitis B
- Varicella
- PCV
- Rotavirus

ADOLESCENTS

- MMR
- Hepatitis B
- Meningitis
- Td
- Tdap
- HPV

ADULTS

- Influenza
- Pneumococcal
- Td
- Tdap
- Shingles
- HPV
- Hepatitis A
- Hepatitis B

Income Level

CHILDREN AND ADOLESCENTS

- Collected. Immunization rates by poverty level (above poverty level or below poverty level) are reported.

Educational Level

CHILDREN AND ADOLESCENTS

- Collected but immunization rates are not reported by education level.

Insurance Status	<p>CHILDREN</p> <ul style="list-style-type: none"> Collected, but immunization rates are not reported by insurance status. However, immunization rates are reported by VFC status. <p>ADOLESCENTS</p> <ul style="list-style-type: none"> Collected. Immunization rates are reported by insurance status.
Other Factors	<p>The following indicators are collected:</p> <ul style="list-style-type: none"> WIC participation (children only) VFC status Number of adults and children in household Maternal marital status, race/ethnicity, age, and address. However, of these indicators, immunization rates are only reported by WIC participation and VFC status.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Not collected.
Race/Ethnicity Categories	<p>Immunization rates are reported for the following groups:</p> <p>CHILDREN</p> <ul style="list-style-type: none"> White-only, non-Hispanic Black-only, non-Hispanic Hispanic American Indian or Alaska Native- only, non-Hispanic Asian-only, non-Hispanic Native Hawaiian or Pacific Islander-only, non-Hispanic Multiple race- non-Hispanic <p>ADOLESCENTS</p> <ul style="list-style-type: none"> White-only, non-Hispanic Black-only, non-Hispanic Hispanic American Indian or Alaska Native - only, non-Hispanic Asian only- non-Hispanic <p>ADULTS</p> <ul style="list-style-type: none"> White Black Hispanic

**Selected
Examples of
Statistically
Significant
Disparities**

CHILDREN

- African Americans were less likely to have received 4+ DTaP, 3+ Hib, 4+ PCV, rotavirus and 4:3:1:3:3:1:4 than Whites. (Did not persist after adjustment for poverty status)
- American Indians/Alaskan Natives were less likely to have received 4+ DTaP and 4+ PCV than Whites. (Persisted after adjustment for poverty status)
- Whites were less likely to have received 1+ Hep B, varicella, & 2+ HepA doses than Hispanics.
- Children living below the poverty line were less likely to have received 3+ DTaP, 4+ DTaP doses, and the full Hib series.

ADOLESCENTS

- Whites had lower rates for 1+ Tdap than Asians and lower rates for 1+ meningococcal vaccine than Asians, African Americans, and Hispanics.

ADULTS

- African Americans >65 years of age were less likely to have received a pneumococcal vaccine than Whites.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

NATIONAL HEALTH INTERVIEW SURVEY (NHIS)	
Frequency of Publication	<ul style="list-style-type: none"> Selected early estimates: Quarterly Raw data for all survey questions: Released in late June in the year following data collection.
File Location	<ul style="list-style-type: none"> http://www.cdc.gov/nchs/nhis.htm
Geographic Level	<ul style="list-style-type: none"> National (Early Release Reports) Raw data can be requested but it is not evident whether sample sizes are large enough to generate California-level or County-level rates.
Data Collection Methods	<ul style="list-style-type: none"> Door-to-door in-home survey Results are not validated through a provider record review.
Notable Limitations	<ul style="list-style-type: none"> Subject to sampling and recall error Pre-2003 results may not be comparable to later results due to methodological changes Exclusion of statewide and regional data in Early Release Reports
Age Ranges	<ul style="list-style-type: none"> All age groups. Early Release Reports include data only for selected ranges.
Vaccines Included	CHILDREN <ul style="list-style-type: none"> Influenza Count of all vaccines received
	ADULTS <ul style="list-style-type: none"> Influenza Pneumococcal Hepatitis A Hepatitis B Shingles Td Tdap HPV
Income Level	<ul style="list-style-type: none"> Collected but immunization rates are not reported by income level.
Educational Level	<ul style="list-style-type: none"> Collected but immunization rates are not reported by educational level.
Insurance Status	<ul style="list-style-type: none"> Collected but immunization rates are not reported by insurance status.

Other Factors

The following indicators are collected:

- Work status
- Usual source of care
- Access to care
- Marital status
- Healthcare utilization
- Place of birth
- Residence
- Citizenship

However, immunization rates not reported by these indicators.

Vaccine Attitudes and/or Beliefs

- Not collected.

Race/Ethnicity Categories

Immunization rates are reported in the Early Release reports only for the following populations:

- Hispanic/ Latino
- Non-Hispanic/ Latino, White
- Non-Hispanic/ Latino, Black or African American.

Data for additional groups may be available in raw datasets.

Selected Examples of Statistically Significant Disparities

CHILDREN AND ADOLESCENTS

- **FLU:** Whites were less likely to be vaccinated than Hispanics.

ADULTS

- **FLU:** African Americans & Hispanics were less likely to be vaccinated than Whites.
- **HEPATITIS A:** African Americans and Hispanics were less likely to be vaccinated than Asians.
- **SHINGLES:** African Americans were less likely to be vaccinated than Whites and Asians.
- **PNEUMOCOCCAL:** African Americans and Hispanics were less likely to be vaccinated than Whites.
- **HPV:** Hispanics were less likely to be vaccinated than Whites and African Americans.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

CALIFORNIA IMMUNIZATION REGISTRY (CAIR)	
Frequency of Publication	<ul style="list-style-type: none"> Not publicly available Some data can be gathered from the CDC's Information System Annual Progress Report (IISAR), which is published annually, most recently in 2011.
File Location	<ul style="list-style-type: none"> www.cairweb.org www.cdc.gov/vaccines/programs/iis/annual-report-iisar/
Geographic Level	<ul style="list-style-type: none"> Regional Data from all 10 regions is included in the IISAR reports. (Northern California, Greater Sacramento Area, Bay Area, San Joaquin Valley, Central Valley, Central Coast, Los Angeles-Orange, Inland Empire, San Diego, and Imperial County)
Data Collection Methods	<ul style="list-style-type: none"> Electronic import of demographic information from the Automated Vital Statistics System (AVSS) Manual entry of immunization data by providers, schools, and public health employees. Data exchange of EHR and EMR data (daily or weekly basis)
Notable Limitations	<ul style="list-style-type: none"> Subject to considerable selection biases with many groups being under- or un-represented including those with private insurance, non-school aged children, areas with low CAIR participation, regions that use non-CAIR software products, etc. Issues of timeliness and completeness
Age Ranges	<ul style="list-style-type: none"> All age groups. CAIR initially focused on children 0-18 years of age but patients have aged into adulthood and adult records are now also entered into the registry.
Vaccines Included	<ul style="list-style-type: none"> Any vaccine may be entered into CAIR. Historically, data reports have focused on childhood vaccinations and vaccines in the 4:3:1 series. Current reports focus on the 4:3:1:3:3:1:4 series.
Income Level	<ul style="list-style-type: none"> Not collected, but Medi-Cal, WIC, or VFC could be used as proxies.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Not collected. However, Medi-Cal or VFC eligibility could be used as proxies.
Other Factors	<ul style="list-style-type: none"> No other SES indicators are collected.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Identifies vaccines that are refused, deferred for various reasons, or contraindicated (waiver field). Data on Personal Beliefs Exemptions is not collected.
Race/Ethnicity Categories	<ul style="list-style-type: none"> 35 race/ethnicity categories are offered as options in CAIR. Immunization rates are not reported by race/ethnicity.
Selected Examples of Statistically Significant Disparities	<ul style="list-style-type: none"> Immunization rates are not reported by race/ethnicity or SES factors.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

HEALTHCARE EFFECTIVENESS DATA AND INFORMATION SET (HEDIS)	
Frequency of Publication	<ul style="list-style-type: none"> Annually (June) Most recent published data: 2011
File Location	<ul style="list-style-type: none"> www.ncqa.org/HEDISQualityMeasurement.aspx
Geographic Level	<ul style="list-style-type: none"> National California (statewide)
Data Collection Methods	<ul style="list-style-type: none"> Administrative data: electronic records of services such as insurance claims and registration systems Hybrid data: review of insurance claims or automated immunization records
Notable Limitations	<ul style="list-style-type: none"> Possible conflict of interest because NCQA works closely with managed-care industry Incomplete reporting of HEDIS measures, resulting in a lack of representativeness
Age Ranges	<ul style="list-style-type: none"> Children (under 2 years of age) Adolescents (10 -13 years of age)
Vaccines Included	<p>CHILDREN</p> <ul style="list-style-type: none"> DTaP/DT Polio MMR Hib Hepatis A Hepatitis B <p>ADOLESCENTS</p> <ul style="list-style-type: none"> Meningococcal Tdap HPV
Income Level	<ul style="list-style-type: none"> Collected as payor source, but immunization rates are not reported by income level.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Collected as payor source, but immunization rates are not reported by insurance status.
Other Factors	<ul style="list-style-type: none"> Immunization rates are not reported by demographic or socioeconomic indicators.

**Vaccine Attitudes
and/or Beliefs**

- Not Collected.

**Race/Ethnicity
Categories**

- Immunization rates are not reported by race/ethnicity.

**Selected
Examples of
Statistically
Significant
Disparities**

- Immunization rates are not reported by race/ethnicity or other SES factors.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

REACH US RISK FACTOR SURVEY

Frequency of Publication	<ul style="list-style-type: none"> Completed only for 2009, 2010, 2011, and 2012
File Location	<ul style="list-style-type: none"> Not publicly available
Geographic Level	<ul style="list-style-type: none"> Service Planning Area 6 (South Los Angeles)
Data Collection Methods	<ul style="list-style-type: none"> Telephone survey with mailed survey (address-based sampling frame sequence file) for households with no matching land or cell phone number
Notable Limitations	<ul style="list-style-type: none"> Use of mixed methods, with the addition of mailed surveys and for earlier rounds, in person surveys Age groups surveyed introduce an "older adult" bias, due to longer than expected lifespan Response bias for telephone and mailed survey Recall bias, since the survey relies on recall and self-report
Age Ranges	<ul style="list-style-type: none"> Adults (18 years of age and older)
Vaccines Included	<ul style="list-style-type: none"> Influenza Pneumococcal
Income Level	<ul style="list-style-type: none"> Not collected.
Educational Level	<ul style="list-style-type: none"> Collected, but immunization rates are not reported by educational level.
Insurance Status	<ul style="list-style-type: none"> Not collected.
Other Factors	<p>The following indicators are collected:</p> <ul style="list-style-type: none"> Place of birth Gender Age Number of adults in the household Languages spoken at home Regular type of telephone service <p>However, immunization rates not reported by these indicators.</p>
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> Not Collected.
Race/Ethnicity Categories	<p>Immunization rates are reported for the following groups:</p> <ul style="list-style-type: none"> African American Hispanic

ADULTS OVER 65 YEARS OF AGE

- African Americans were less likely to have received an annual influenza vaccination than Hispanics.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

INSURANCE STATUS

Frequency of Publication	<ul style="list-style-type: none"> California Healthcare Almanac: Published on an ongoing basis. Covering Kids: Children's Health Insurance in California: Published in 2012.
File Location	<ul style="list-style-type: none"> http://www.chcf.org/almanac#ixzz2PcR0CwQj
Geographic Level	<ul style="list-style-type: none"> California (statewide)
Data Collection Methods	<ul style="list-style-type: none"> Extracted from the US Census Bureau CPS, CHIS, etc.
Notable Limitations	<ul style="list-style-type: none"> Uses data from a range of sources with varied sampling sizes, chronologies and methodologies Different methodologies for estimating the number of uninsured for CPS and CHIS included.
Age Ranges	<ul style="list-style-type: none"> Children and Adolescents (0- 18 years of age)
Vaccines Included	<p>Receipt of all of the following vaccines by two years of age:</p> <ul style="list-style-type: none"> DTaP/DT Polio MMR Hib Hepatitis B Varicella
Income Level	<ul style="list-style-type: none"> Collected. Examines insurance status by family income, sources of insurance and sources of care. However, immunization rates are not reported by income level.
Educational Level	<ul style="list-style-type: none"> Not collected.
Insurance Status	<ul style="list-style-type: none"> Collected. Immunization rates are reported by Medi-Cal and Healthy Families participation. Additional information is available through more narrowly focused studies that were not included on this summary due to the focus, sample, size, lack of generalizability.
Other Factors	<p>Insurance status is reported by:</p> <ul style="list-style-type: none"> Ethnicity Citizenship status Age of child. <p>However, immunization rates are not reported by these indicators.</p>

Vaccine Attitudes and/or Beliefs

- Not Collected.

Race/Ethnicity Categories

Insurance coverage is reported for:

- Latino
- White
- Asian
- African American
- Other

Ethnicity data not available for all sources (CalKids and Healthy Kids Programs).

Selected Examples of Statistically Significant Disparities

- While Hispanics constitute just over 1/2 of all children in California, they represent 2/3 of uninsured children.
- Uninsured children are far more likely than those with coverage to have needed care delayed or to not receive care.
- Insured children, including those covered by Medi-Cal, are more likely to visit a hospital emergency room than are uninsured children.
- California's proportion of children without coverage is higher than the national average and most other states.

APPENDIX C: DATA SOURCE SUMMARY SHEETS

MORBIDITY AND MORTALITY

Frequency of Publication	<ul style="list-style-type: none"> • CalREDIE: Available online for CalREDIE users (local health jurisdictions) • California Cancer Registry (CCR): Published annually.
File Location	<ul style="list-style-type: none"> • CalREDIE: https://calredie.cdph.ca.gov/WEBCMR/Pages/Login/login.aspx (Login and password required). • California Cancer Registry (CCR): http://www.cdph.ca.gov/data/informatics/tech/Pages/CDQS.aspx
Geographic Level	<ul style="list-style-type: none"> • CalREDIE: 53 local health jurisdictions (as of April 1, 2013) • Los Angeles, San Francisco, San Diego, and Alameda counties are among 8 jurisdictions not participating • CCR: All California areas that report cancer incidence data.
Data Collection Methods	<ul style="list-style-type: none"> • CalREDIE: Collected by local health jurisdiction using multiple sources, including one-on-one patient interview (often using case report form as survey tool), lab reports, medical charts, immunization records, etc. • CCR: Reported by hospitals/ facilities providing cancer therapy and providers diagnosing or providing cancer treatment
Notable Limitations	<ul style="list-style-type: none"> • CalREDIE <ul style="list-style-type: none"> ○ Reported cases only. Under-diagnosis, underreporting, and misdiagnosis are possible. ○ Diagnostic testing & case defs. can change over time. Ex: introduction of a more sensitive test (i.e., PCR for pertussis) may increase reported cases. • CCR <ul style="list-style-type: none"> ○ Cancers can be caused by conditions not preventable by vaccination. ○ Vaccination status for cancer cases is not known. ○ There may not be a correlation between county vaccination rates & cancer rates, since cases may be vaccinated in one county & reported in another. ○ Possible cancer misdiagnosis & underdiagnosis/reporting.
Age Ranges	<ul style="list-style-type: none"> • CalREDIE: All ages in most cases. Some diseases are only reportable by age criteria set by the disease case definition. For example, invasive Hib disease only reportable for children under 15 years of age. • CCR: All age groups.
Vaccines Included	<ul style="list-style-type: none"> • Report of VPD morbidity and mortality, not immunization rates. • CalREDIE <ul style="list-style-type: none"> ○ Reportable VPD diseases: diphtheria; Hib invasive disease in child <15 yrs of age; acute hep. A; acute, chronic, & perinatal hepatitis B; measles; influenza (deaths in persons 0-64 years of age; Neisseria meningitidis meningitis; pertussis; polio; rabies; smallpox; tetanus; and varicella (hospitalizations and deaths). • CCR: Cancer incidence & mortality. Cervical cancer in situ (precancer) is not reported.

Income Level	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected.
Educational Level	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected
Insurance Status	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected
Other Factors	<ul style="list-style-type: none"> • CalREDIE: Not collected in case investigation forms but could be collected in notes section of report. • CCR: County of residence at time of diagnosis/report.
Vaccine Attitudes and/or Beliefs	<ul style="list-style-type: none"> • CalREDIE: Not collected on case investigation forms but could be collected in notes section of report. • CCR: Not collected.
Race/Ethnicity Categories	<ul style="list-style-type: none"> • CalREDIE: Ethnicity <ul style="list-style-type: none"> ○ Hispanic/Latino ○ Non-Hispanic/Latino Race ○ African American/Black ○ White ○ Native American ○ Asian/Pacific Islander ○ Other (open text) <p>Multiple subcategories for Asian/PI: Asian Indian, Cambodian, Chinese, Filipino, Guamanian, Hawaiian, Japanese, Korean, Laotian, Samoan, Vietnamese, and Other with open field.</p> • CCR: <ul style="list-style-type: none"> ○ Hispanic ○ Black ○ White ○ Asian
Selected Examples of Statistically Significant Disparities	<ul style="list-style-type: none"> • CalREDIE: In analysis of the 2010 pertussis epidemic: <ul style="list-style-type: none"> ○ 9 of the 10 reported fatal cases were Hispanic infants. Hispanic infants are 52% of the CA birth cohort, yet 90% of pertussis-related deaths and 64% of infants <6 months of age with pertussis were Hispanic. ○ 67% of unvaccinated patients 6 months- 17 years of age with known race/ ethnicity were White. • CCR: Cervical Cancer age-adjusted incidence rate: <ul style="list-style-type: none"> ○ Hispanic: 10.5/100,000 (95% C.I.: 9.6-11.4) ○ White: 6.7/100,000 (95% C.I.: 6.2-7.3). ○ Liver cancer rate: Asian/PI: 14.4/100,000 (95% C.I.:13.4-15.6) ○ White: 5.9/100,000 (95% C.I.: 5.6-6.2)