

Maternal Child & Adolescent Health Indicators

MCAH Advisory Board Retreat
September 21, 2022

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Health Indicators Over The Life Course



Why Use Public Health Indicators?

- Reflect the state of health in a defined population
- Show larger issues that may require action
- Allow comparisons to larger, aggregate populations to subgroups
- Enable analysis of trends and progress towards goals (e.g., Health People 2030)
- Help identify upstream issues



Life Course Approach

- What happens at the start of life affects everything else
- Different indicators are important at different stages of growth and development
- Poverty and place play major roles
- Scholastic achievement, bullying, high school graduation, teen pregnancy have many implications for health as an adult



Maternal-Infant Indicators

Prenatal Care

Mental Health/Substance Use

Hospitalizations

Preterm Birth

Obesity and Gestational diabetes mellitus (GDM)

Poverty by City (under 18)

Federal Poverty Level (FPL) and Household Income

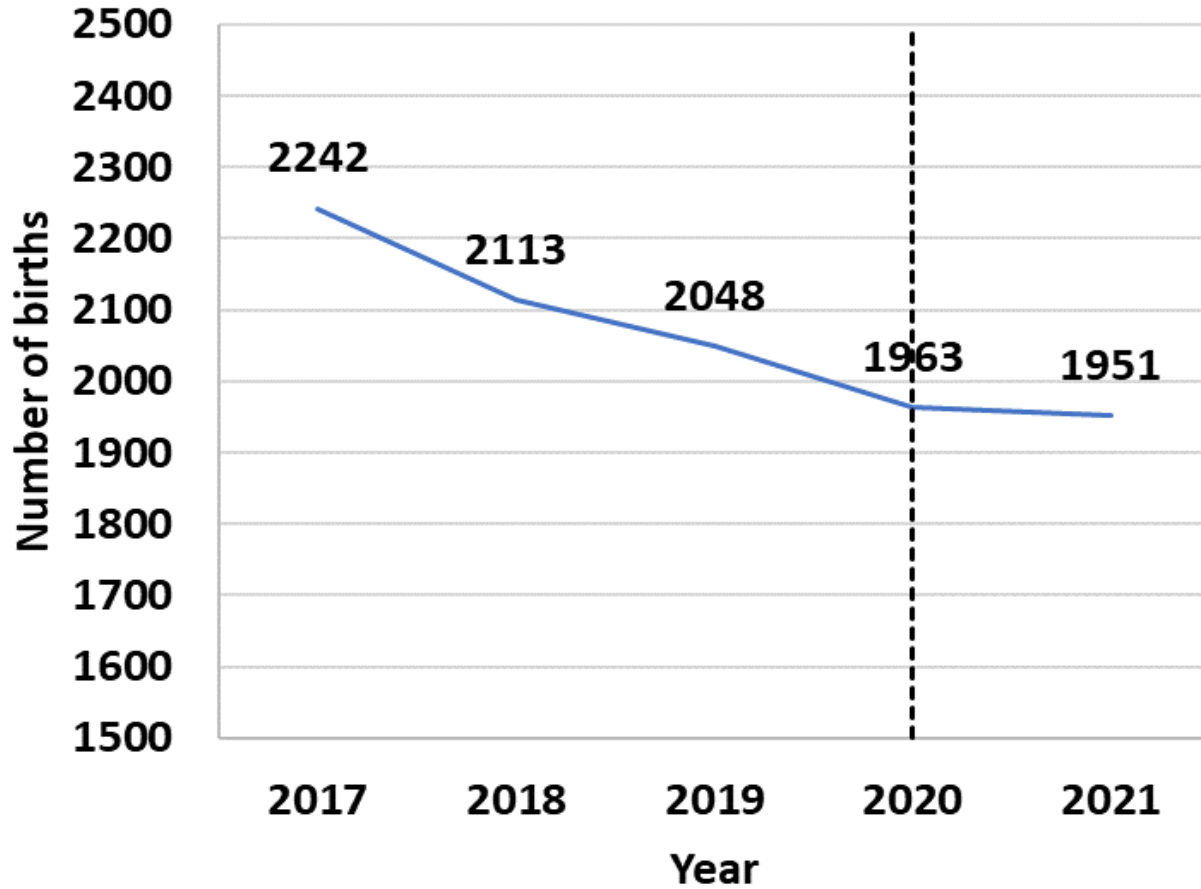
Breastfeeding Rates

Infant & Fetal Mortality

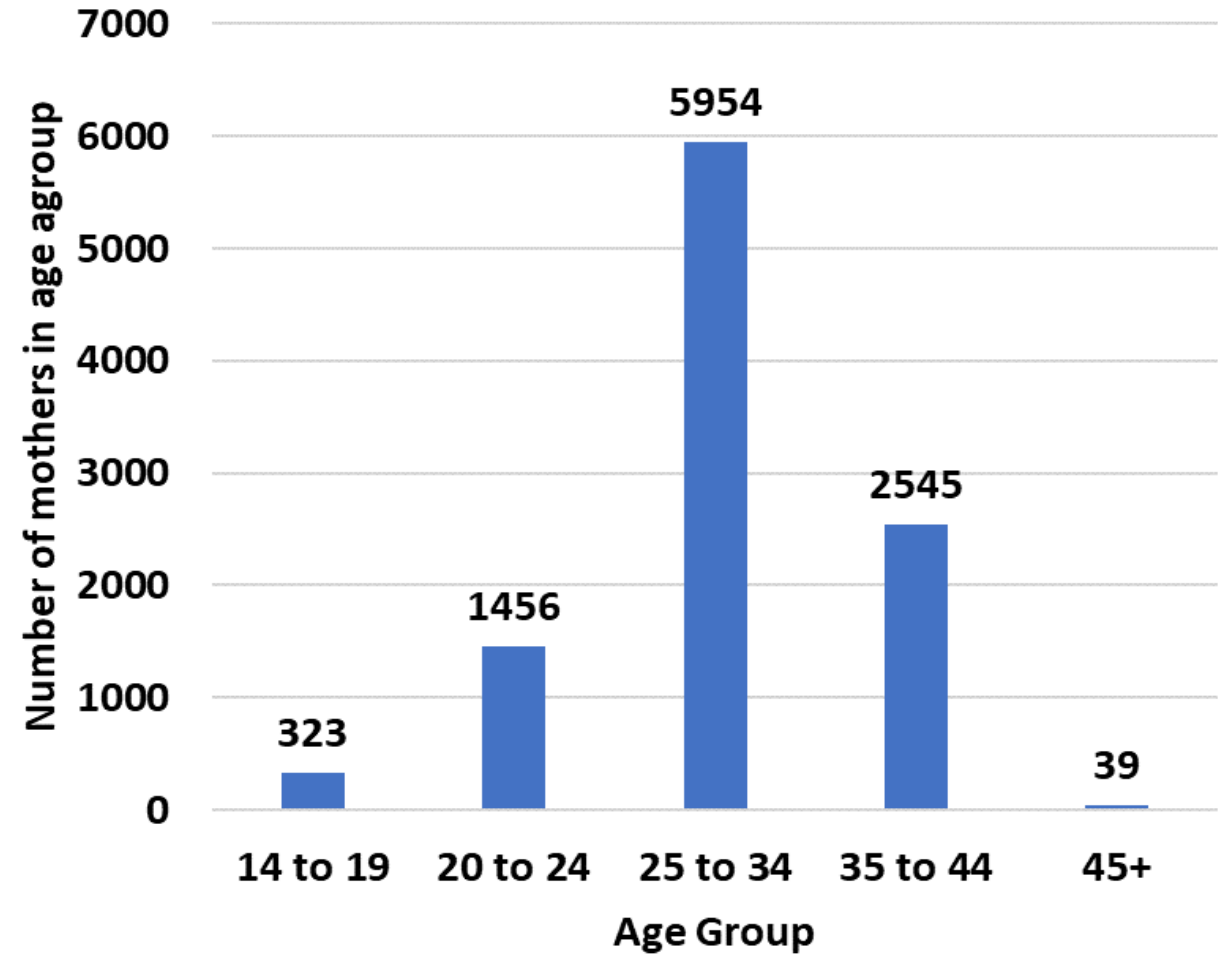


Descriptive Statistics of Total Births & Age in Yolo County, 2017-2021

Total Births in Yolo County, 2017-2021



Maternal Age in Yolo County, 2017-2021

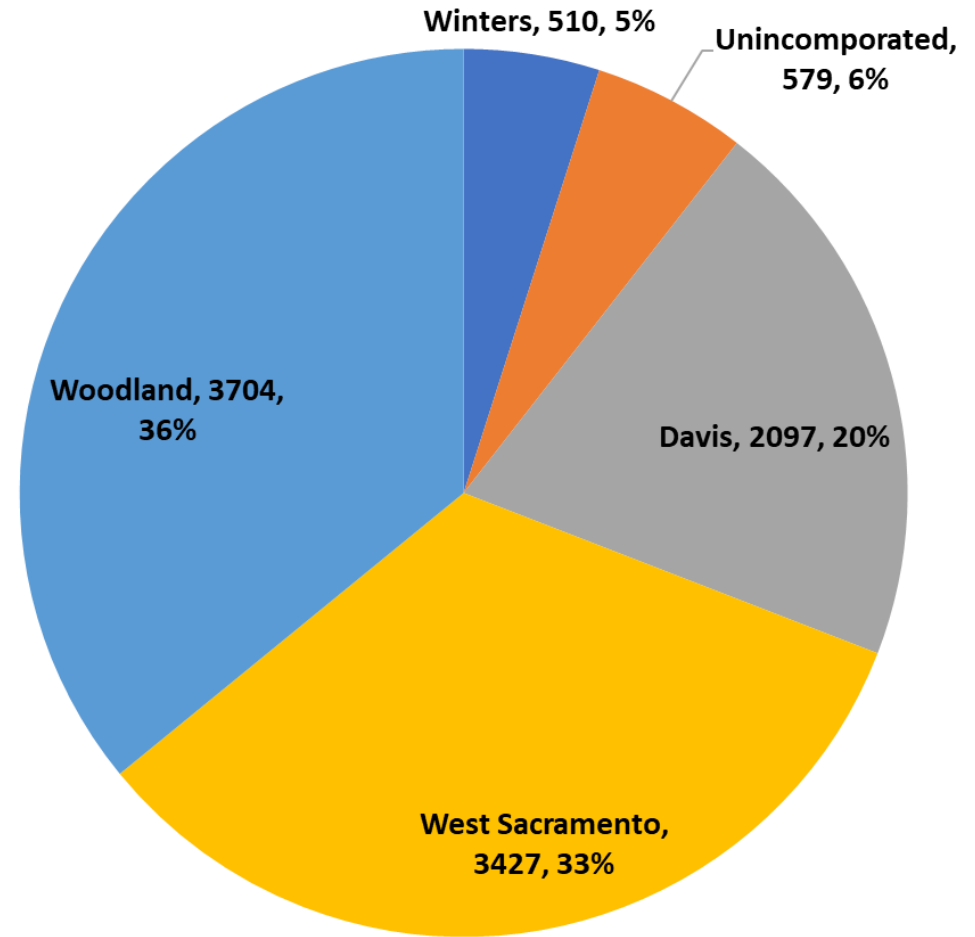
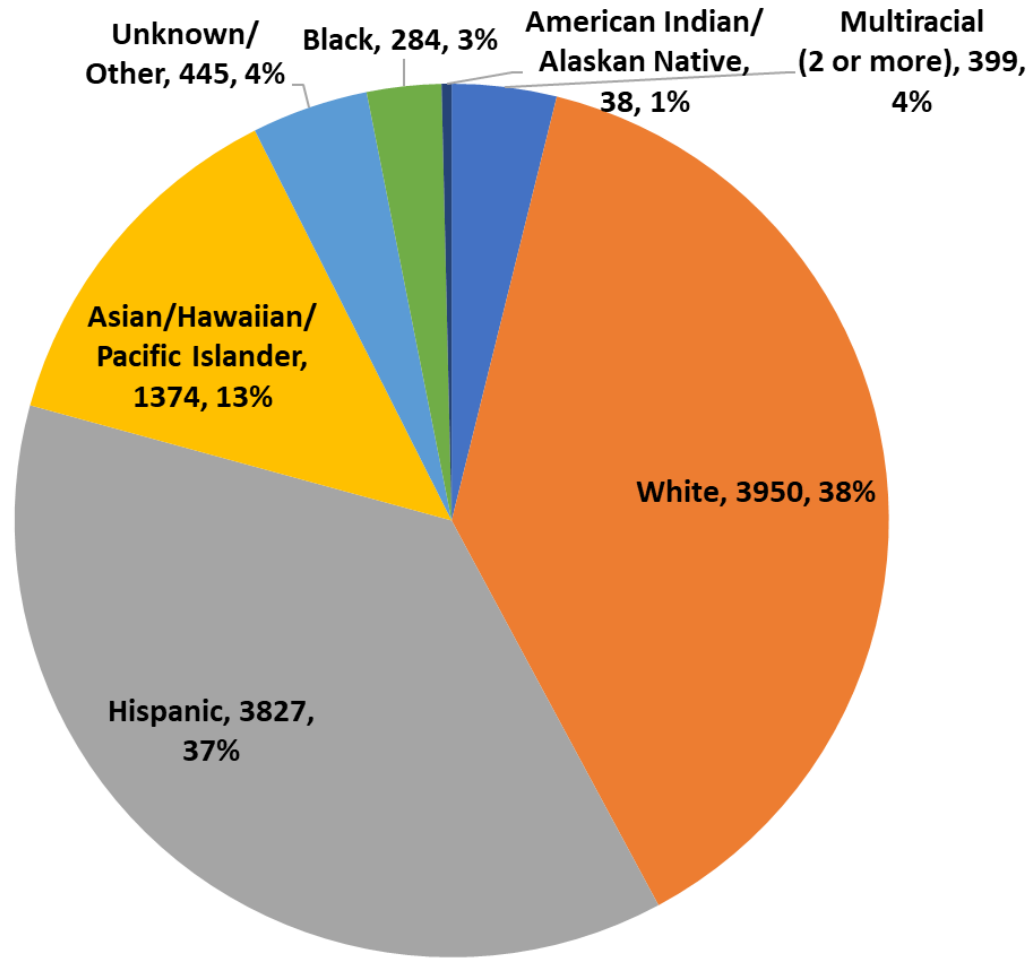


— All Ages - - - - Pandemic



Source: Vital Statistics (VRBIS)

Descriptive Statistics of Race & City in Yolo County, 2017-2021



Source: Vital Records (VRBIS); kidsdata.org (California), California Dept. of Public Health, [California Vital Data \(Cal-ViDa\) Query Tool](#) and Birth Statistical Master Files (Jun. 2022).

Descriptive Statistics for Births in Yolo County, 2012-*2022

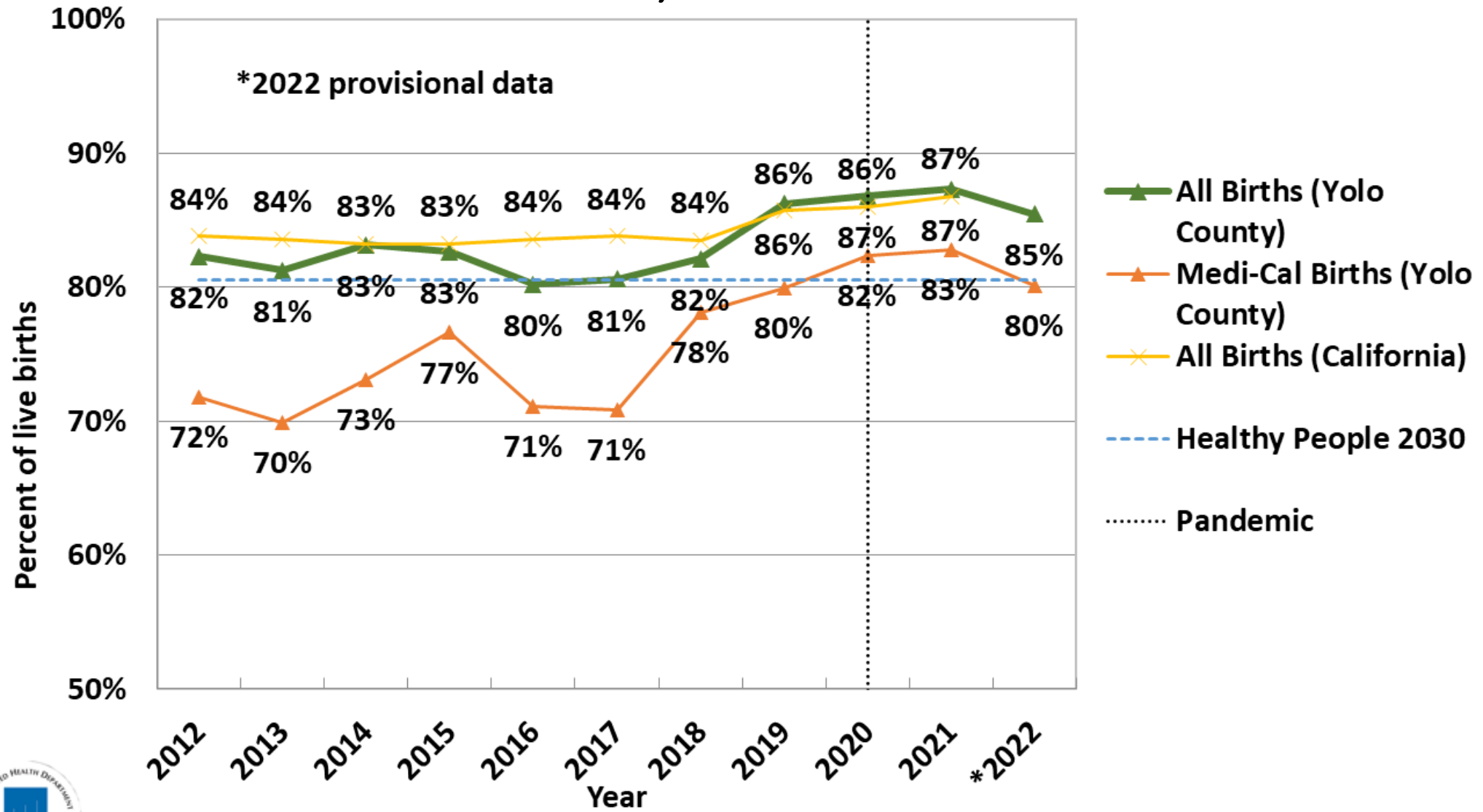
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	*2022	All Years
Maternal Age												
14	2	1				2	4					9
15 to 17	33	30	19	24	22	15	19	16	14	13	7	212
18 to 19	104	74	72	67	57	61	43	59	47	30	33	647
20 to 24	404	405	391	408	362	353	288	278	276	261	175	3601
25 to 34	1398	1431	1368	1360	1388	1276	1241	1204	1103	1130	745	13644
35 to 44	449	475	491	491	524	520	511	487	519	508	308	5283
45+	4	7	7	8	17	15	7	4	4	9	5	87
All Ages	2394	2423	2348	2358	2370	2242	2113	2048	1963	1951	1273	23483
Maternal Race/Ethnicity												
Multiracial (2 or more)	71	75	78	81	77	81	73	85	75	85	54	835
Hispanic	921	931	908	926	931	810	808	732	752	725	513	8957
American Indian/Alaskan Native	17	11	15	9	13	11	10	5	7	5	3	106
Asian	290	266	301	280	277	301	268	274	249	232	145	2883
Black	51	57	53	65	56	58	51	54	57	64	41	607
Other	2	3		2				4	3	6	4	24
White	993	1020	941	920	921	885	826	782	725	732	437	9182
Hawaiian/Pacific Islander	7	8	10	10	11	12	8	14	6	10	6	102
Not Stated or Unknown	42	52	42	65	84	84	69	98	89	92	70	787
All Races	2394	2423	2348	2358	2370	2242	2113	2048	1963	1951	1273	23483
Maternal City of Residence												
Davis	521	494	481	526	501	471	424	416	382	404	236	4856
Unincorporated	108	118	131	134	132	111	131	119	106	112	73	1275
West Sacramento	815	840	740	771	756	720	701	694	633	679	433	7782
Winters	100	124	121	104	136	103	109	98	105	95	66	1161
Woodland	850	847	875	823	845	837	748	721	737	661	465	8409
All Locations	2394	2423	2348	2358	2370	2242	2113	2048	1963	1951	1273	23483

*2022 provisional data

Source: Vital Records (VRBIS); kidsdata.org (California), California Dept. of Public Health, [California Vital Data \(Cal-ViDa\) Query Tool](#) and Birth Statistical Master Files (Jun. 2022).



1st Trimester Entry into Prenatal Care, Yolo County Resident Live Births, 2012-*2022



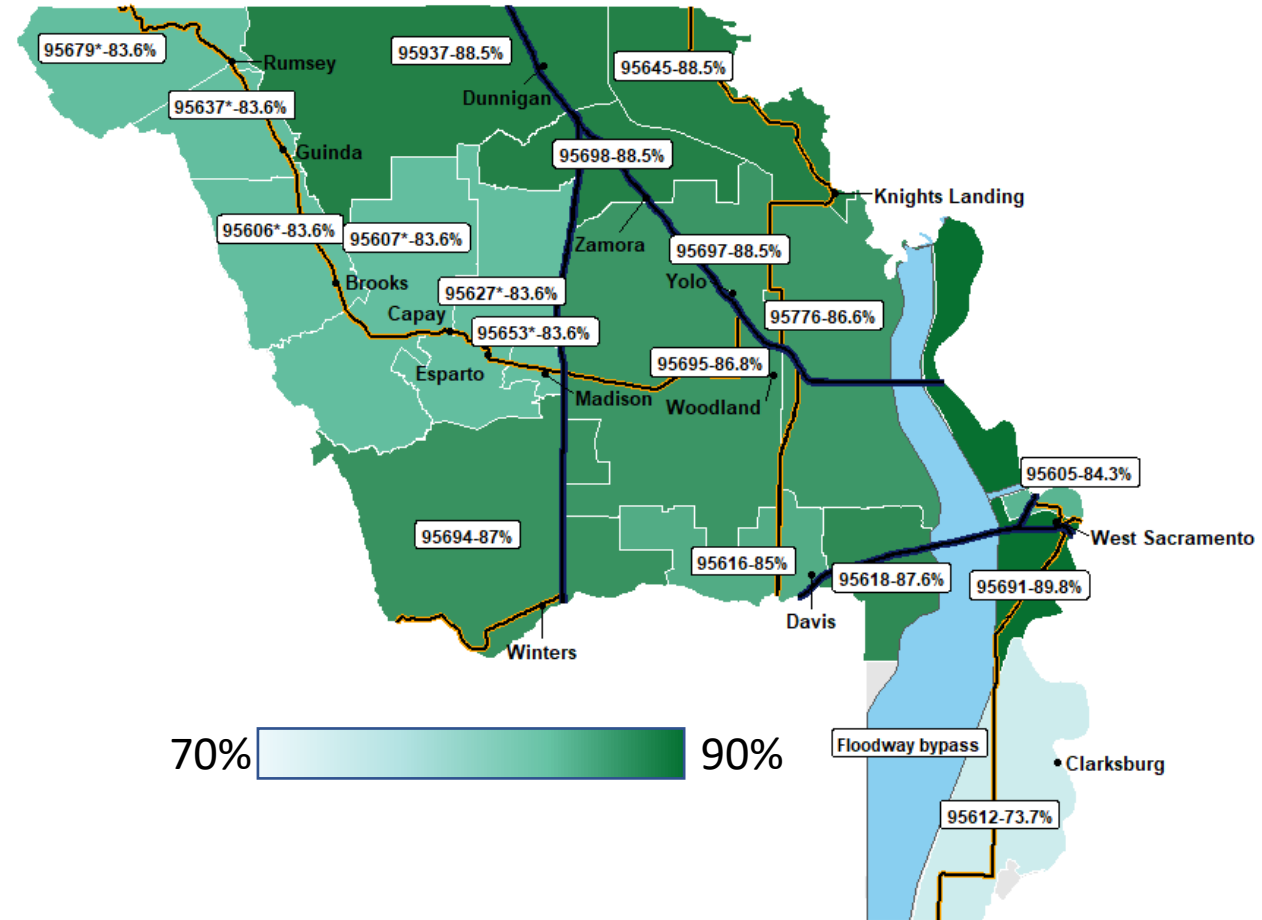
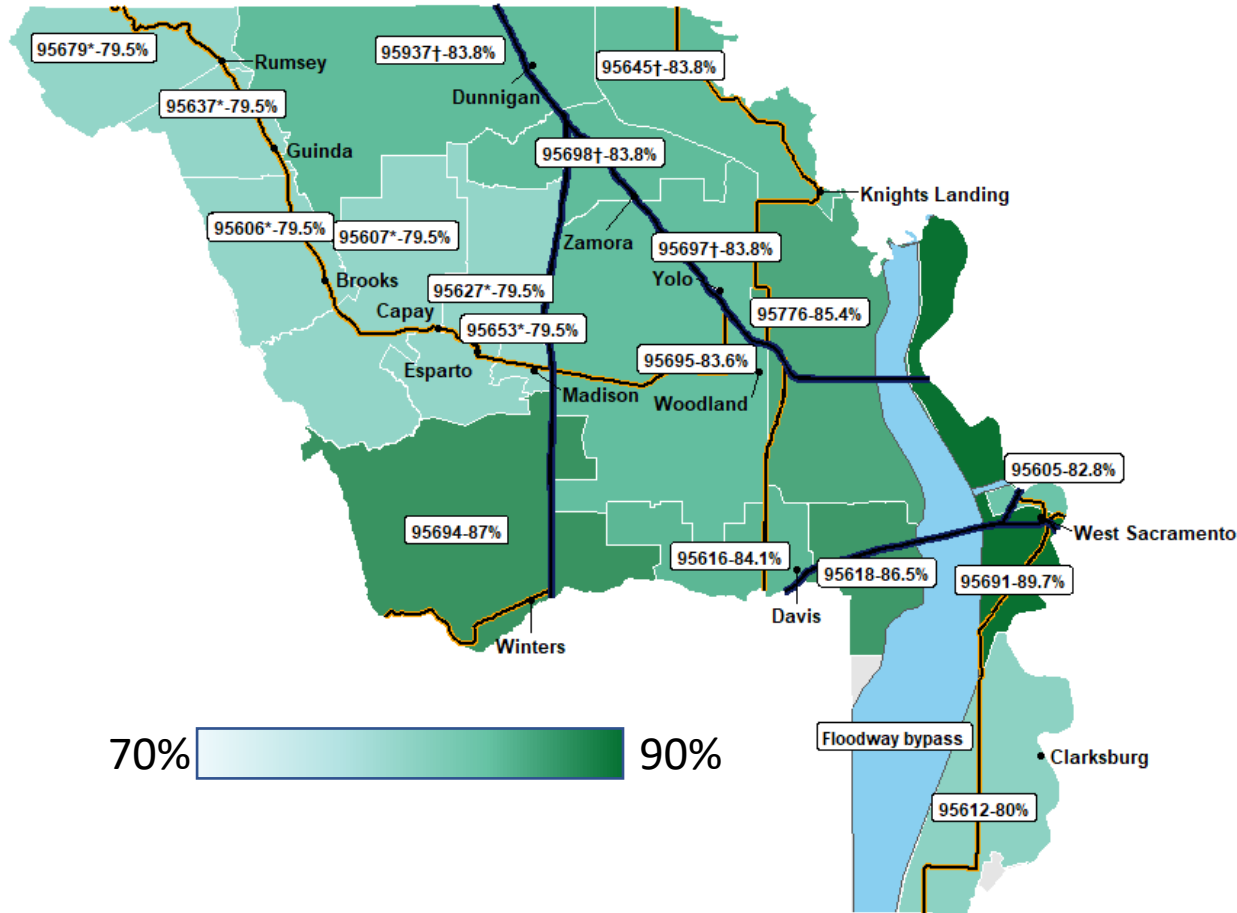
Source: Vital Records (VRBIS); kidsdata.org (California), California Dept. of Public Health, [California Vital Data \(Cal-ViDa\) Query Tool](#) and Birth Statistical Master Files (Jun. 2022).



Percent of Births with First-Trimester Prenatal Care by ZIP Code, Yolo County

2018-2019

2020-2021



Notes:

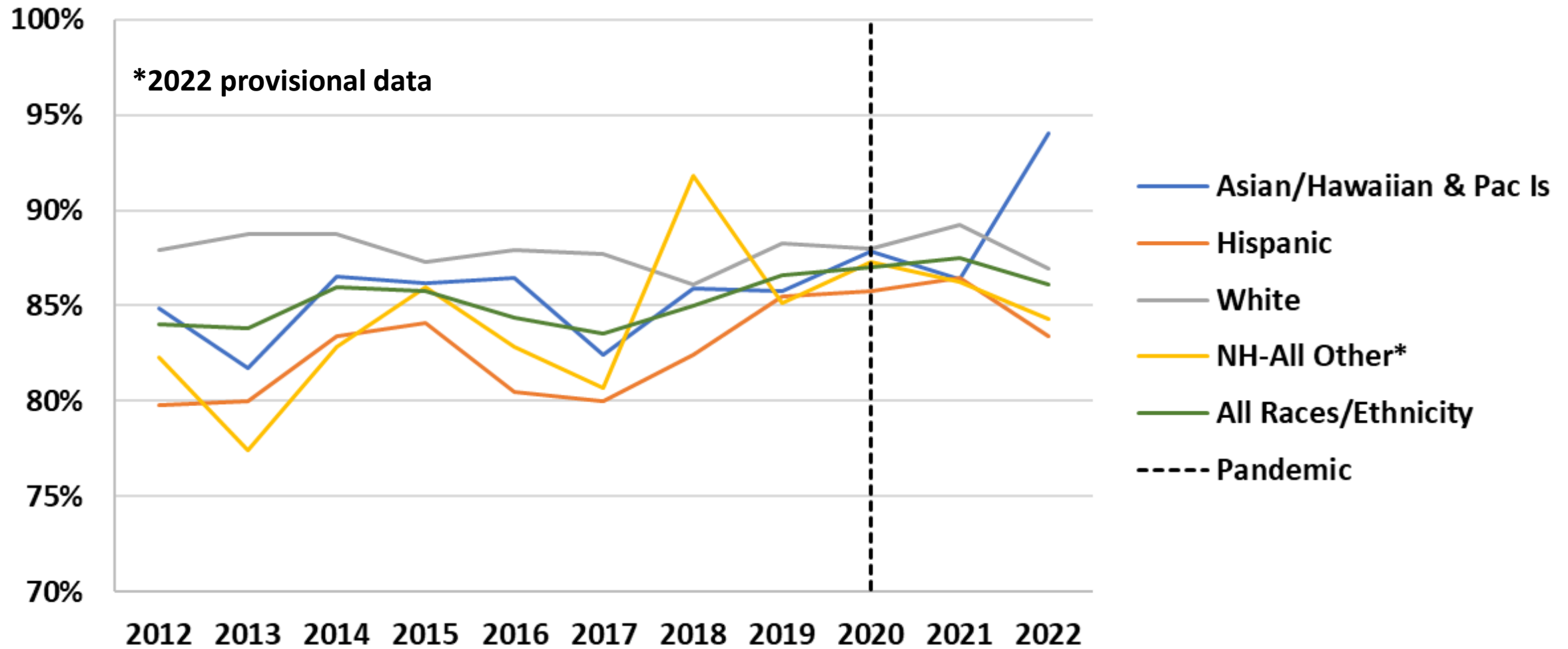
* Average across all Capay Valley zip codes

† Average across all North County zip codes

Source: Vital Records (VRBIS)



1st-Trimester Entry into Prenatal Care by Race-Ethnicity, Yolo County, 2012-*2022

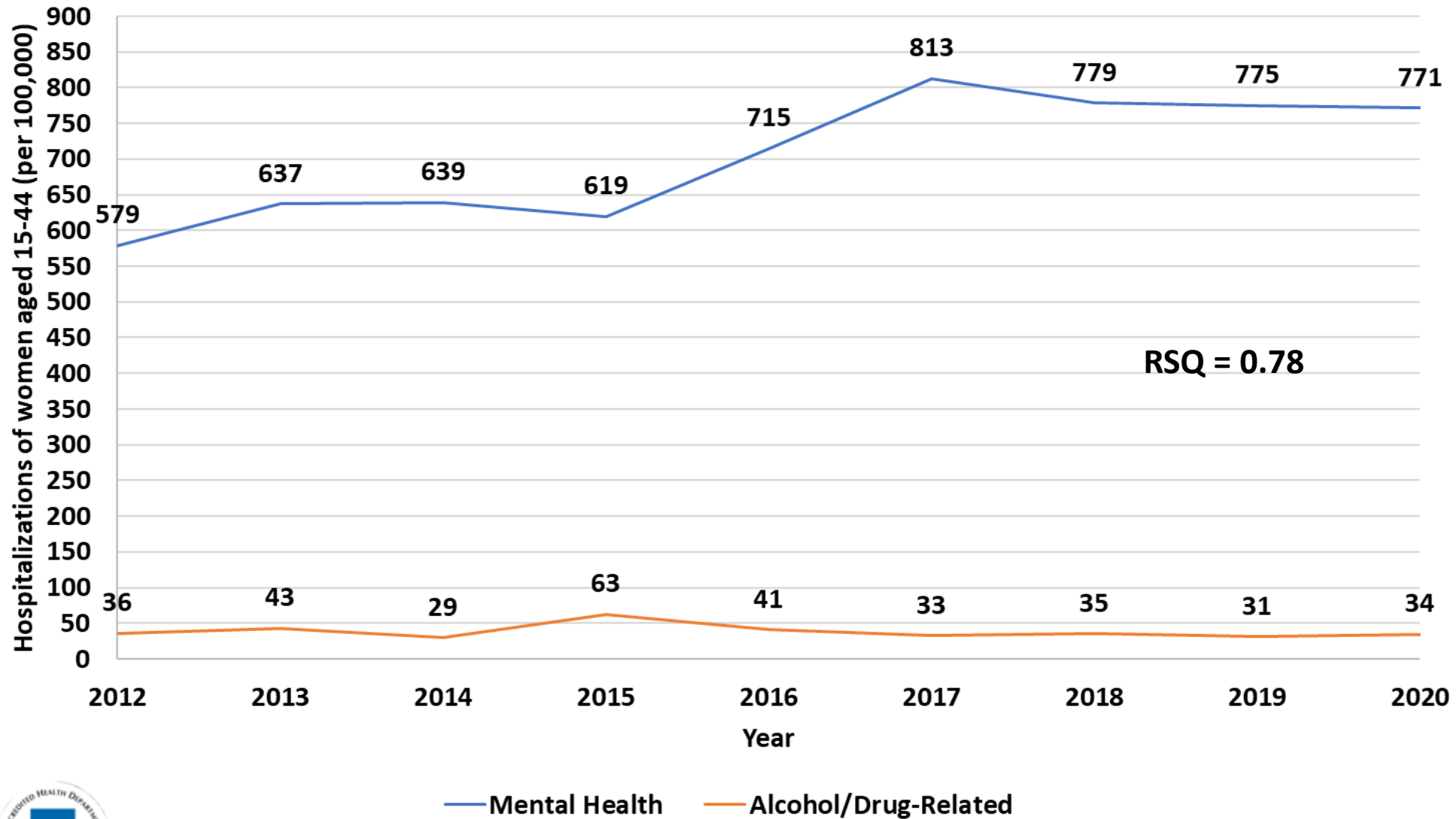


Note: NH-All Other* consists of American Indian/Alaskan Native, Black, Multiracial, & Other
 All Races/Ethnicity category excludes unknown or not stated

Source: Vital Records (VRBIS)

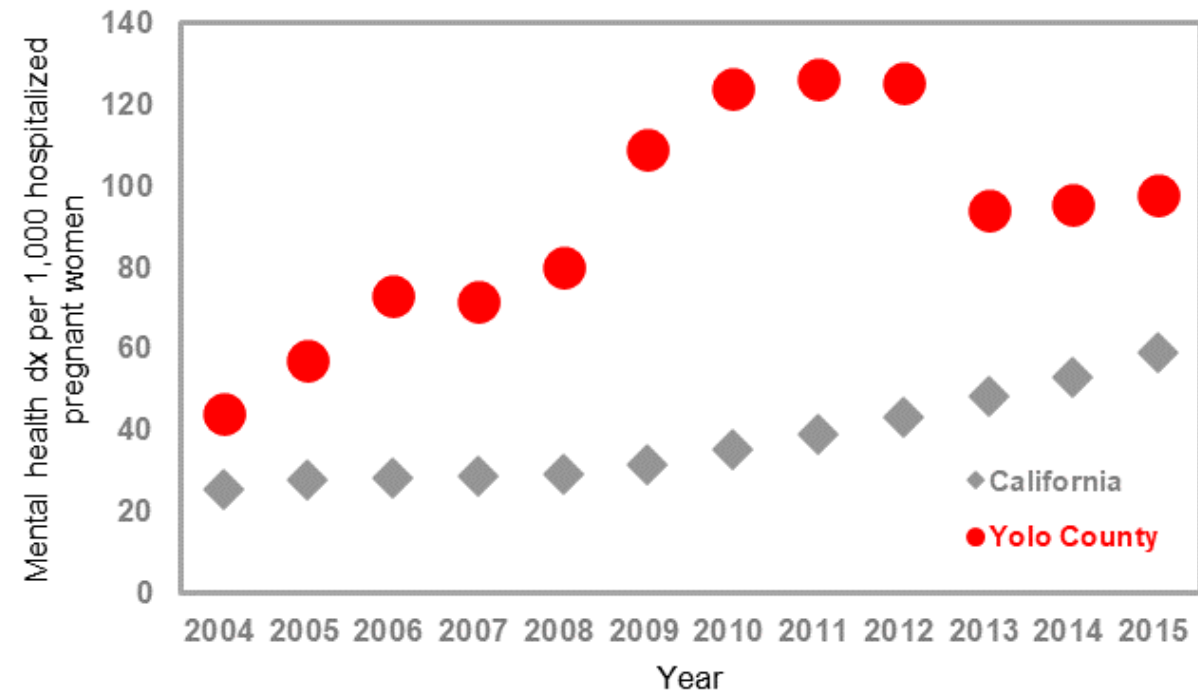


Hospitalization Rates for Mental Health & Alcohol/Drug Abuse in Women Aged 15-44, Yolo County, 2012 - 2020

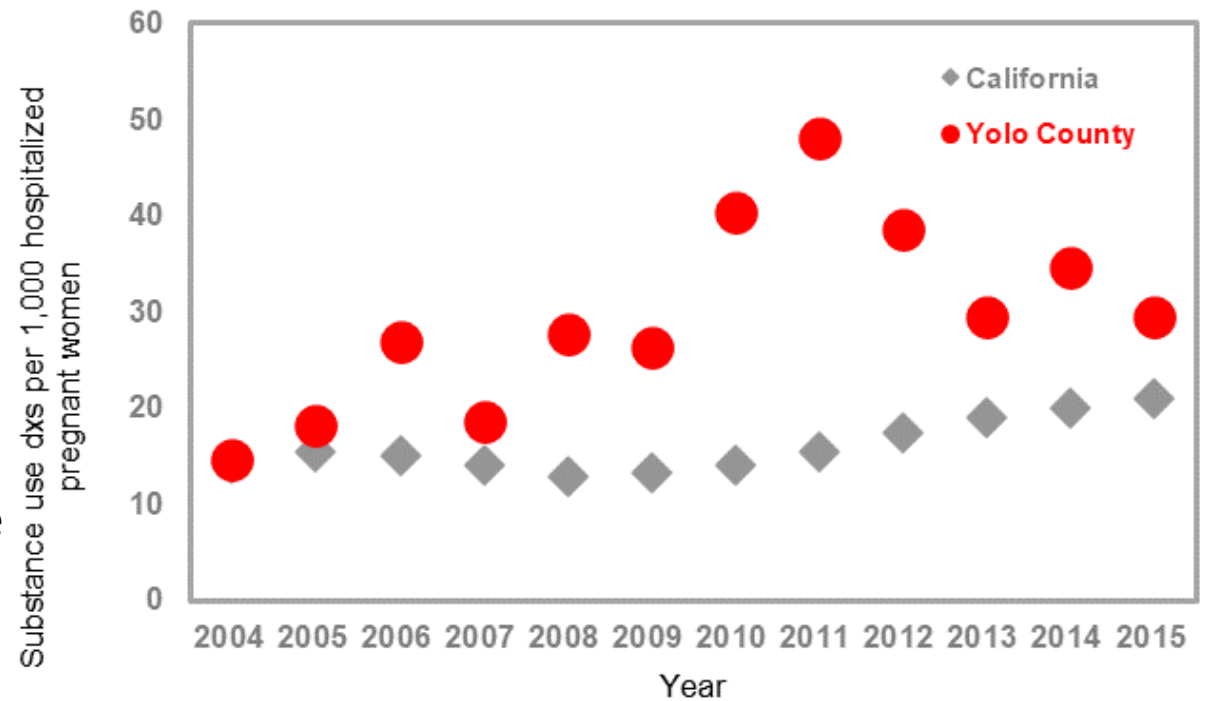


Source: Department of Health Care Access and Information (HCAI)

Hospitalization Rates for Pregnant Women with Mental Health/Substance Use Diagnoses vs California



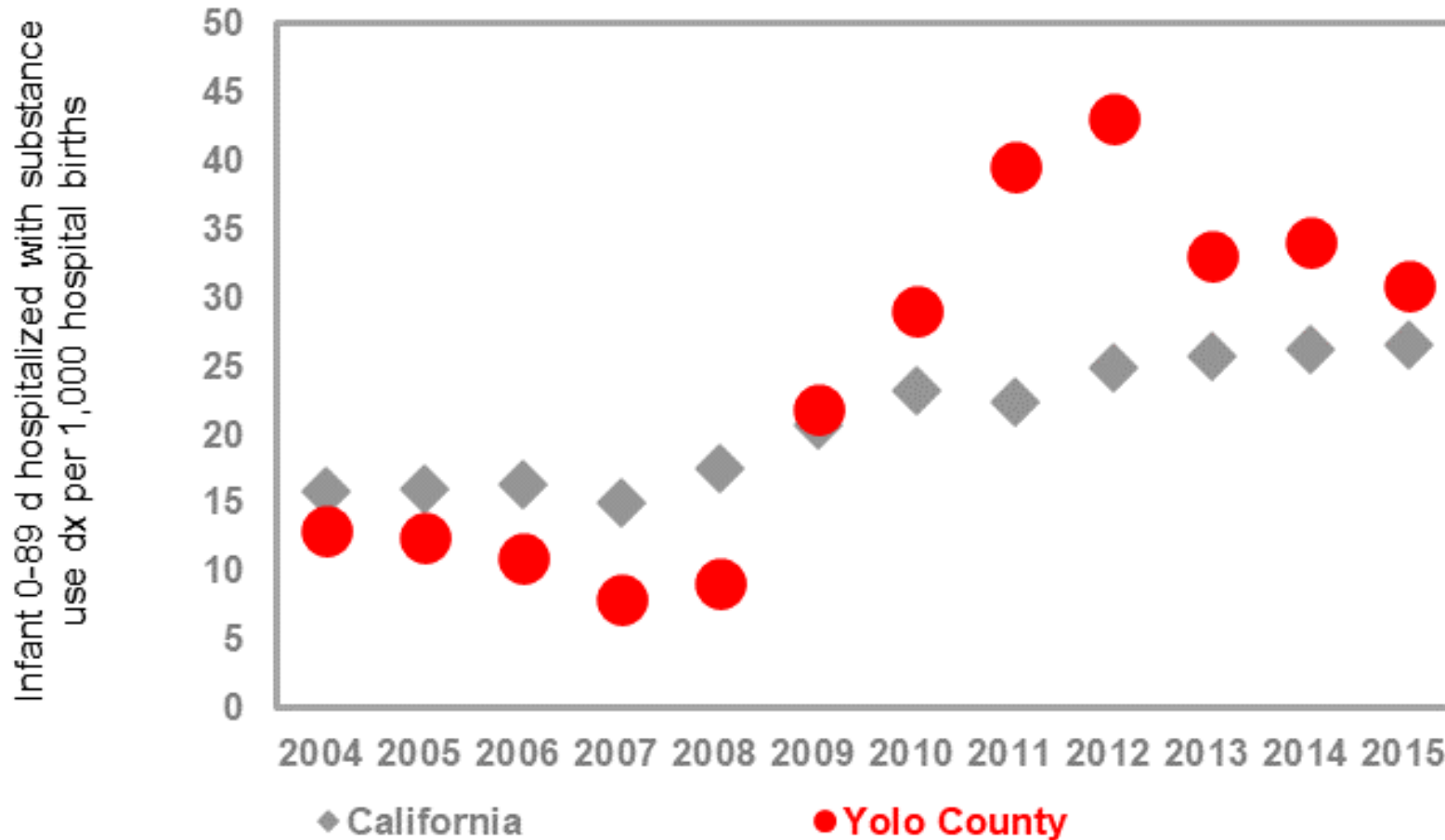
Hospitalizations for Mental Health diagnoses of pregnant women



Hospitalizations for substance use diagnoses of pregnant women



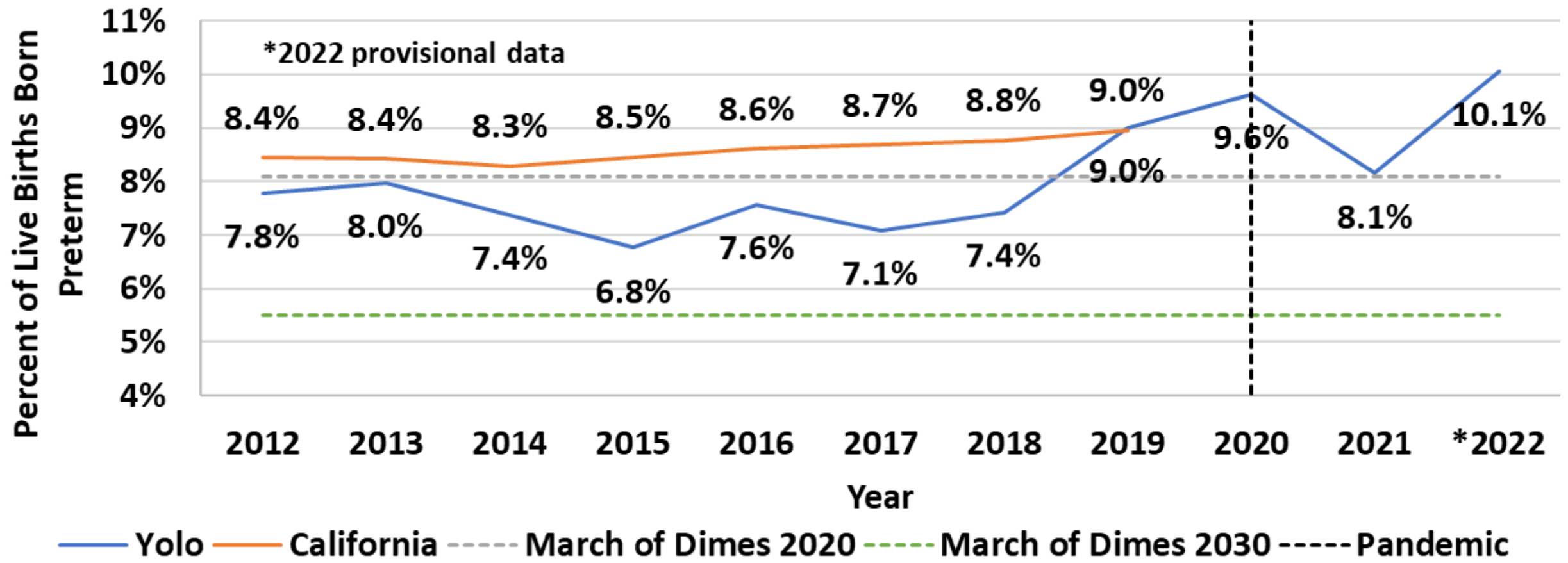
Infants (<90 days old) Hospitalized with Substance Use Diagnoses vs. California



In Yolo County, increased from 31 admits in 2014, to 105 admits in 2012, down to 54 admits in 2015

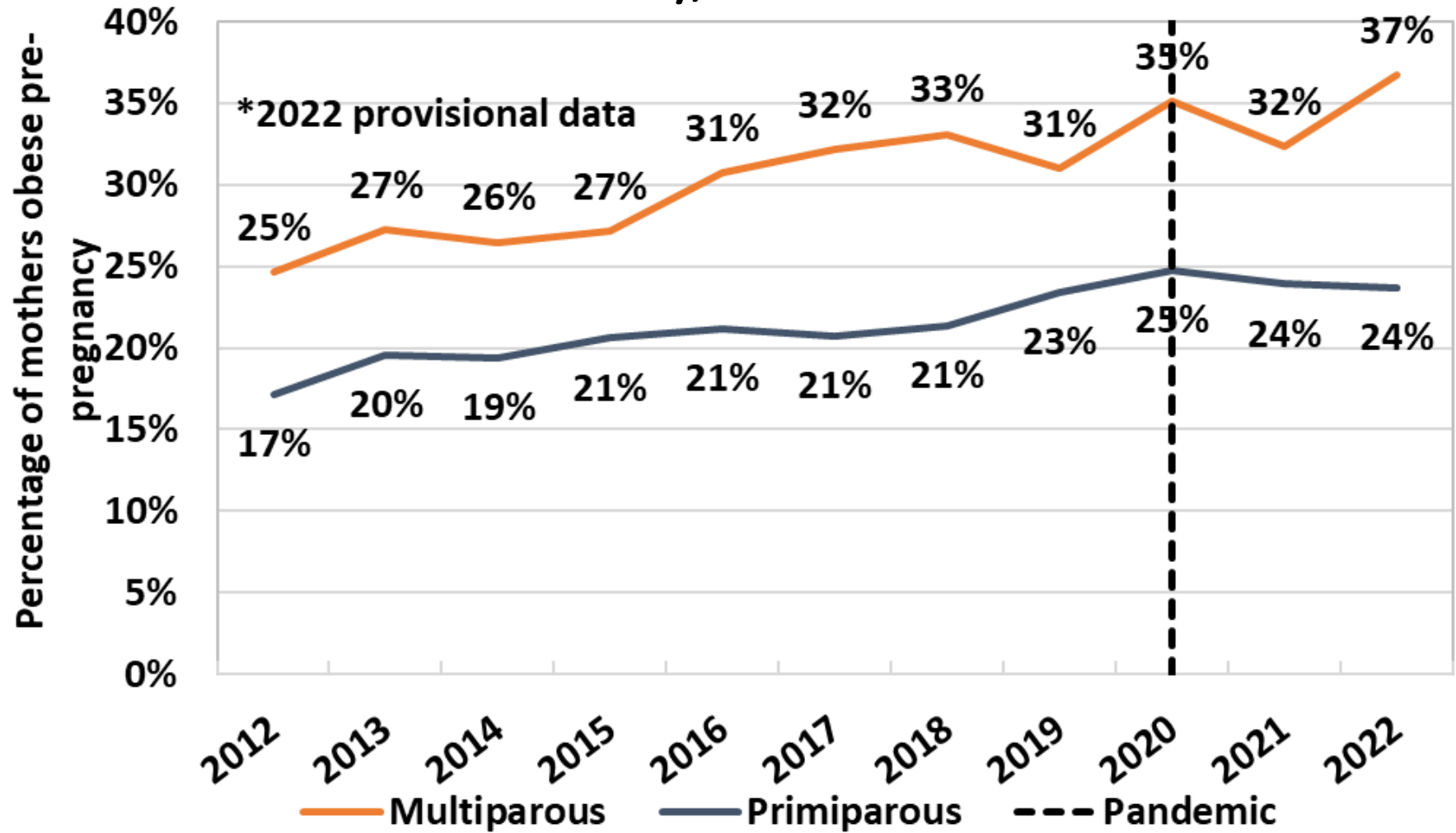


Percent of Births Preterm (<37 weeks), Yolo County Resident Live Births, 2012-*2022



Source: California Department of Public Health (CDPH) MCAH Health Division; Vital Records (VRBIS), ' Association of SARS-CoV-2 Infection During Pregnancy With Maternal and Perinatal Outcomes, <https://jamanetwork.com/journals/jama/fullarticle/2792031>

Percent of Yolo County Mothers with Pre-Pregnancy BMI ≥ 30 by Parity, 2012-*2022



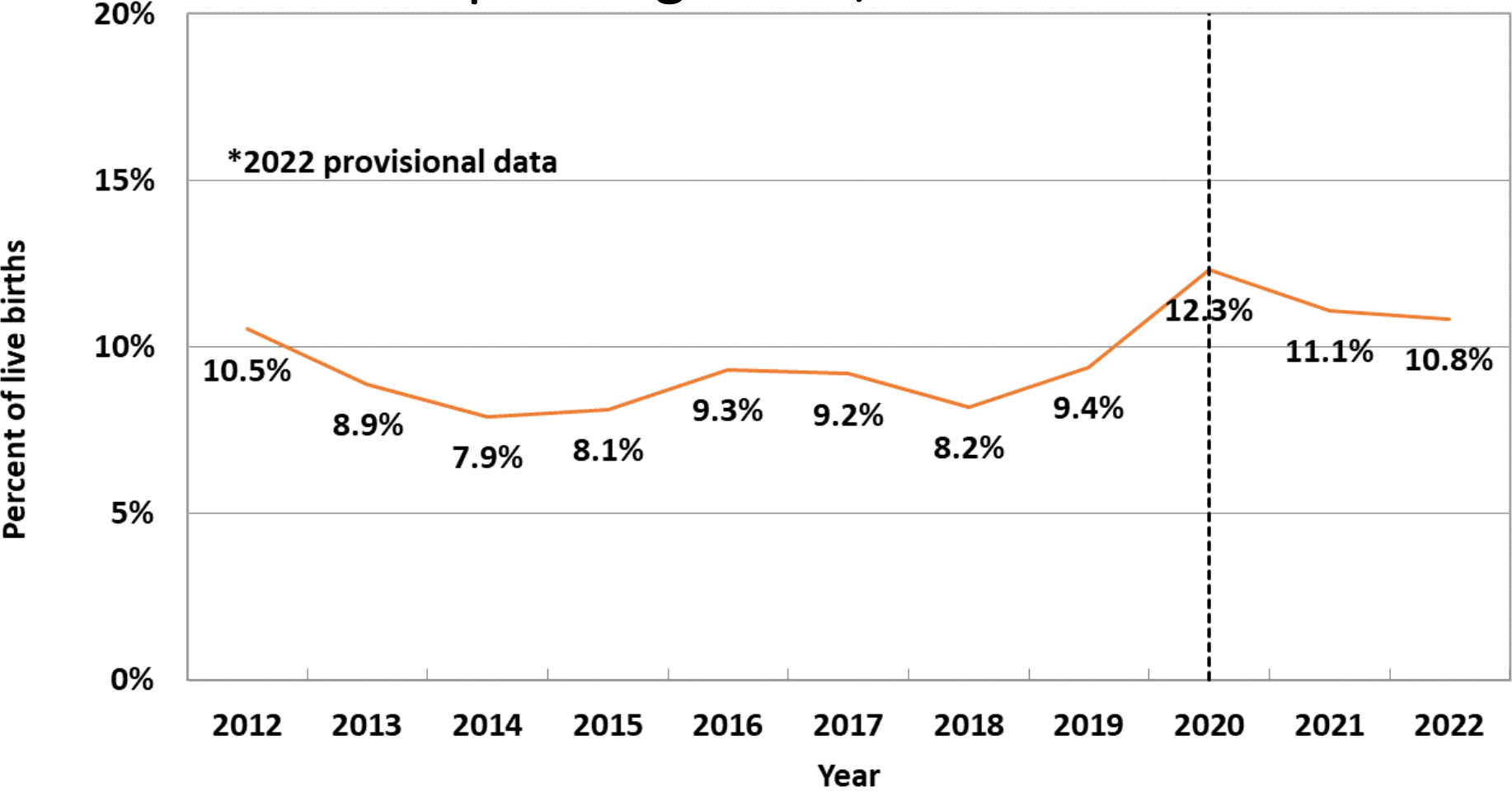
Multiparous: 2007-2017 RSQ = **0.95**
 2012-2022 RSQ = **0.88**

Primiparous: 2007-2017 RSQ = 0.88
 2012-2022 RSQ = 0.74

Source: Vital Records (VRBIS)



Percent of Yolo County Births with Gestational Diabetes as a Complicating Factor, 2012-*2022



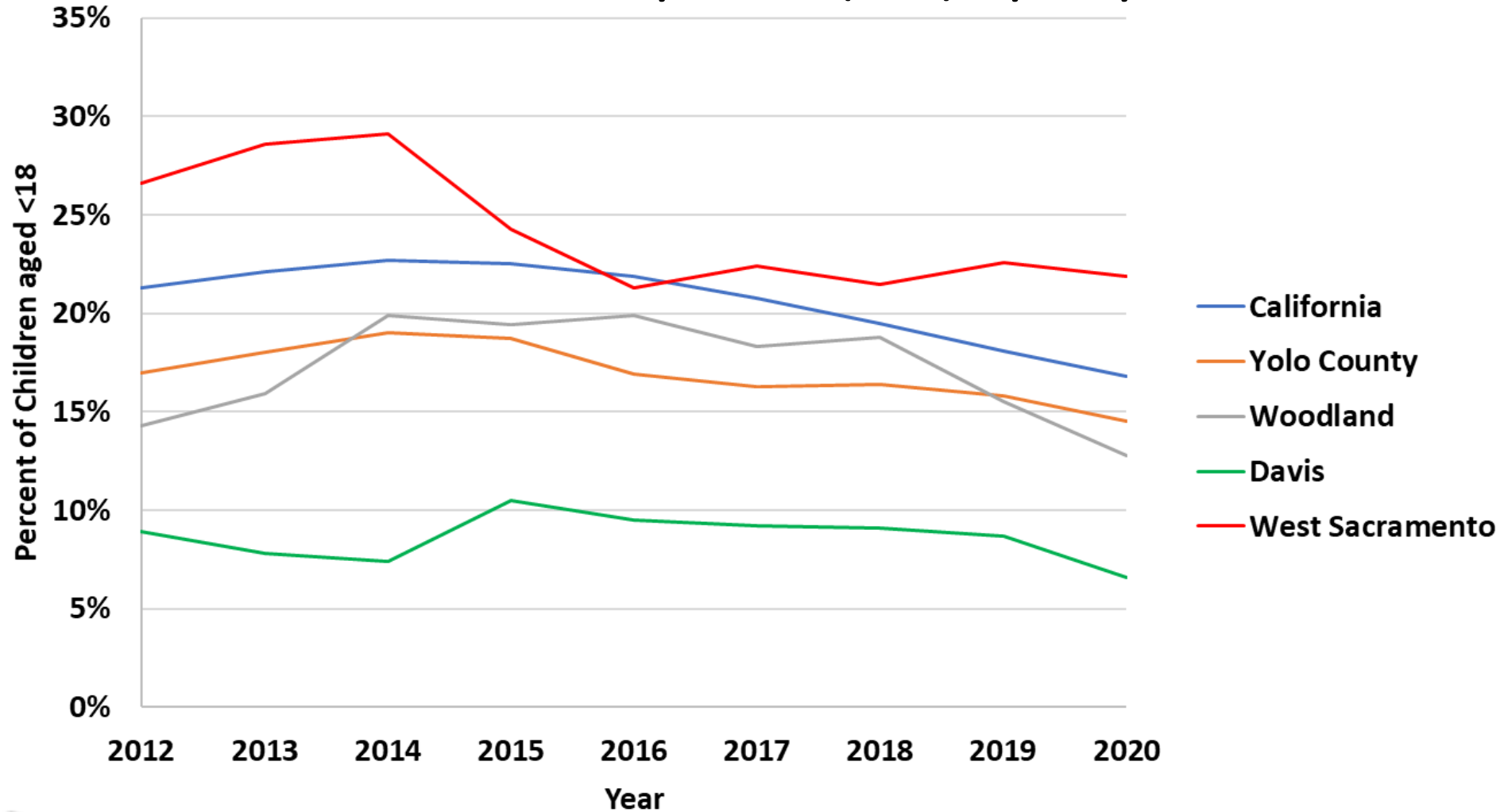
— Gestational diabetes mellitus - - - - - Pandemic

GDM: Significant linear trend **increase** 2018 – 2020 (RSQ = **0.95**), significant linear trend **decrease** 2020 – *2022 (RSQ = **0.86**).

Source: Vital Records (VRBIS)



Percent of Yolo County Children under 18 at or below 100% of the Federal Poverty Level (FPL) by City, 2012-2020



Source: American Community Survey (ACS), US Census Bureau, 2012 – 2020 five year estimates



Federal Poverty Level (FPL) by Household Size, 2020 - 2022

Persons in family/household	Poverty guideline		
	<u>2020</u>	<u>2021</u>	<u>2022</u>
1	\$12,760	\$12,880	\$13,590
2	\$17,240	\$17,420	\$18,310
3	\$21,720	\$21,960	\$23,030
4	\$26,200	\$26,500	\$27,750

California (2019)

Median income earnings per worker: \$39,549

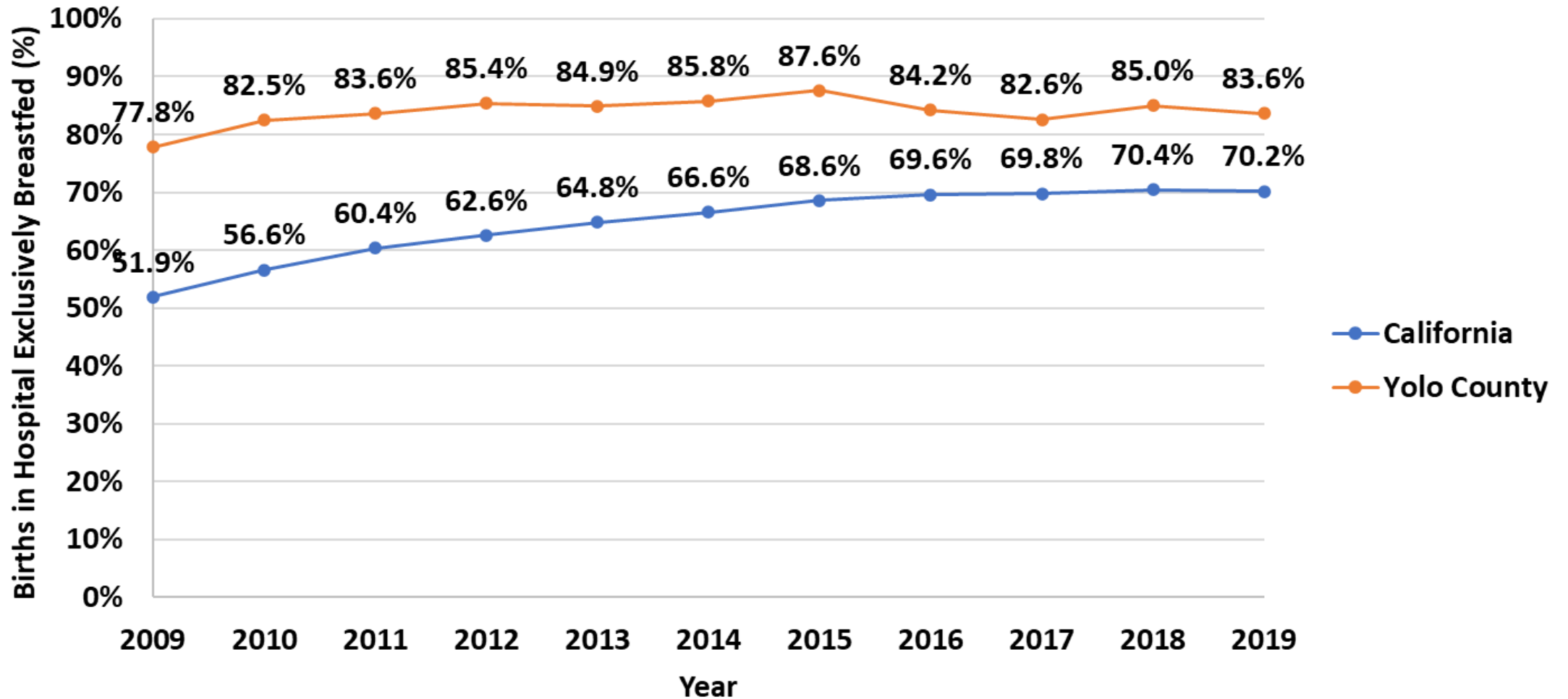
Median family income: \$91,377

% of CA families with children below FPL: 12.4%

% of CA female-headed HH with children below FPL: 29.5%

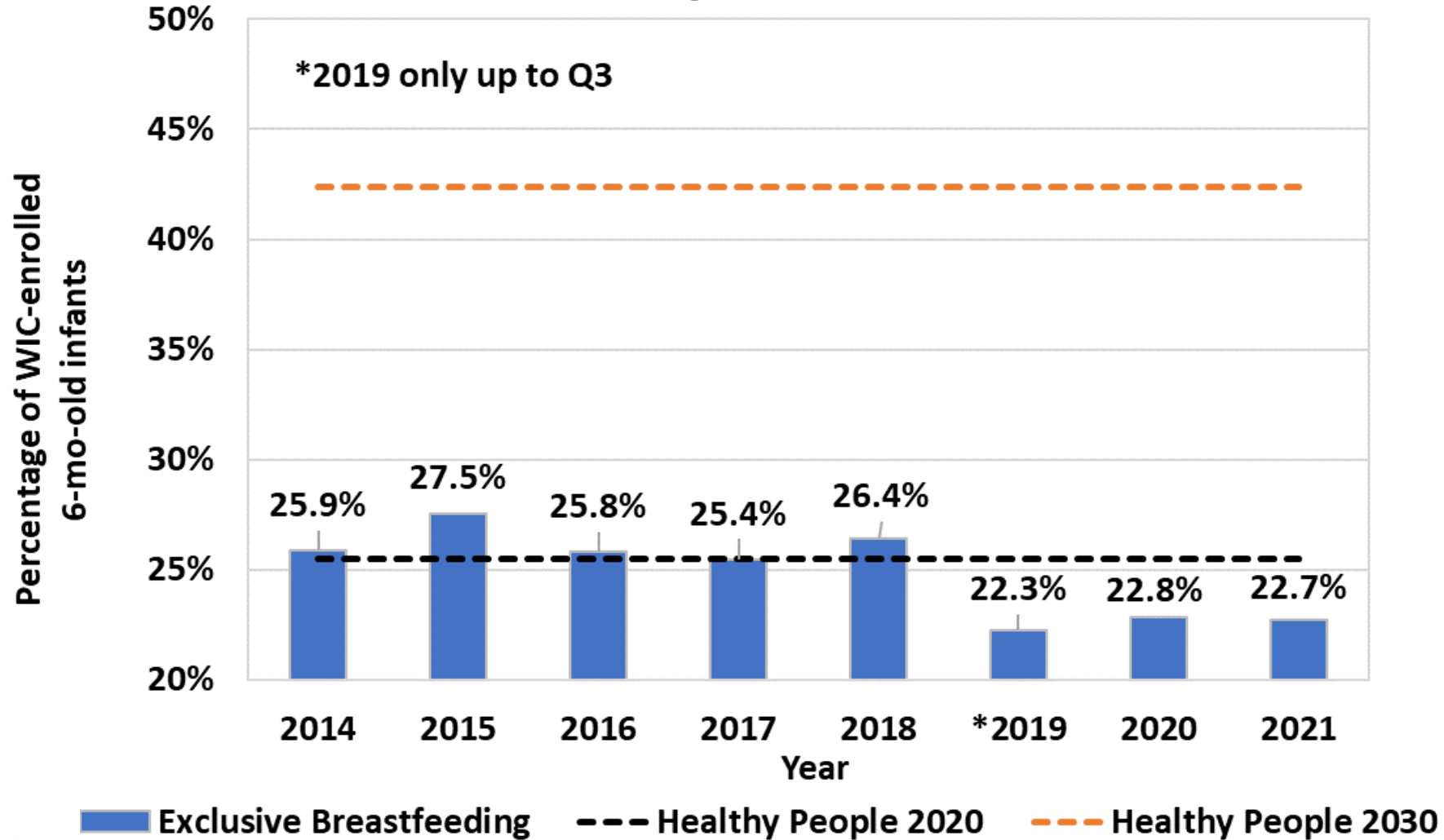


Percent of Infants Exclusively Breastfed in the Hospital, Yolo County vs. California, 2009 - 2019



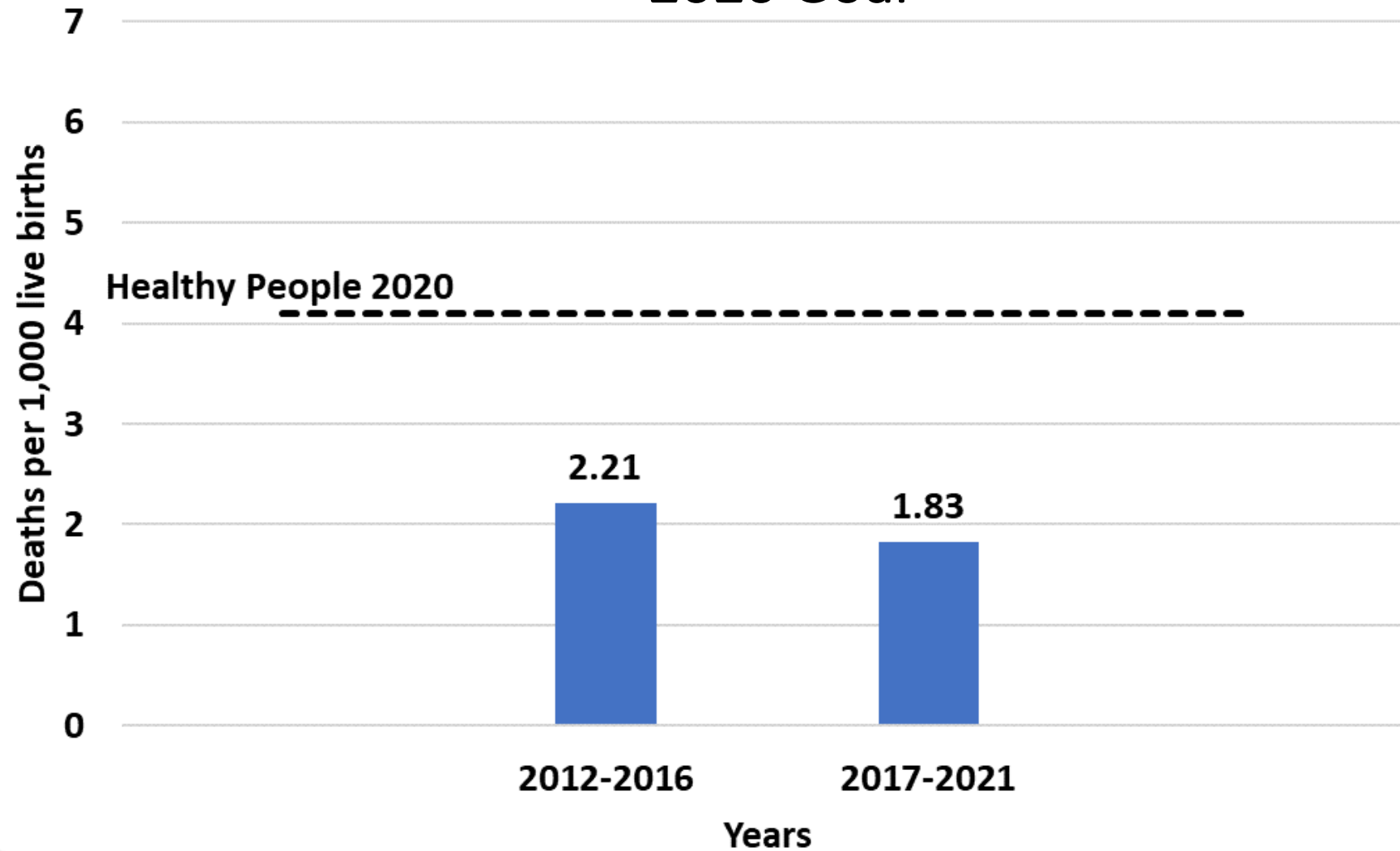
Source: California Department of Public Health (CDPH), MCAH Program, In-Hospital Breastfeeding Initiation

Exclusive Breastfeeding Percentages at 6 months old, Yolo County WIC Program, 2014 - 2021



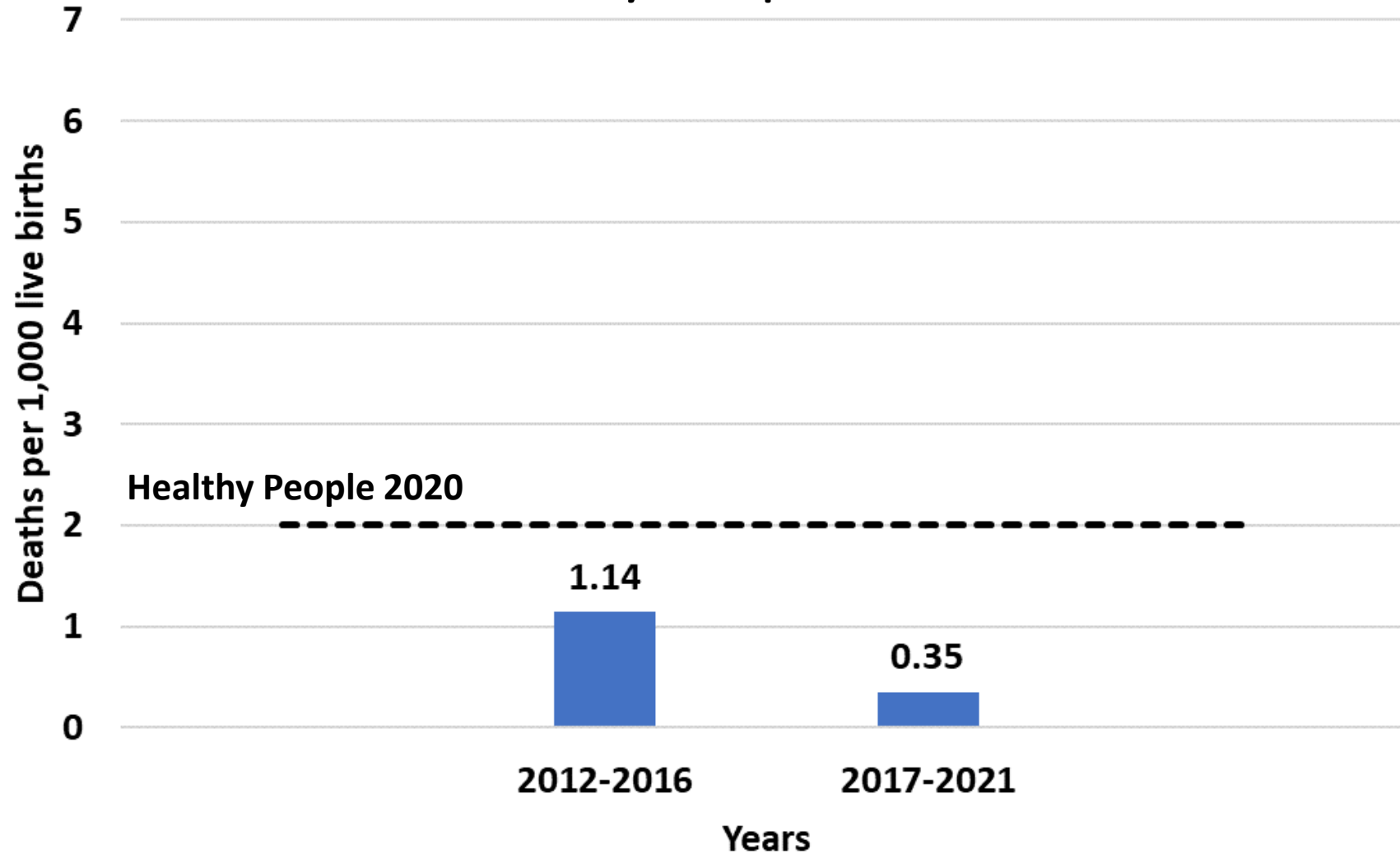
Source: Yolo County WIC Program, Raptor database & WRAD database

Yolo County Neonatal Mortality Rates (Infant <28d) & Healthy People 2020 Goal



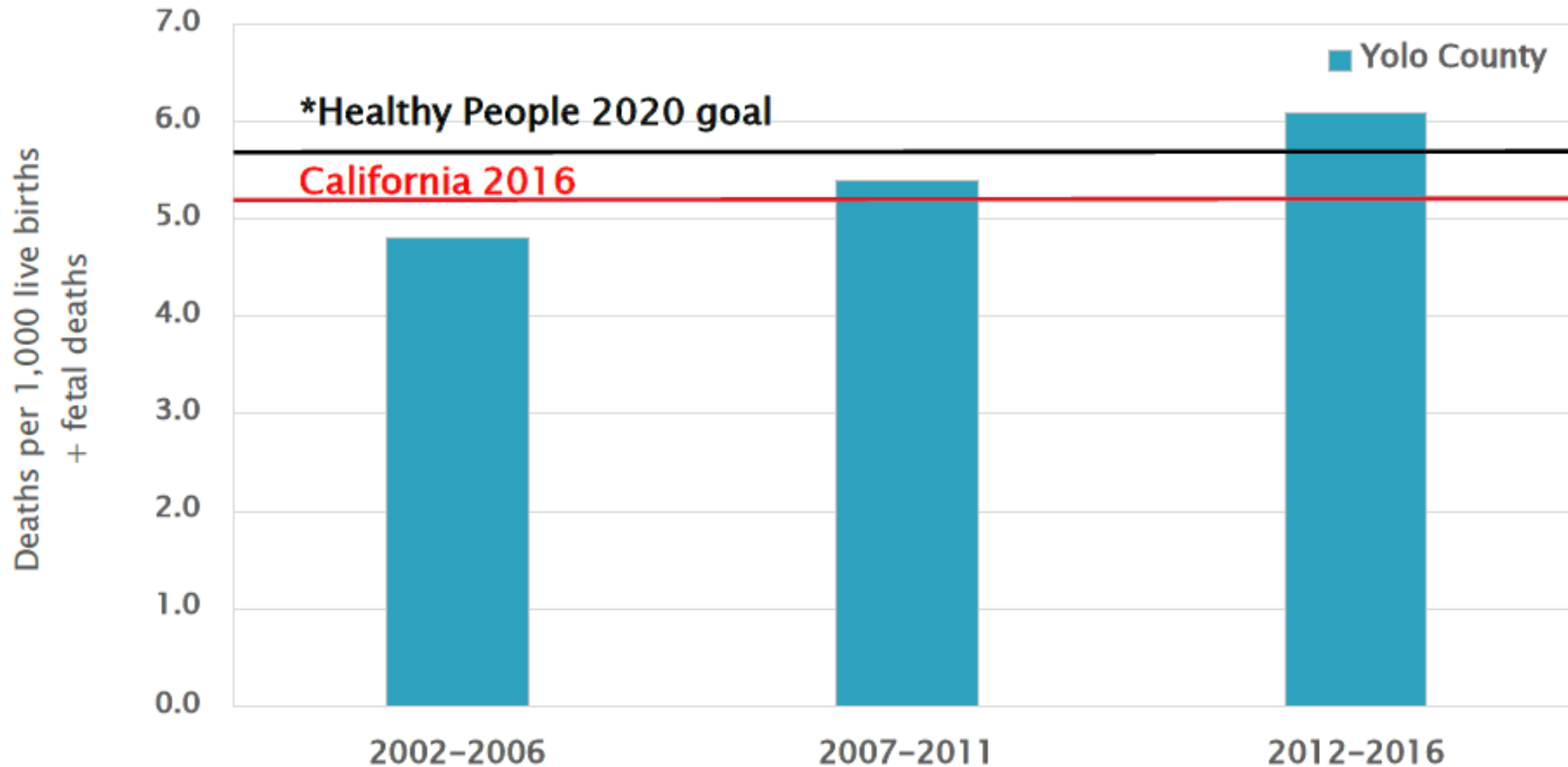
Source: Vital Records (VRBIS)

Yolo County Postneonatal Mortality Rates (Infant $\geq 28d$ to $< 365d$) & Healthy People 2020 Goal



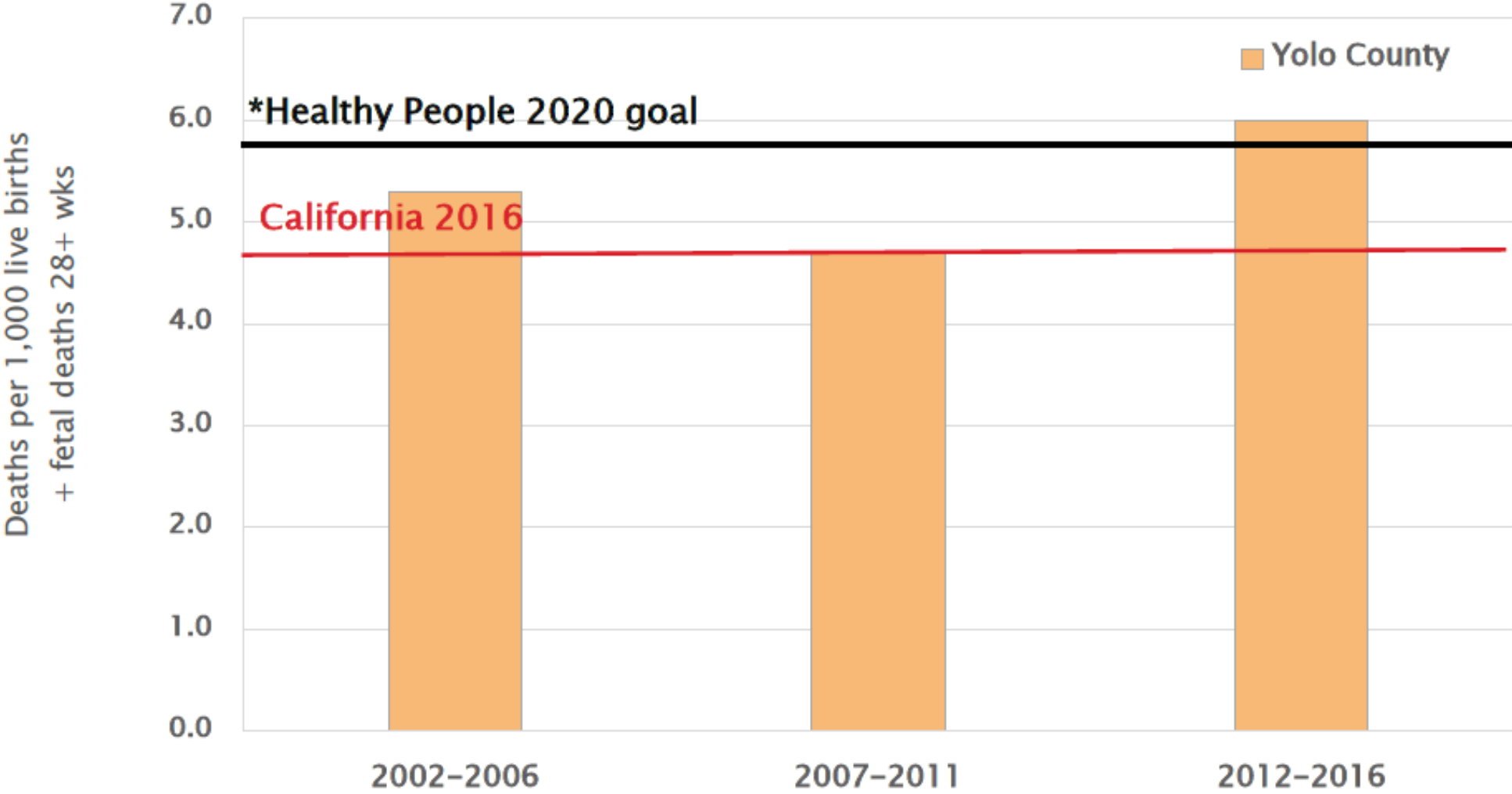
Source: Vital Records (VRBIS)

Yolo County Fetal Mortality Rates (20+ weeks) vs. California and Healthy People 2020



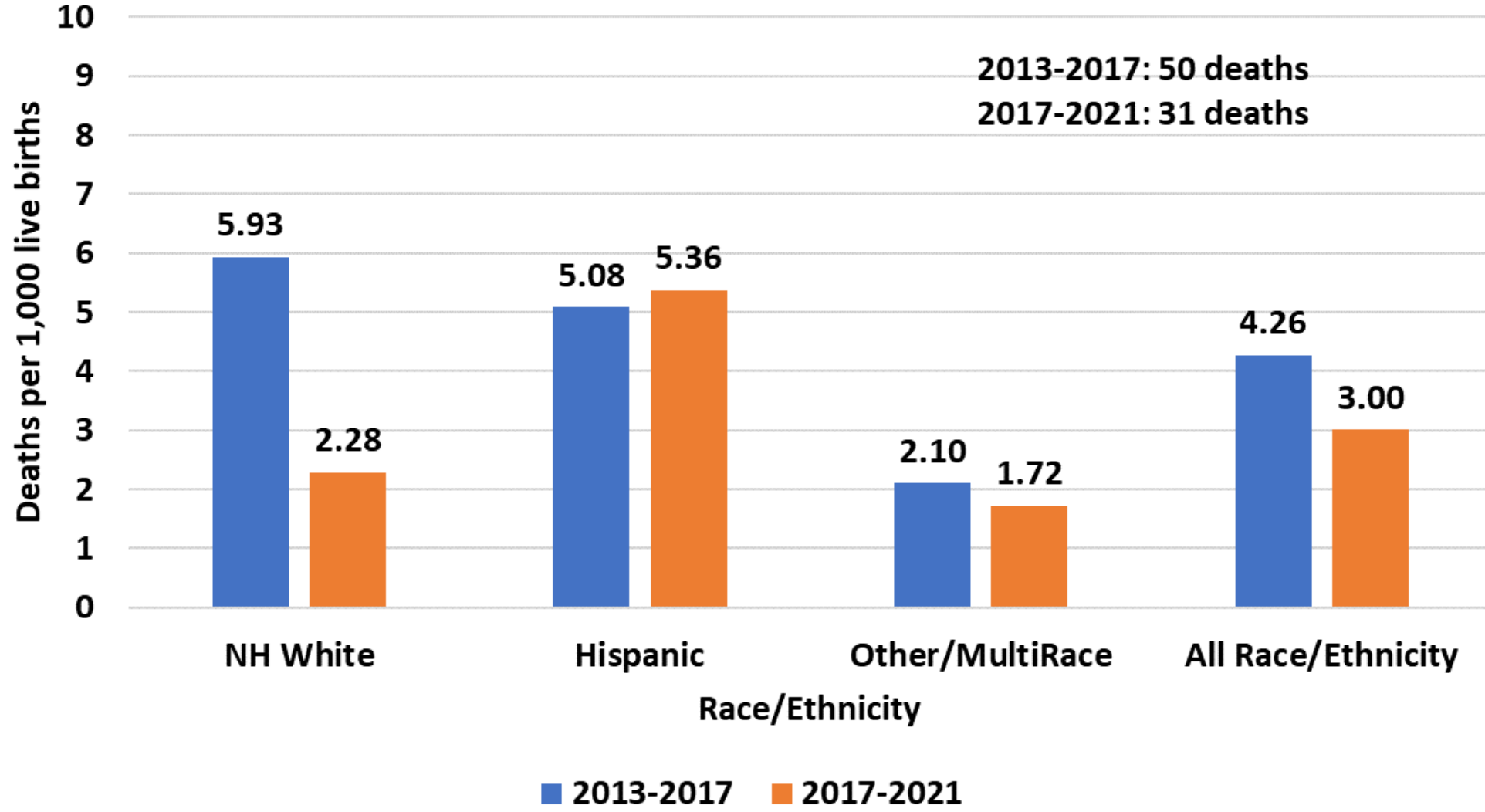
Source: California Department of Public Health (CPDH), Fetal Death Records for Yolo County

Yolo County Perinatal Mortality Rates (Fetal 28+ weeks & Infant <7 d) vs. California and Healthy People 2020



Source: California Department of Public Health (CPDH), Fetal Death Records for Yolo County

Infant Mortality Rate by Race/Ethnicity, Yolo County, 2017-2021



*Other/MultiRace consists of Black, American Indian/Alaskan Native, Hawaiian/Pacific Islander, Asian, and other to protect privacy of categories < 5 deaths.

Source: Vital Records (VRBIS)

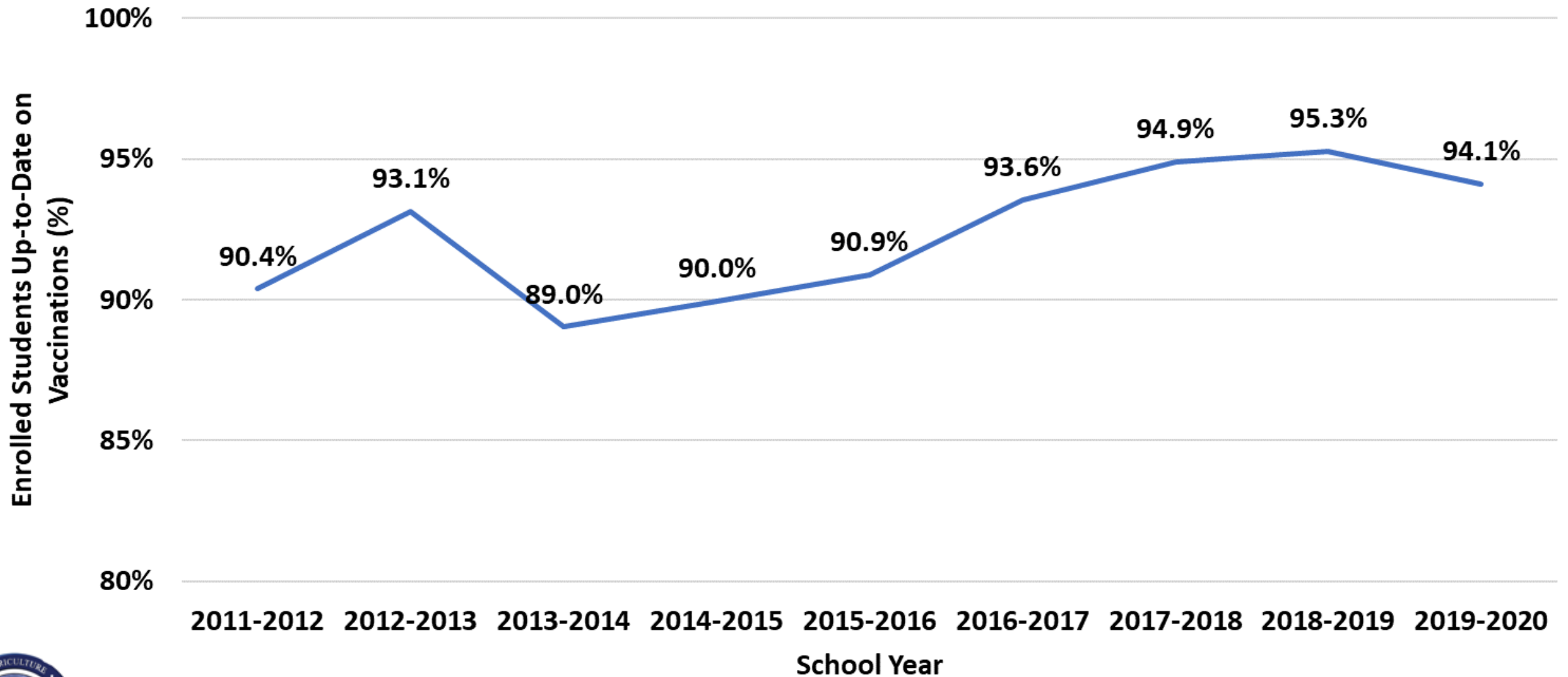


Early Childhood (Age 1 to 4) Indicators

Preschool Vaccinations
Children in Foster Care
Preschool Obesity
Oral Health

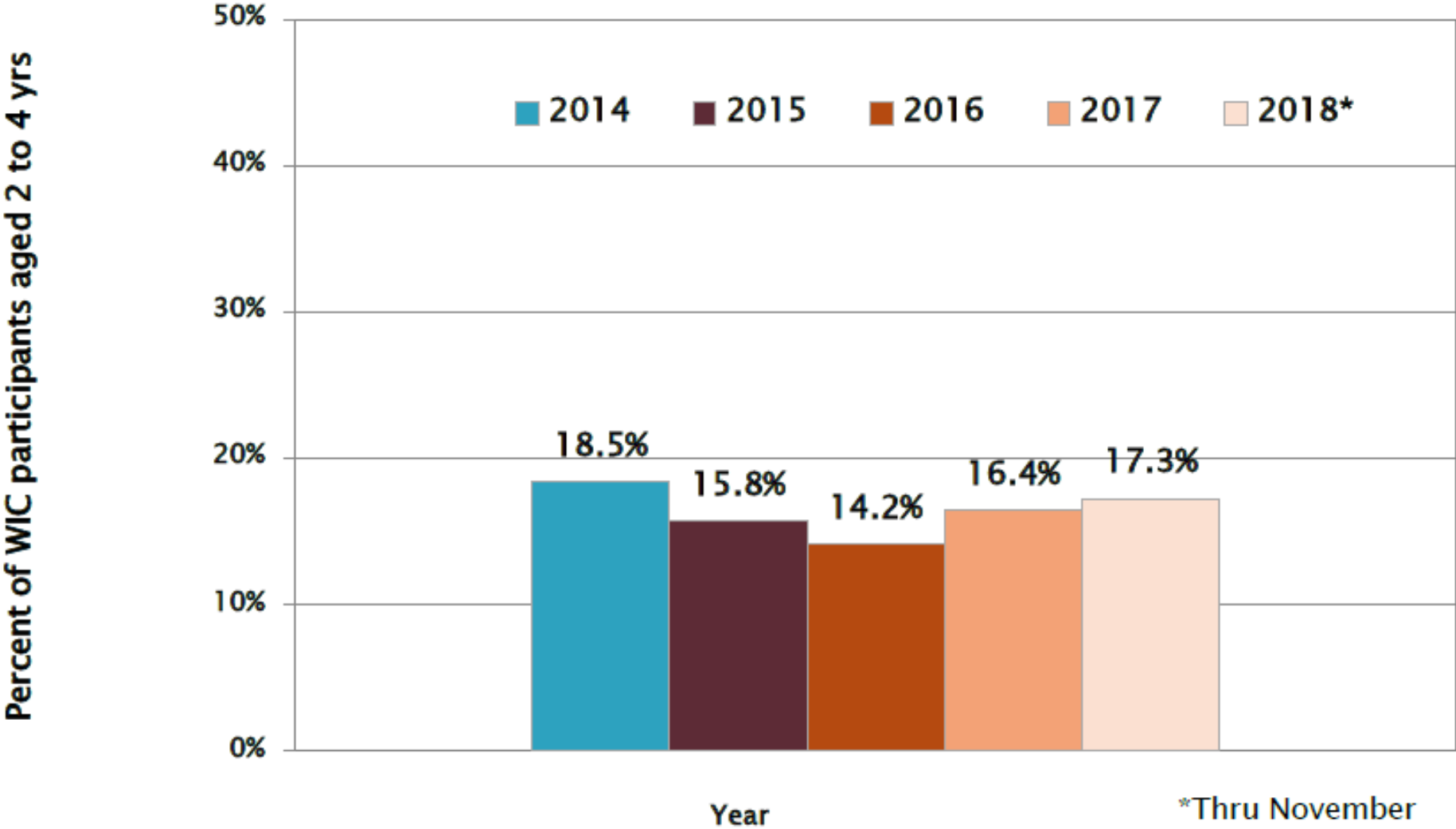


Children in Preschool/Childcare Up-to-Date on Vaccinations in California



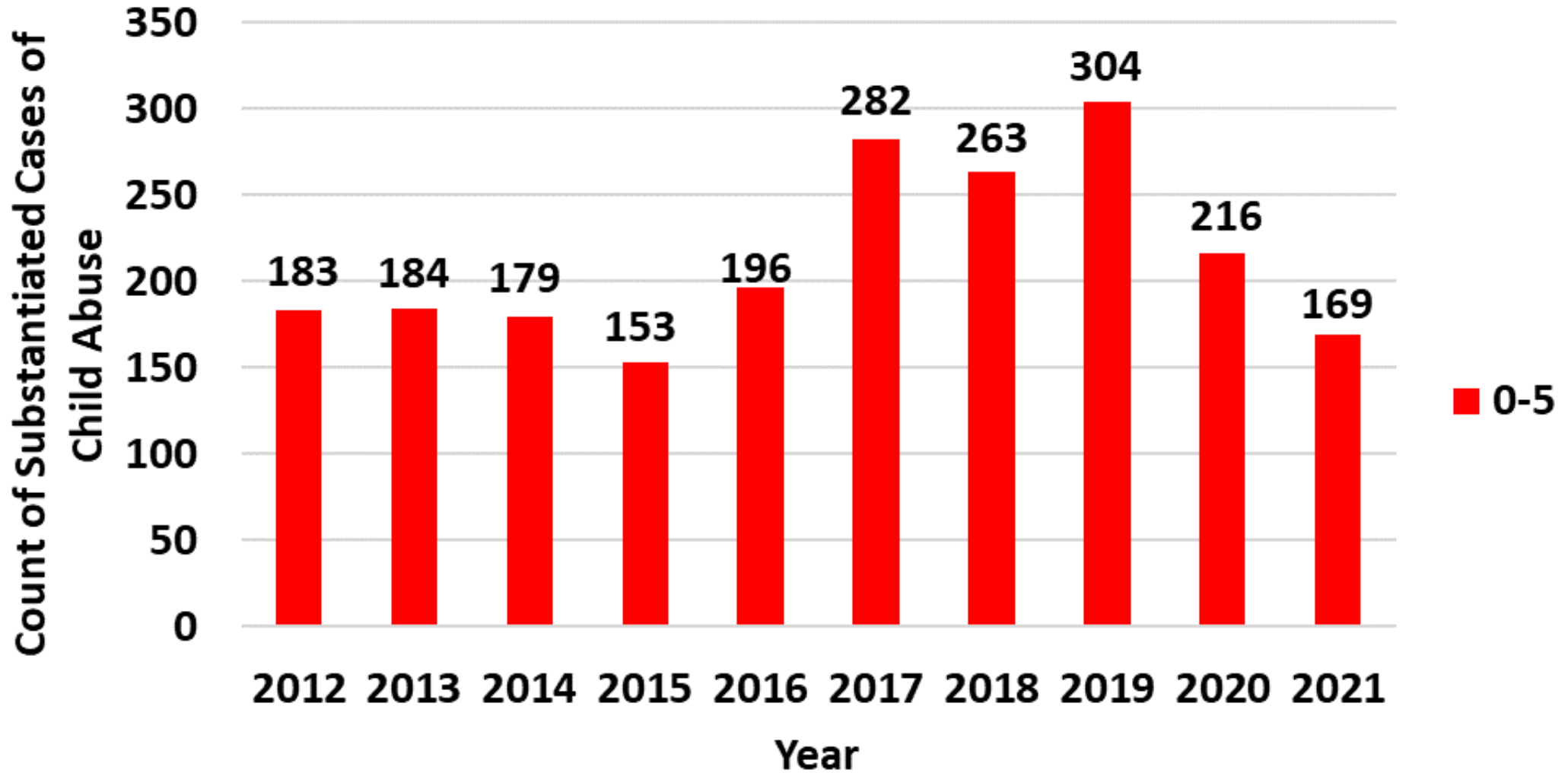
Source: California Department of Public Health (CDPH), Immunization Assessment

Overweight among WIC Children Ages 2-4, Yolo County, 2014-2018



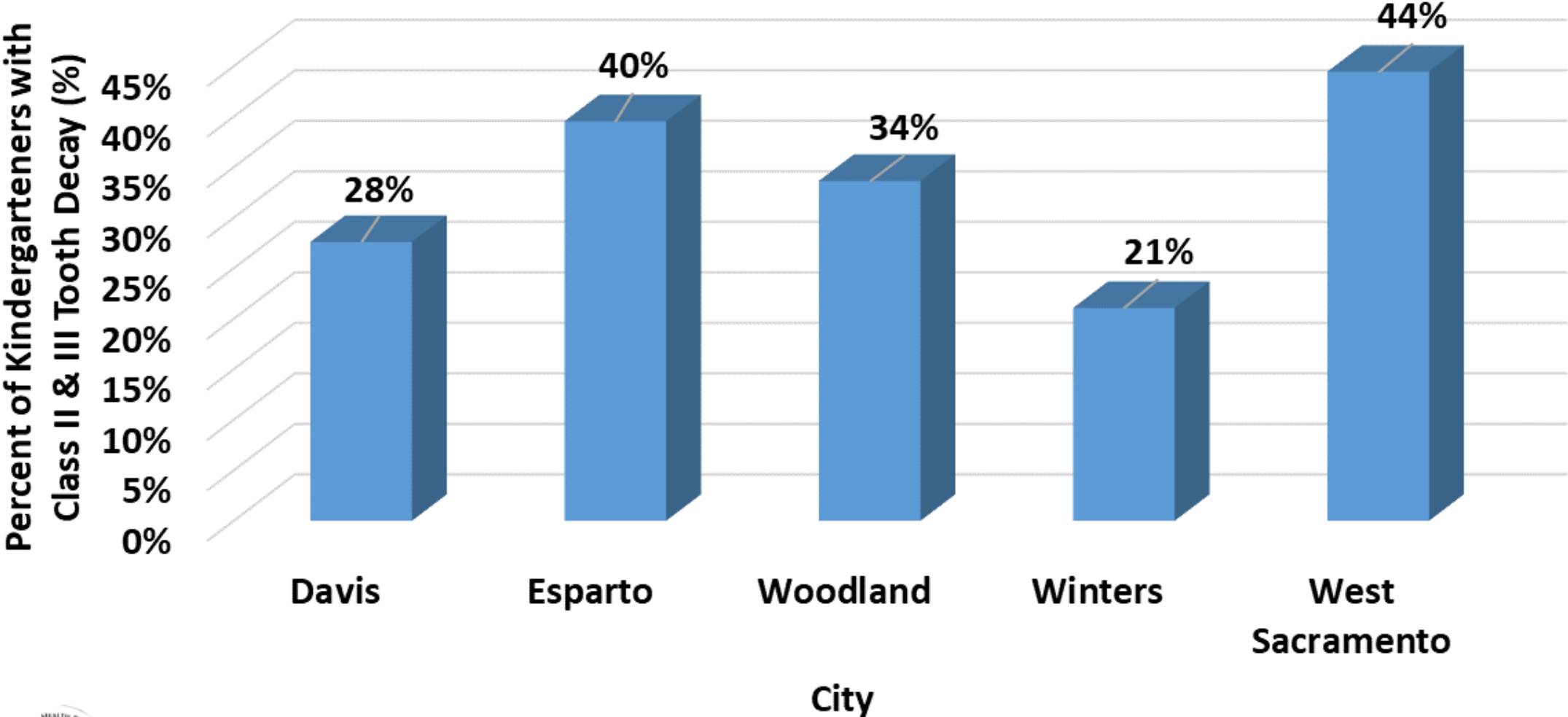
Source: Yolo County WIC Program, Raptor Database; CDC, <https://www.cdc.gov/obesity/data/obesity-among-WIC-enrolled-young-children.html>

Substantiated Cases of Child Abuse/Neglect, Ages 0-5, Yolo County



Source: UC Berkeley Center for Social Services Research (UCB CSSR)

Oral Health – Percent of Children in Oral Health Program (Communicare) with Dental Decay by City, Yolo County, 2019-2020



Source: Communicare Elementary Screening (2019-2020) Smile Saver

School-Age (5 to 14) Child Health Indicators

Child Abuse

School Lunch Eligibility

Vaccinations

Oral Health

Special Education

Scholastic Achievement – 3rd Grade

Obesity/overweight

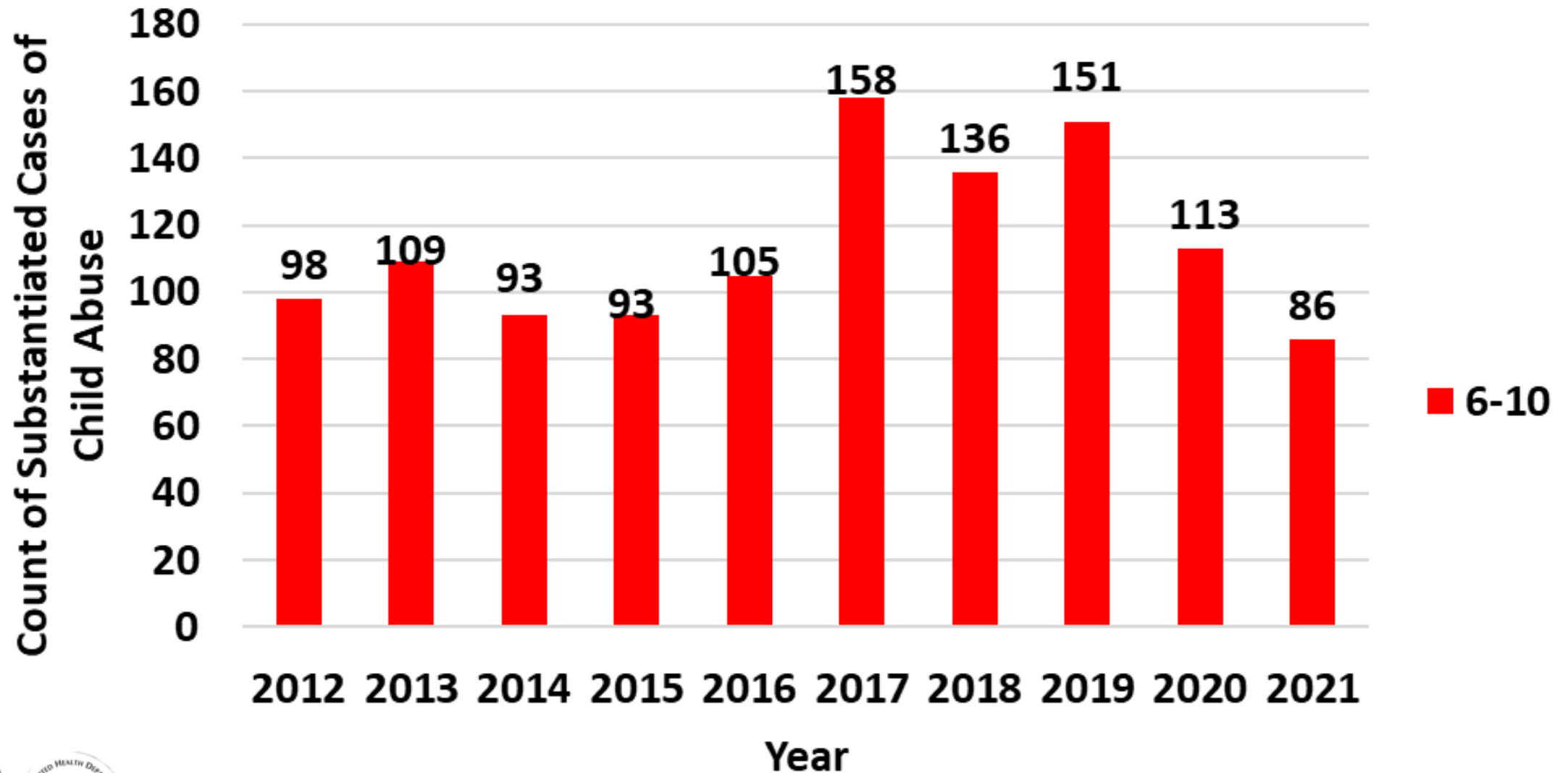
Mental Health Hospitalizations

Social Connectedness/Bullying

Current Drug/Alcohol Use

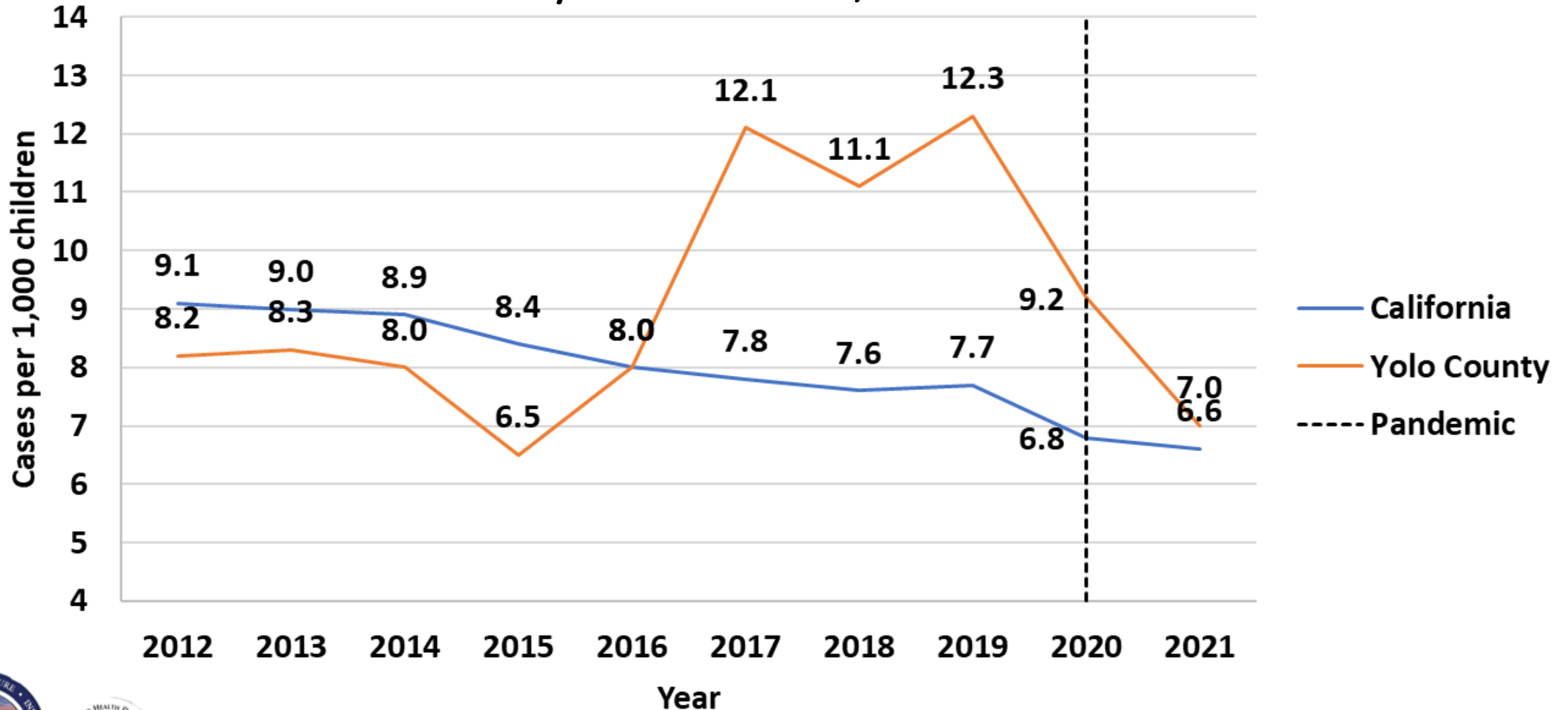


Substantiated Cases of Child Abuse for Children (Age 6-10), 2012-2021



Source: UC Berkeley Center for Social Services Research (UCB CSSR); California Child Welfare Indicators Project (CCWIP)

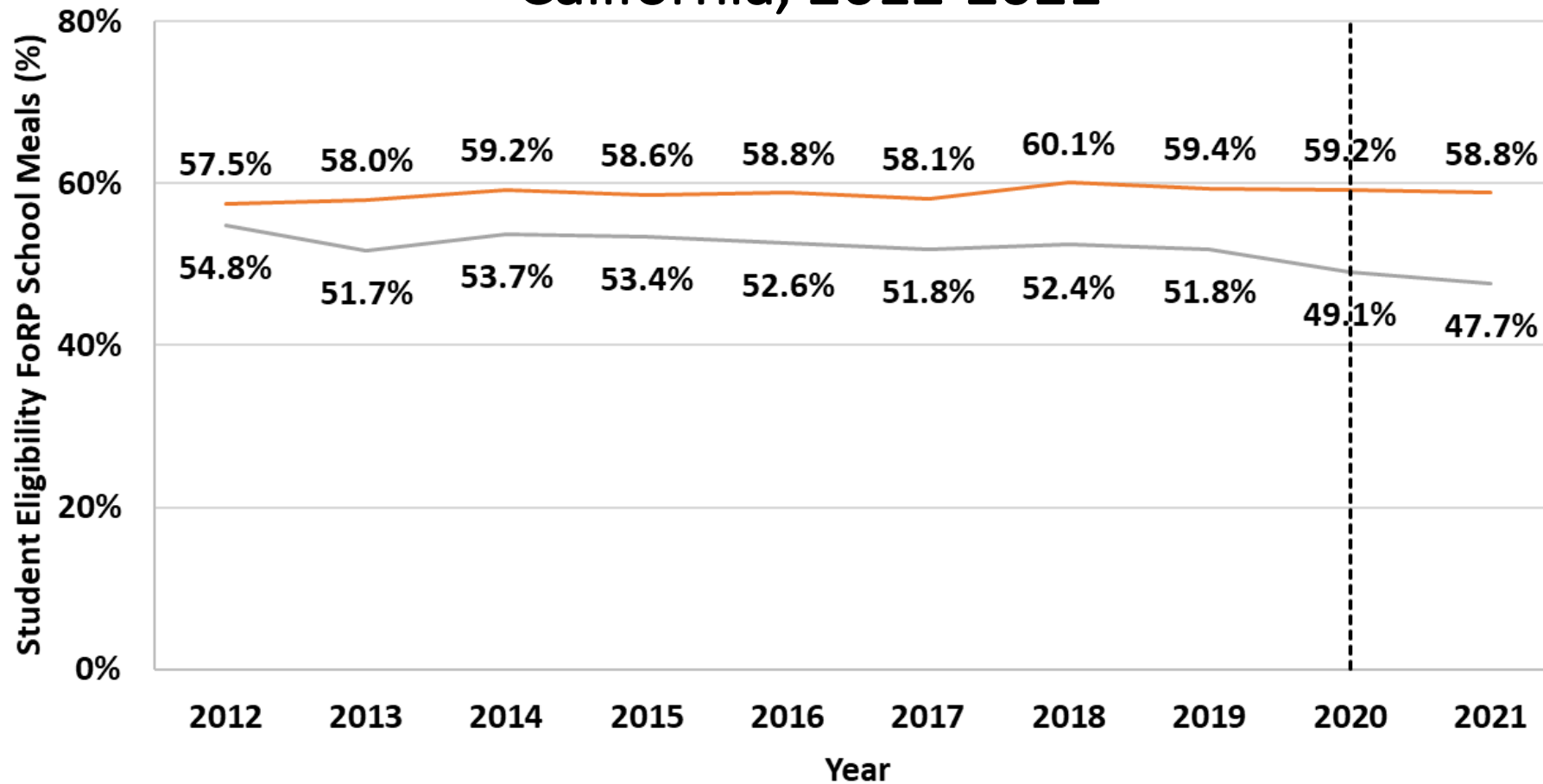
Substantiated Cases of Child Abuse per 1,000 Children (Age 0-17), Yolo County vs. California, 2012-2021



Source: UC Berkeley Center for Social Services Research (UCB CSSR); California Child Welfare Indicators Project (CCWIP), [Entries Report - California Child Welfare Indicators Project \(CCWIP\) \(berkeley.edu\)](#)



Student Eligibility for Free or Reduced-Price School Meals, Yolo County vs California, 2012-2021



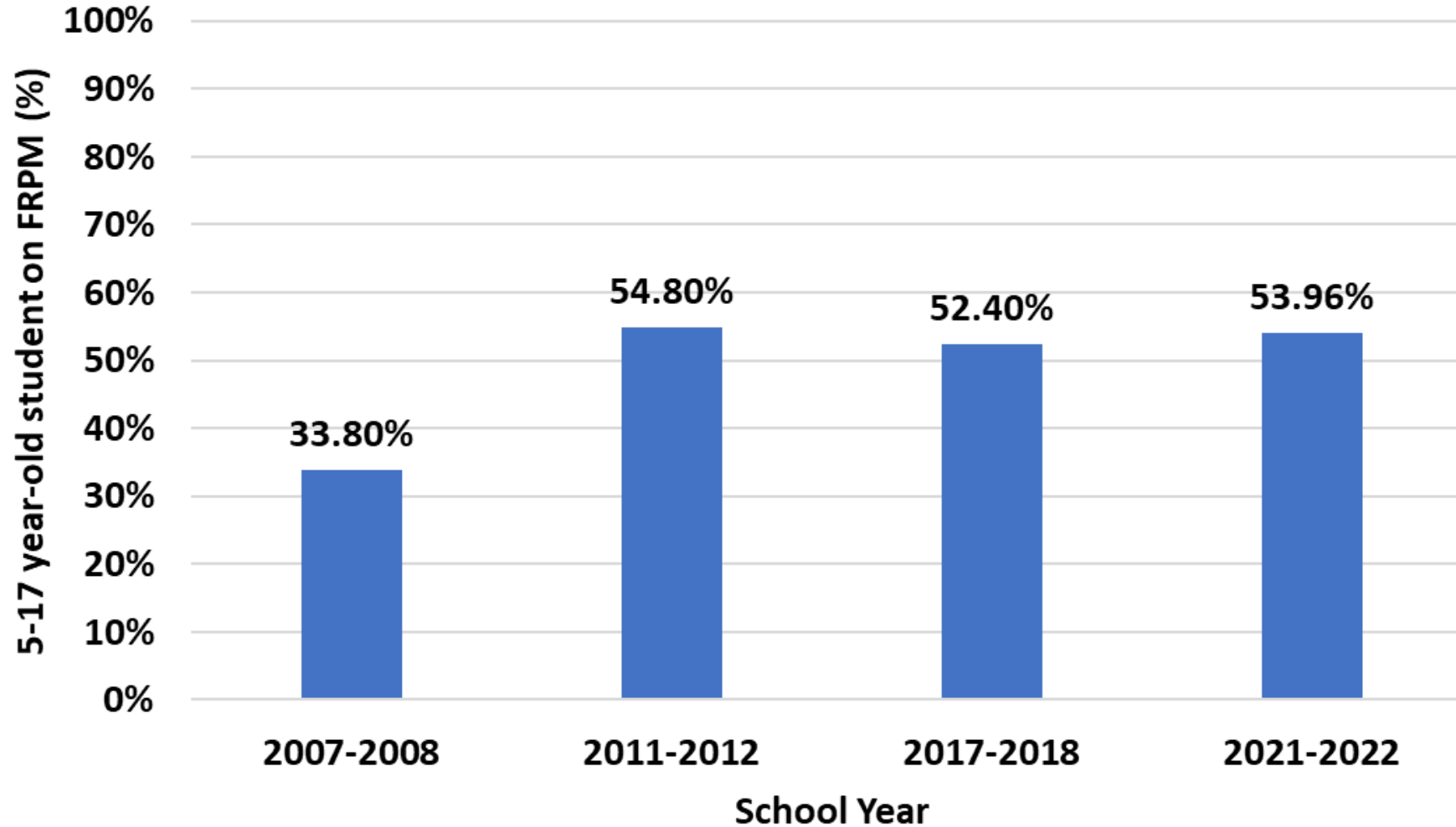
— California — Yolo County - - - - Pandemic

Definition: Percentage of students ages 5-17 enrolled on census day who are eligible to receive free or reduced-price school meals (e.g., on census day in the 2021 school year, 58.8% of California students were eligible to receive free or reduced-price school meals).

Source: As cited on kidsdata.org, California Dept. of Education, Free or Reduced-Price Meal (Student Poverty) Data; National Center for Education Statistics, Digest of Education Statistics (Jul. 2021).



Percent of Students Ages 5-17 Eligible for Free or Reduced-Price School Meals, Yolo County, 10-year differences

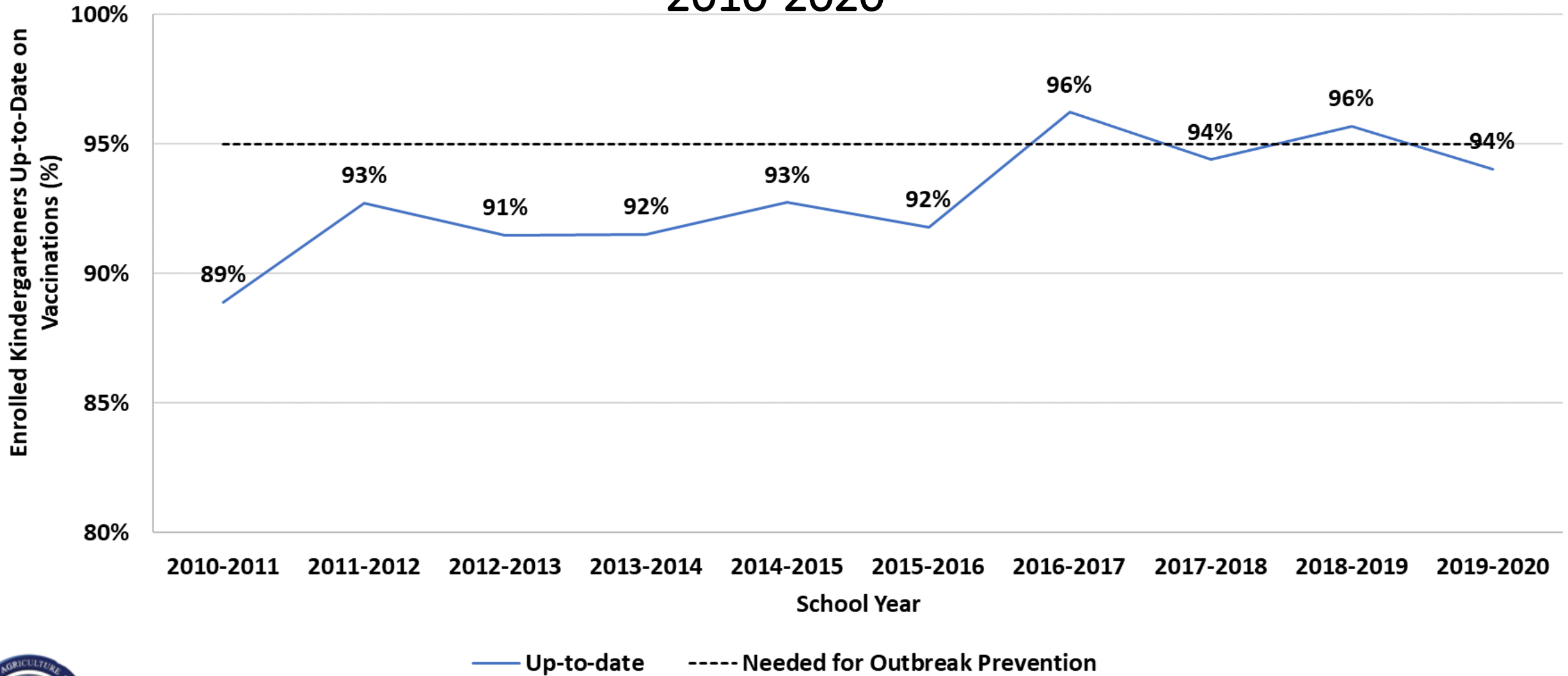


Definition: Percentage of students ages 5-17 enrolled on census day who are eligible to receive free or reduced-price school meals (e.g., on census day in the 2021 school year, 53.96% of Yolo County students were eligible to receive free or reduced-price school meals).

Source: As cited on kidsdata.org, California Dept. of Education, Free or Reduced-Price Meal (Student Poverty) Data; National Center for Education Statistics, Digest of Education Statistics (Jul. 2021).

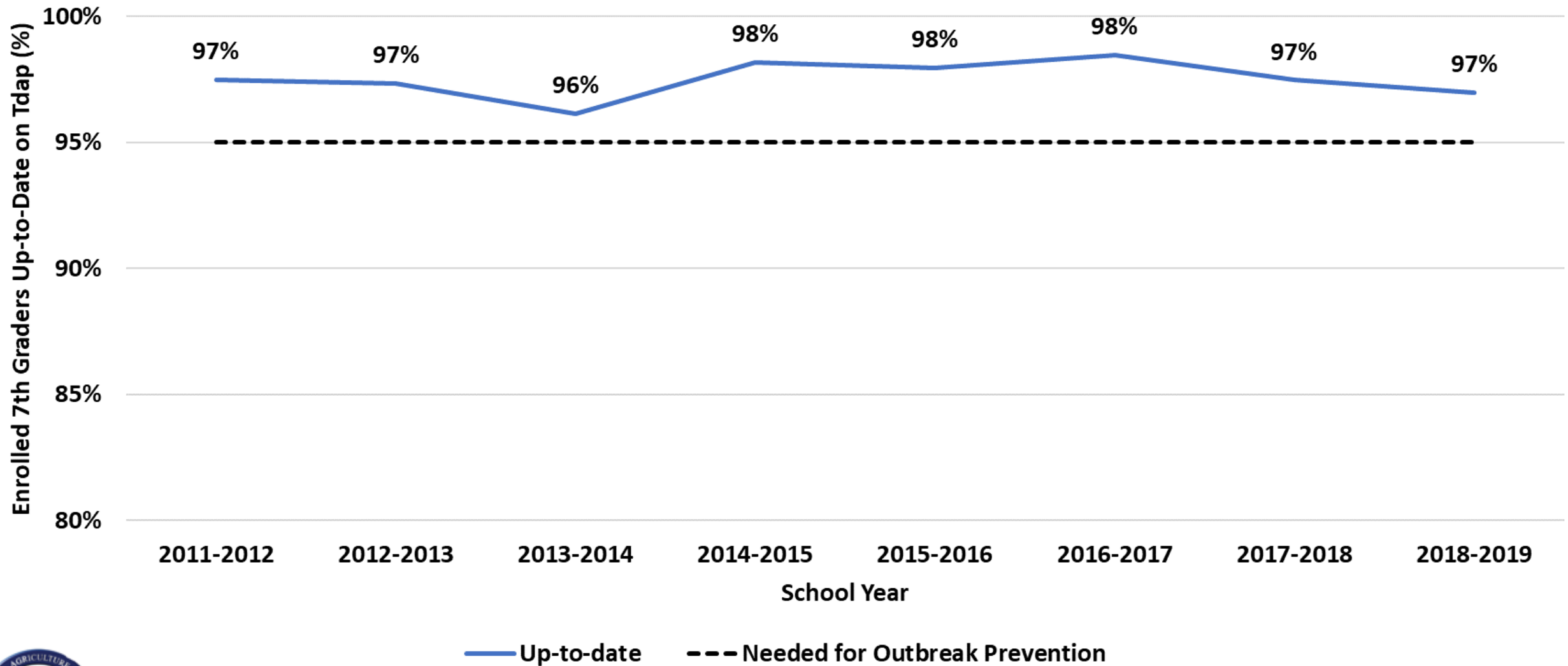


Percent of Kindergarteners Up-to-Date on Vaccinations, Yolo County, 2010-2020



Source: California Department of Public Health (CDPH), Immunization Assessment

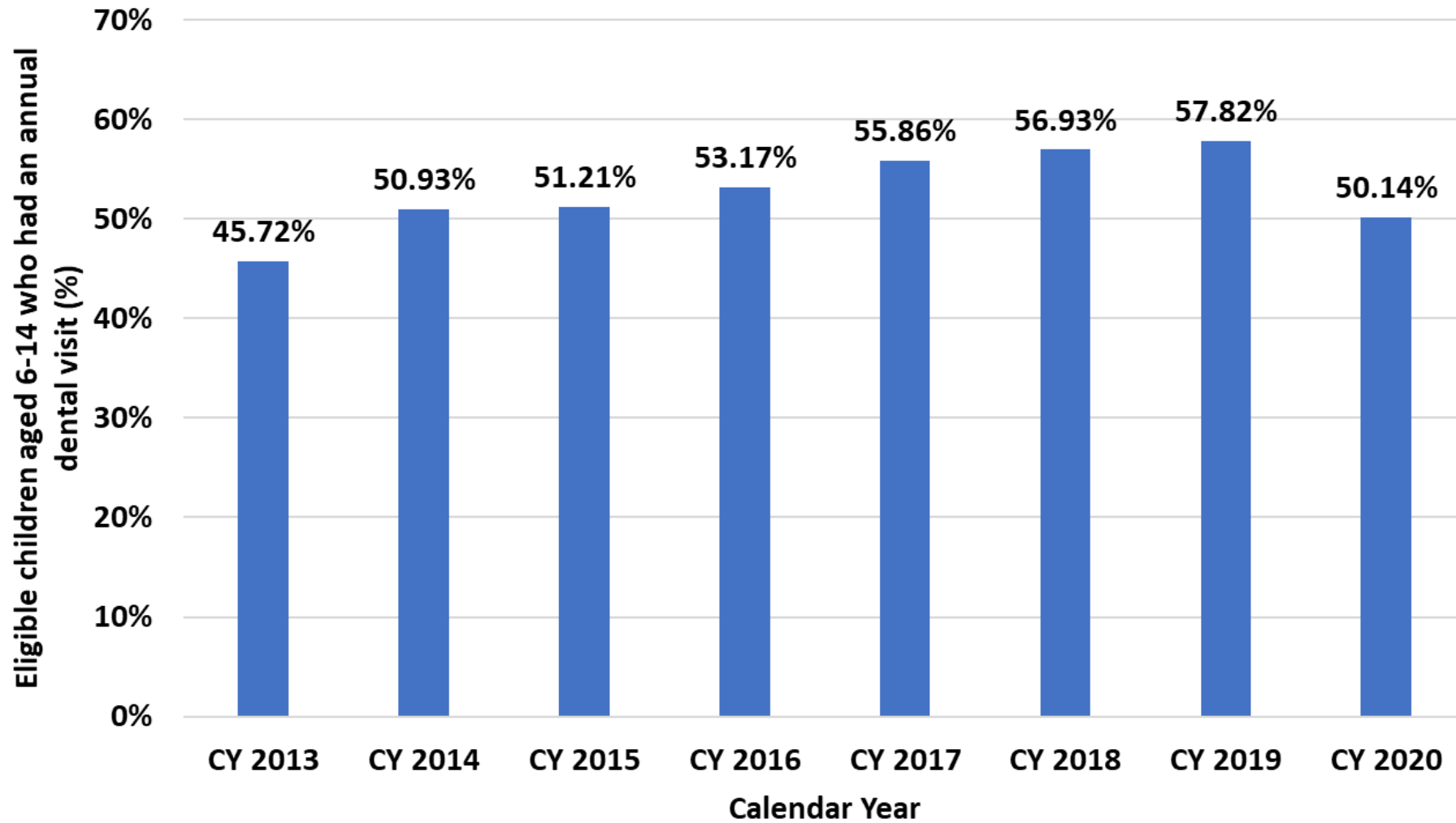
Tdap Immunization Percentages of 7th Graders, Yolo County, 2011-2019



Source: California Department of Public Health (CDPH), Immunization Assessment



Denti-Cal Utilization Age 6-14, Yolo County, 2013-2020

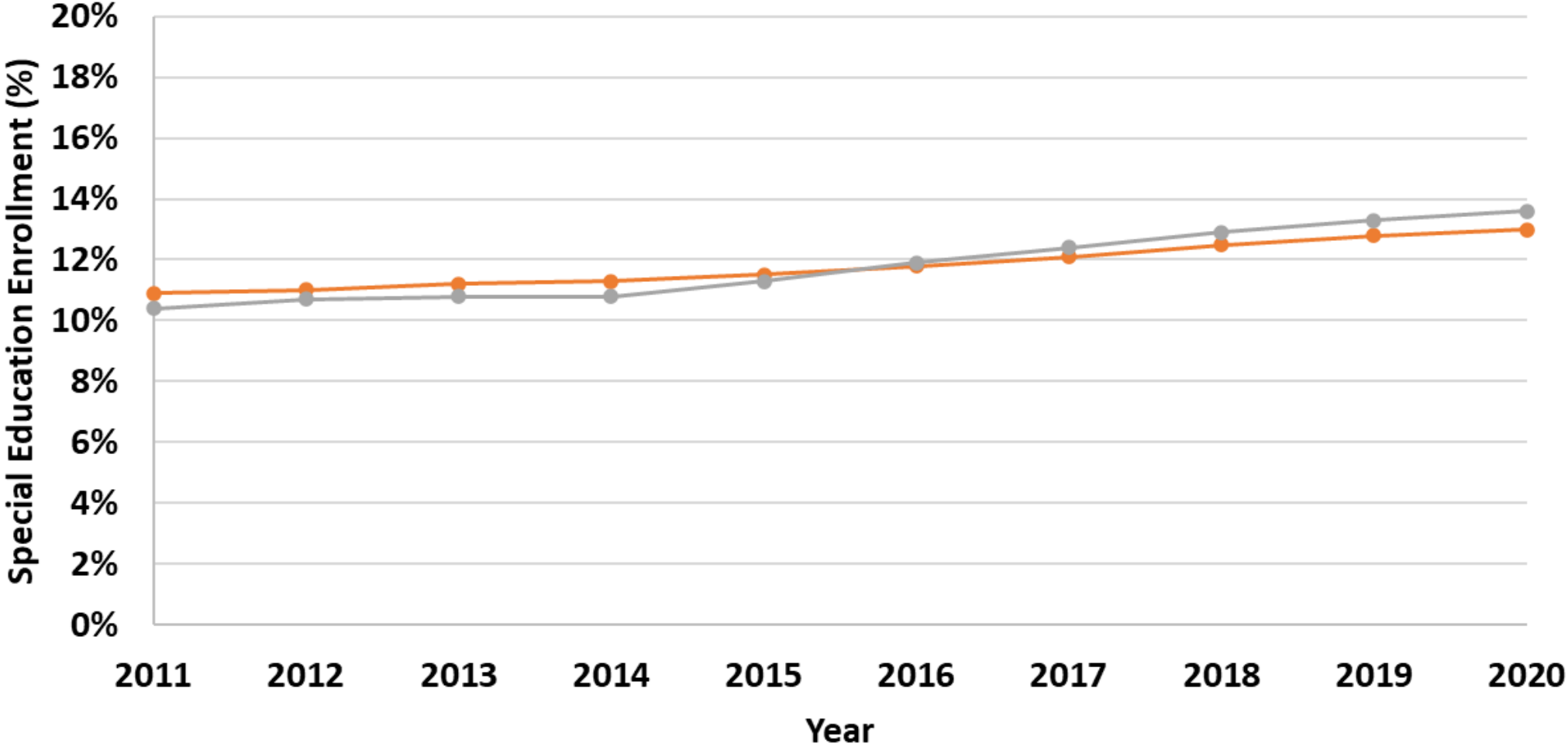


- 11,354 enrolled in 2019 10,694 enrolled in 2020 5.81% percent decrease in enrollment
- 6565 user in 2019 5412 users in 2020 17.56% percent decrease in users

Source: Department of Healthcare Services (DHCS), [Dental Utilization Measures and Sealant Data by County, Ethnicity, & Age Calendar Year 2013 to 2020 - Datasets - California Health and Human Services Open Data Portal](#)



Percent of Public-School Children Ages 0-17 Enrolled in Special Education, Yolo County, 2011-2020

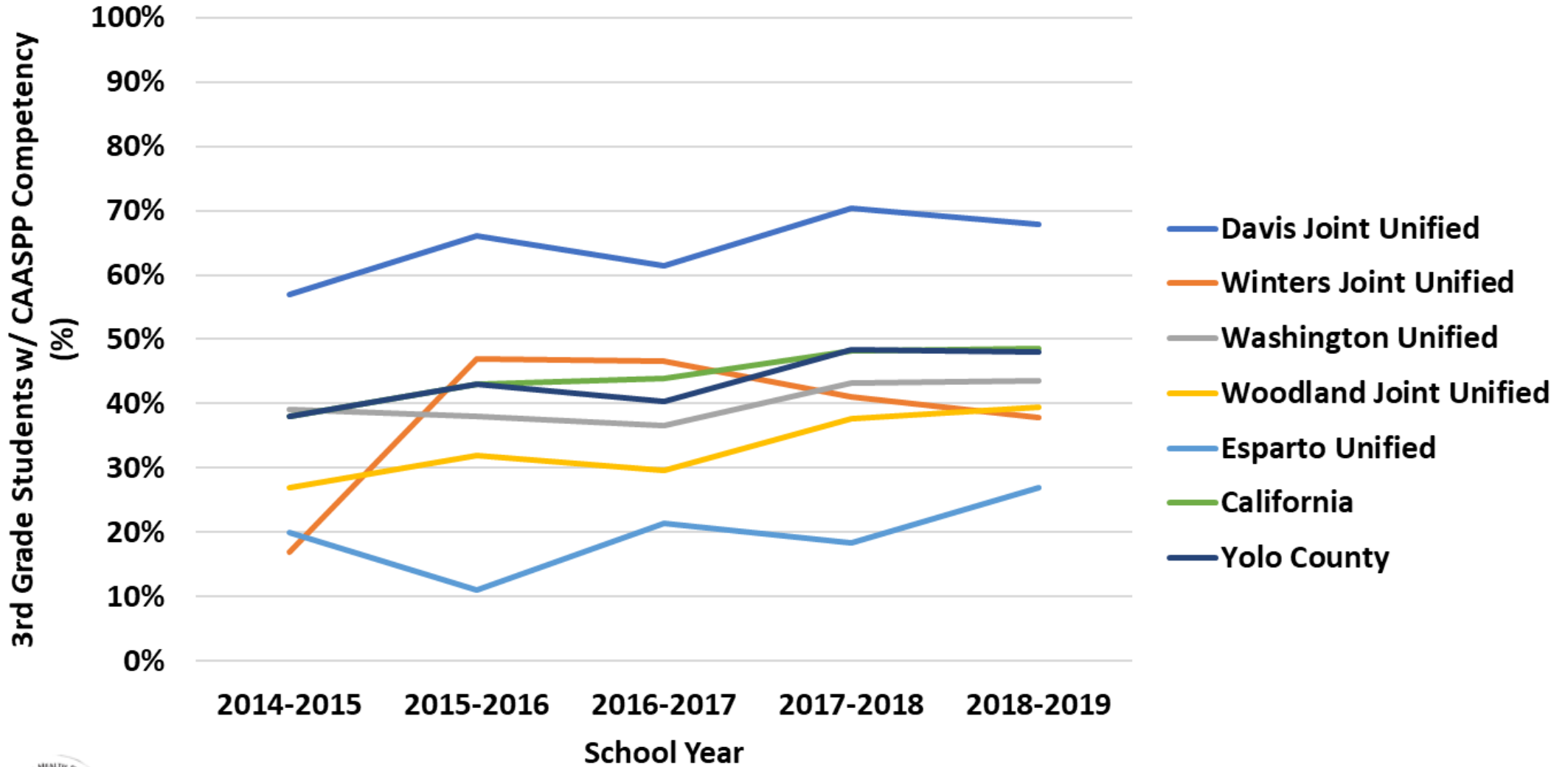


— California — Yolo County

Source: As cited on kidsdata.org, California Dept. of Education, DataQuest & Special Education Division custom tabulation; National Center for Education Statistics, Digest of Education Statistics (Jun. 2021).



3rd Grade California Assessment of Student Performance and Progress (CAASPP) English Language Proficiency, Yolo County, 2014-2019

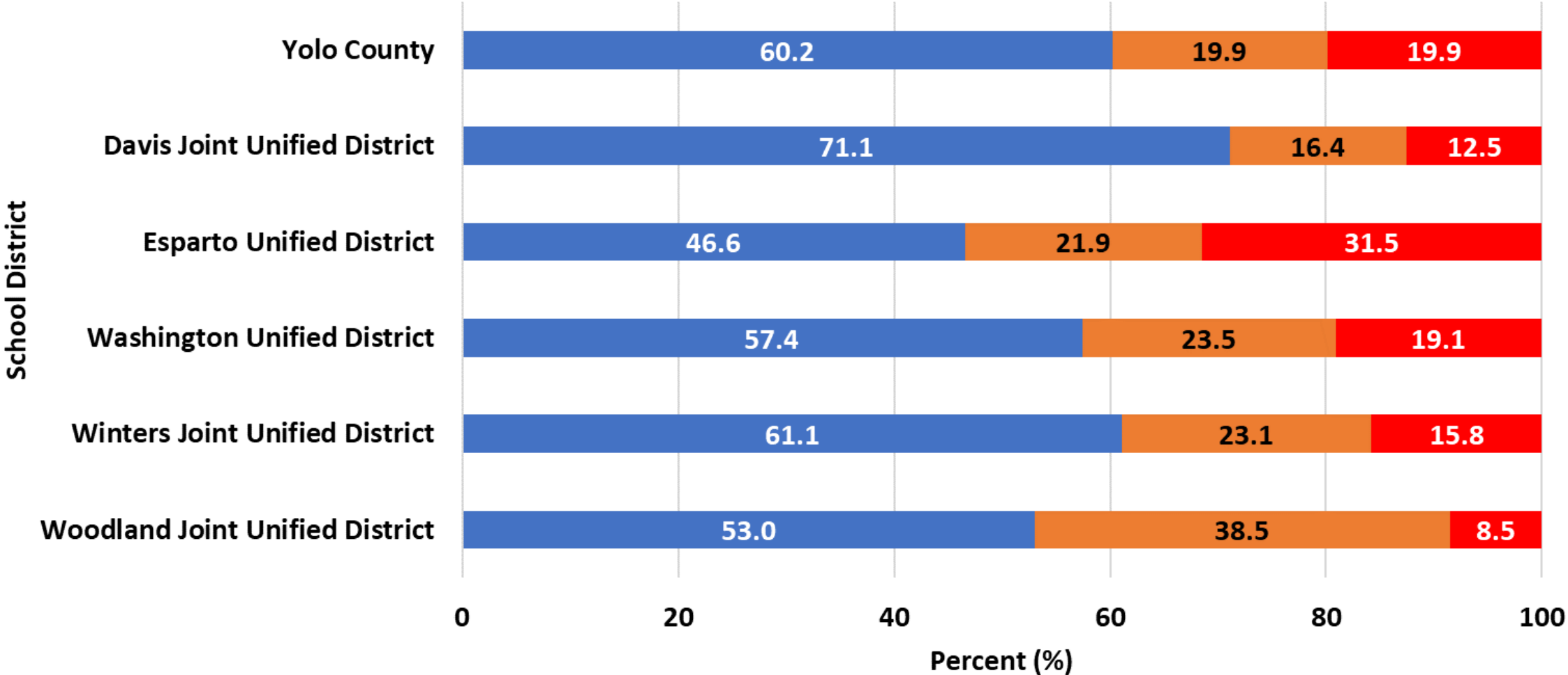


Source: As cited on kidsdata.org, California Dept. of Education, DataQuest & Special Education Division custom tabulation; National Center for Education Statistics, Digest of Education Statistics (Jun. 2021).



Body Composition of 7th Graders by School District, Yolo County, 2018-2019

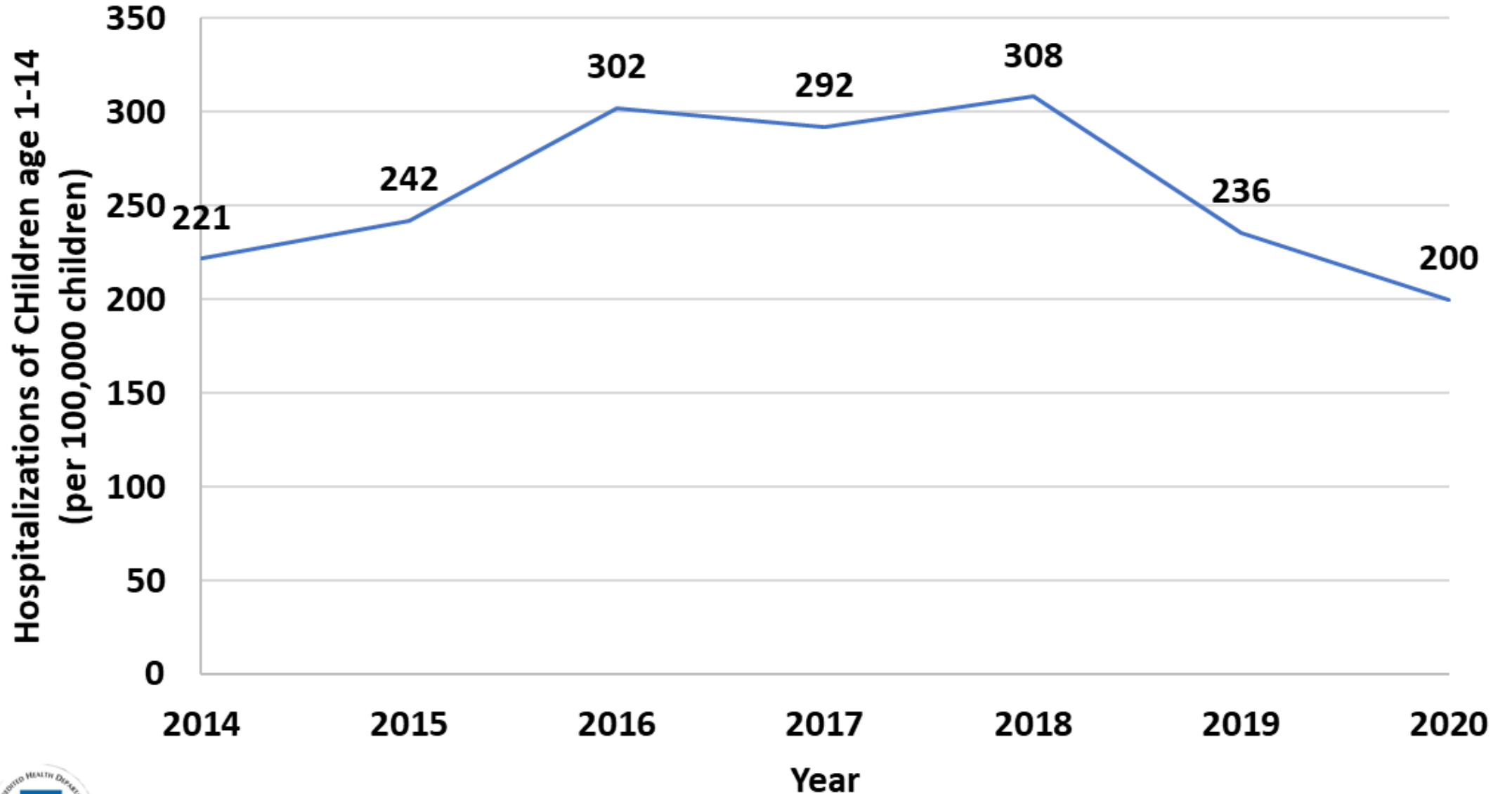
■ Healthy Fitness Zone
 ■ Needs Improvement
 ■ Health-Risk (Obese)



Source: California Department of Education (CDE), School Physical Fitness Testing



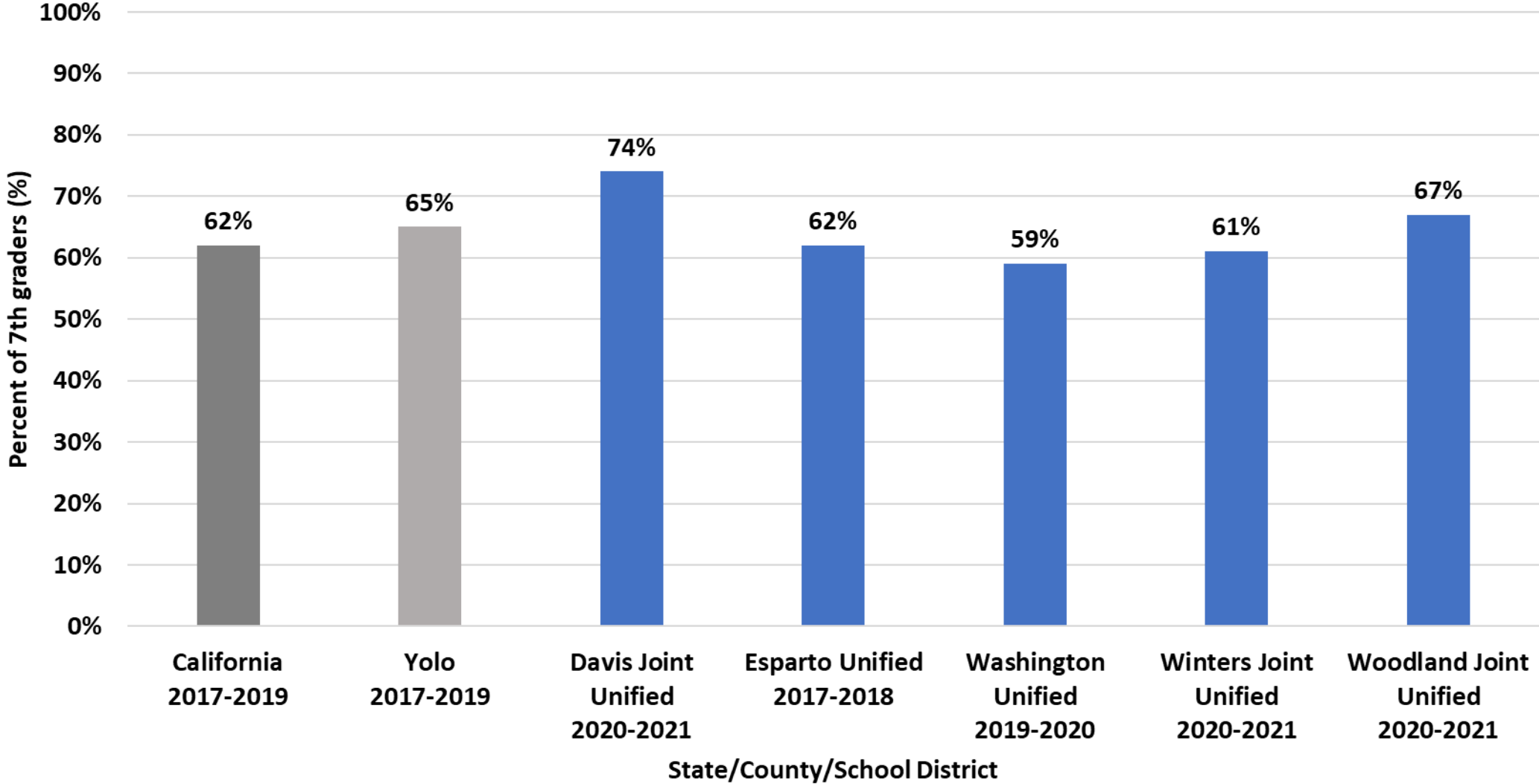
Hospitalization Rates for Mental Health Age 1-14, Yolo County, 2014-2020



Source: Department of Health Care Access & Information (HCAI), Patient Discharge Data



School Connectedness by School District for 7th graders, 2017-2021

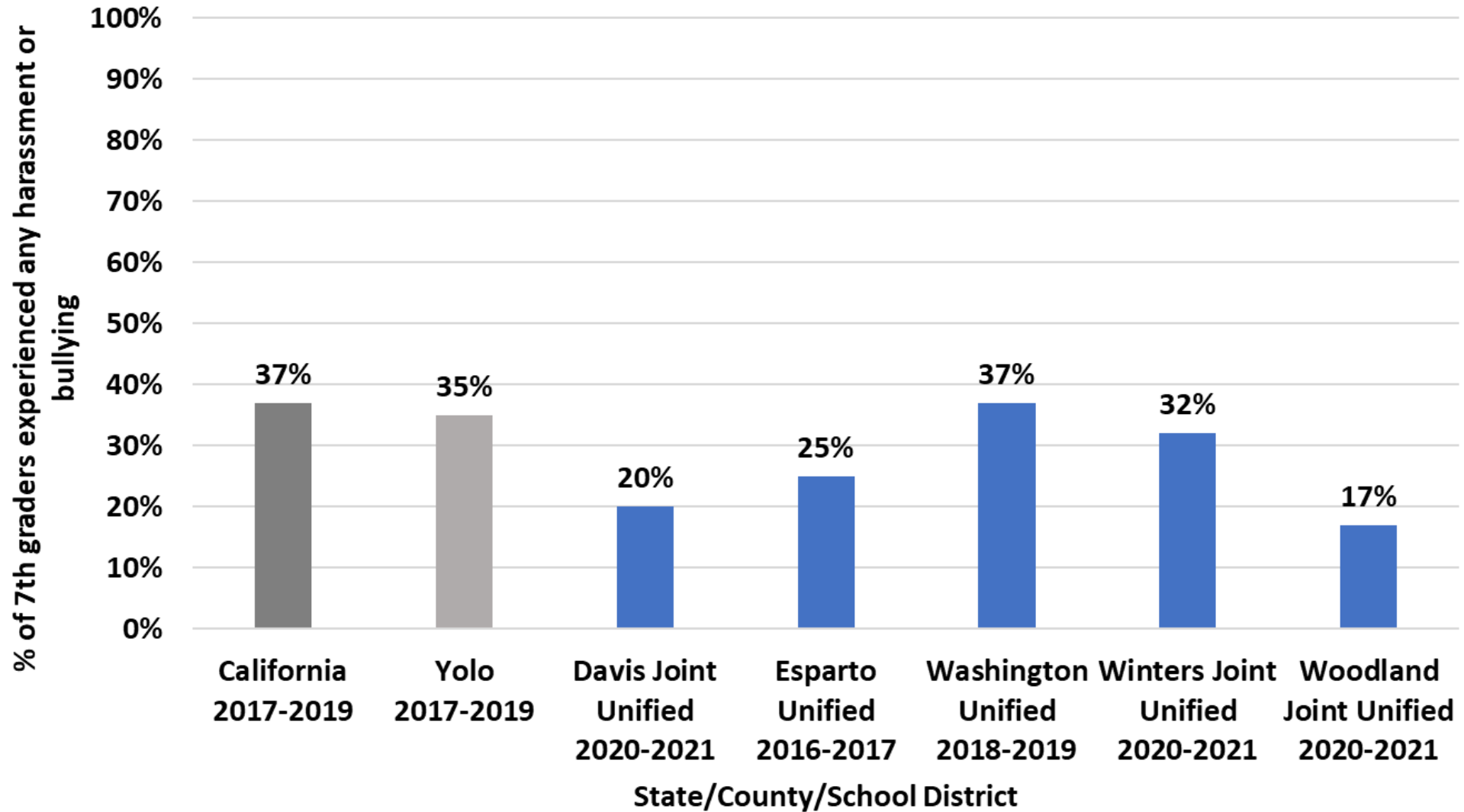


Note: School measurements taken at different time periods. Most recent data present.

Source: California School Climate, Health, and Learning Surveys (CaSCHLS)



Harassment and Bullying by School District in 7th grade, 2016-2021

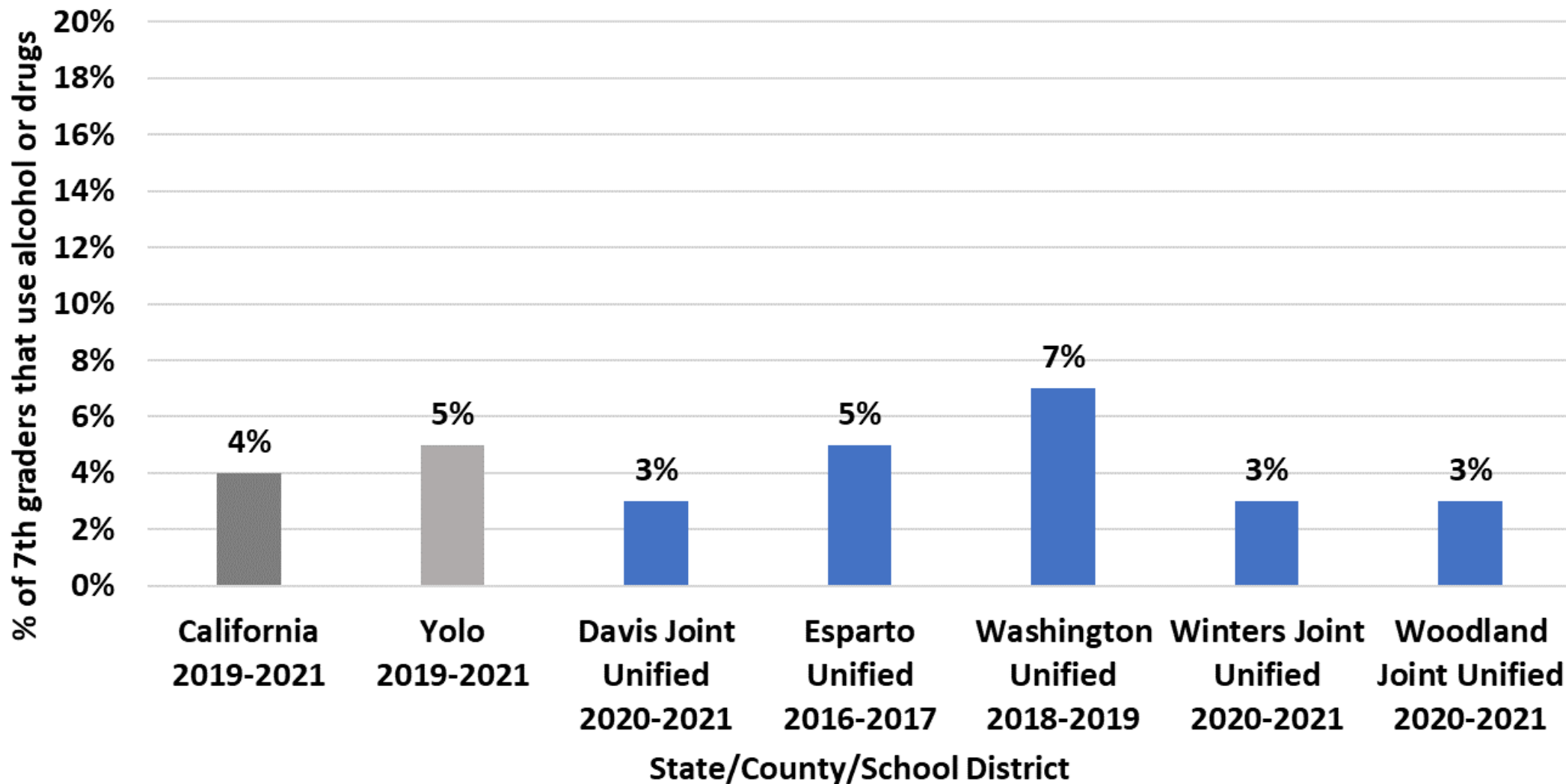


Note: School measurements taken at different time periods. Most recent data present.

Source: California School Climate, Health, and Learning Surveys (CaSCHLS)



Drug/Alcohol Use Past 30 days by School District in 7th grade



Note: School measurements taken at different time periods. Most recent data present.

Source: California School Climate, Health, and Learning Surveys (CaSCHLS)

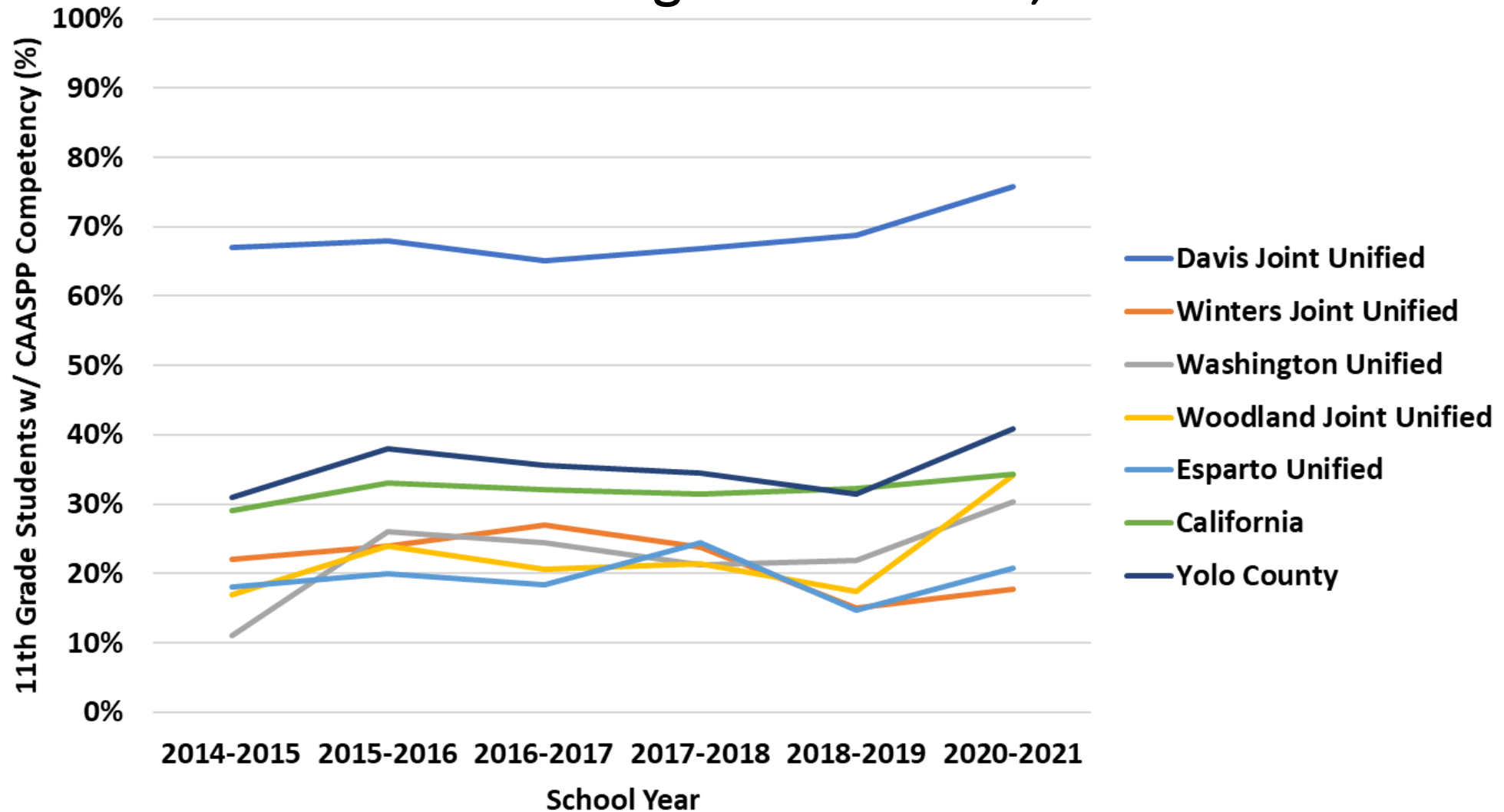


Teen/Young Adult Indicators

Scholastic Achievement – 11th Grade
High School Graduation
Sexually Transmitted Disease (STD) Rates
Teen Pregnancy
Current Drug/Alcohol Use
Suicide Ideation
Youth (Age 15-24) Mortality



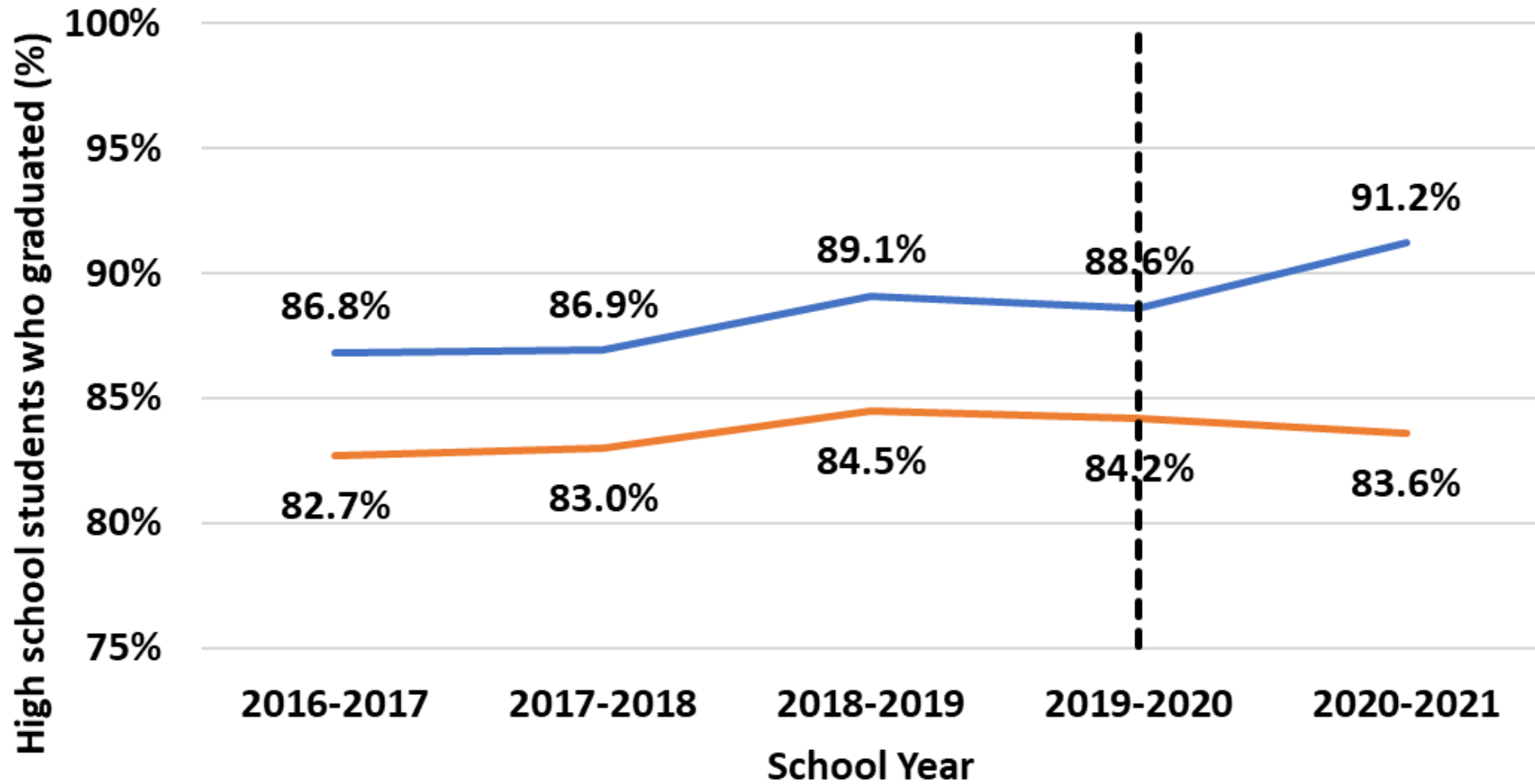
11th Grade Math, Met or Exceeded California Assessment of Student Performance & Progress Standards, 2014-2019



Note: No data for 2019-2020 because testing suspending due to COVID-19 pandemic.
 Source: California Department of Education (CDE)



High School Graduate Rate, Yolo County vs. California, 2016-2021

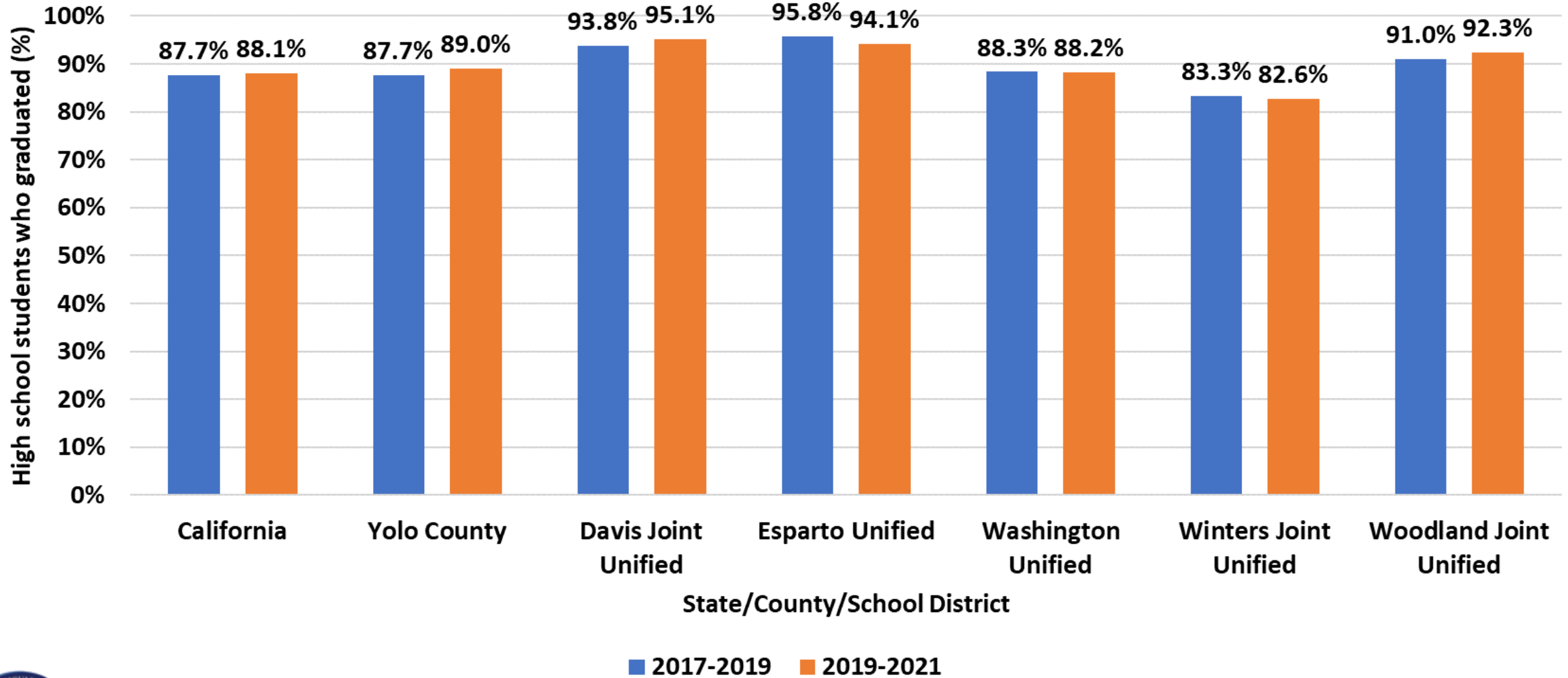


— Yolo County — California - - - Pandemic

Source: California Department of Education (CDE)



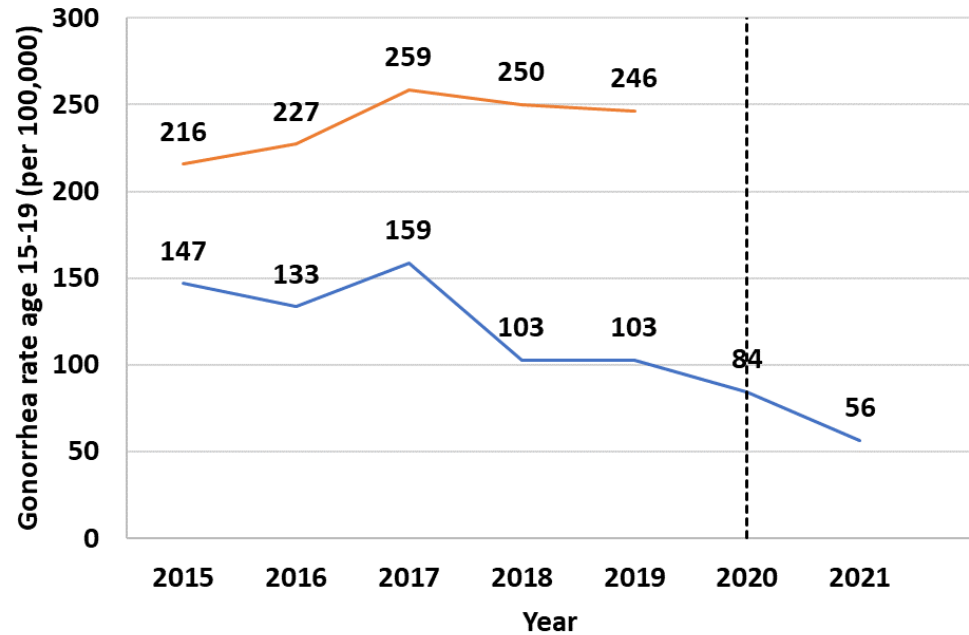
High School Graduation Rates by School District, 2017-2021



Source: California Department of Education (CDE)



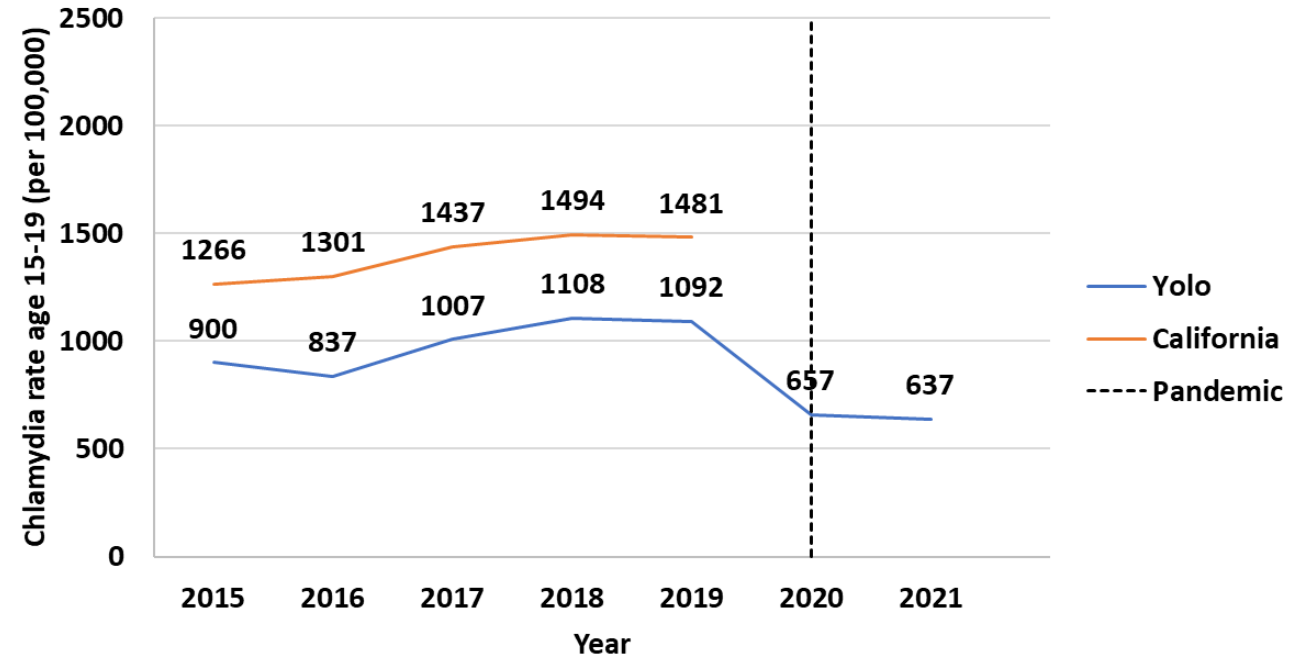
Sexually Transmitted Disease (STD) Rates Among 15-19 years, Yolo County, 2015-2021



Gonorrhea: Significant decreasing trend in Yolo County (RSQ = 0.8) but persist in California.

— Yolo
— California
- - - Pandemic

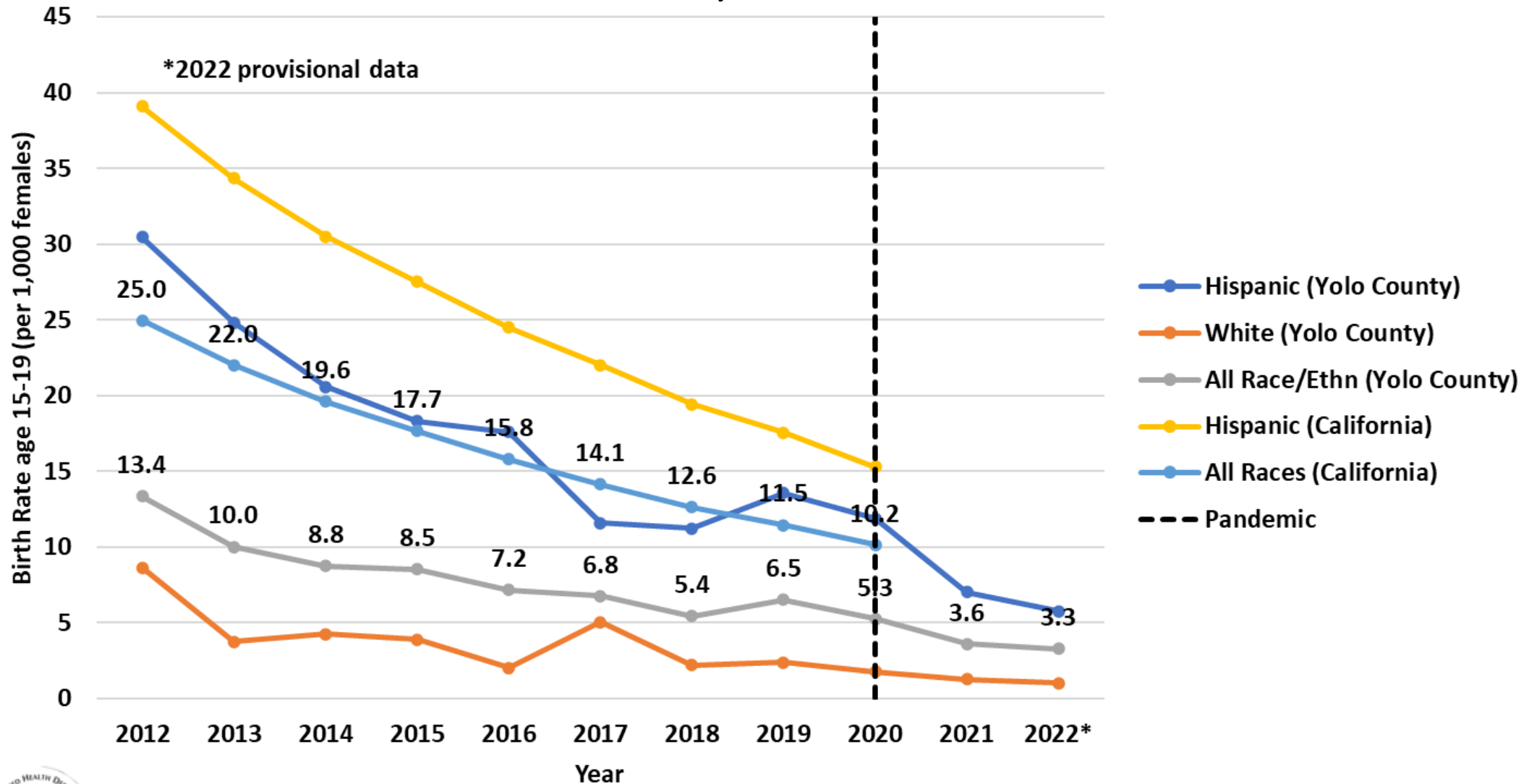
Chlamydia: Significant increase in Yolo County up to 2019 (RSQ = 0.8) while California moderately increases up to 2019 (RSQ = 0.6).



— Yolo
— California
- - - Pandemic



Teen (Age 15-19) Birth Rates by Race-Ethnicity, Yolo County vs. California, 2012-*2022



Source: Vital Records (VRBIS); CDC Wonder, California Data



Teen (Age 15-19) Birth Rates by ZIP Code, Yolo County, 2013-2017 & 2017-2021

Map(s) needed, have numbers, but need zip code population denominators for age group



Source: Vital Records (VRBIS)

Teen Birth Disparities

In **2017**: 76 Births to teens aged 15 to 19

- 42/76 (55%) were to Hispanic teens (fewer than in the past)
- 32/76 (42%) were to Woodland residents
- 24/76 (32%) were to West Sacramento residents

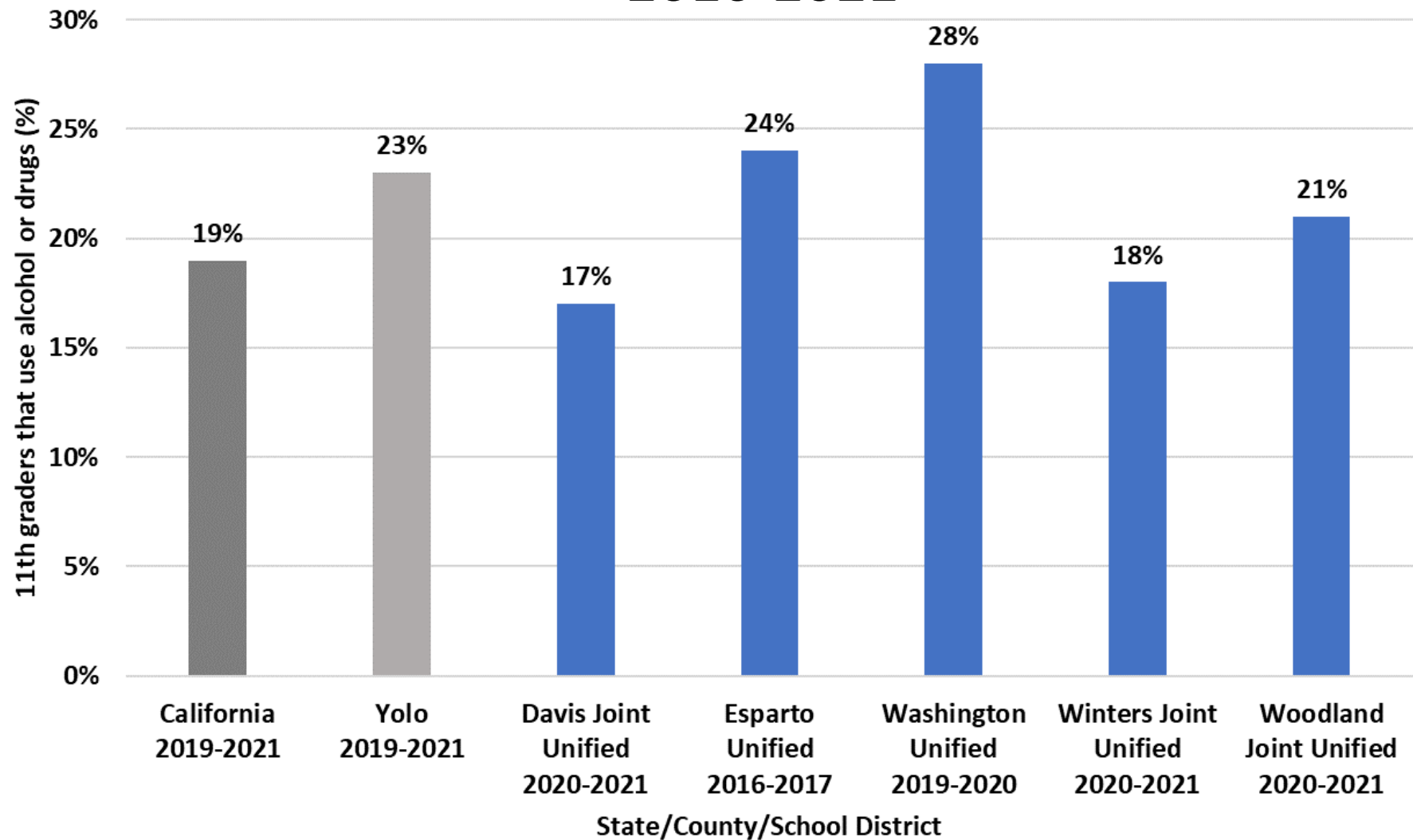
In **2020**: 61 Births to teens aged 15 to 19

- 46/61 (75%) were to Hispanic teens (**20% increase from 2017**)
- 25/61 (41%) were to Woodland residents (**slight decrease**)
- 18/61 (30%) were to West Sacramento residents (**slight decrease**)



Source: Vital Records (VRBIS)

Alcohol/Drug Use (past 30 days) by School District for 11th graders 2016-2021

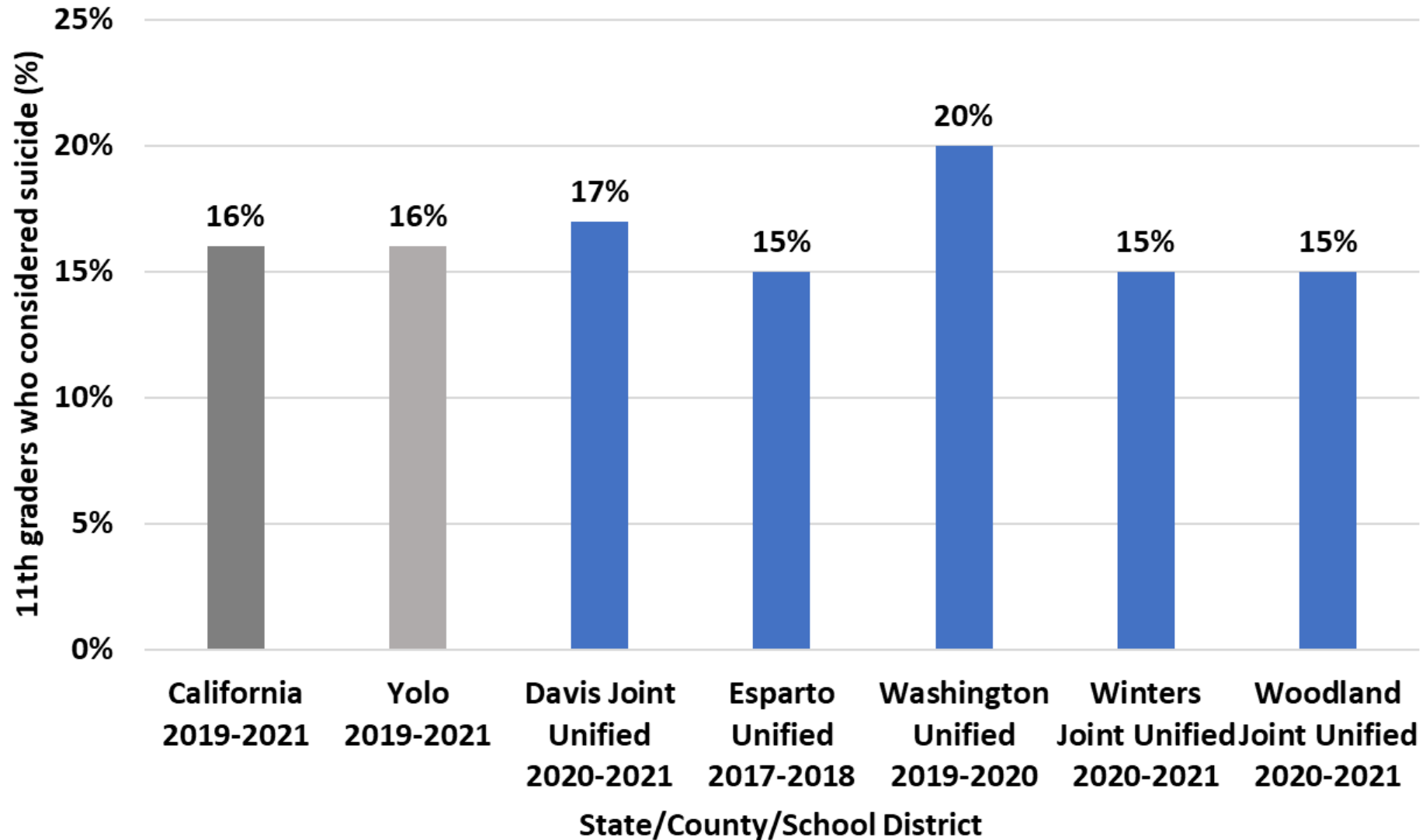


Note: School measurements taken at different time periods. Most recent data present.

Source: California School Climate, Health, and Learning Surveys (CaSCHLS)



Seriously Considered Suicide in 11th Graders, 2017-2021

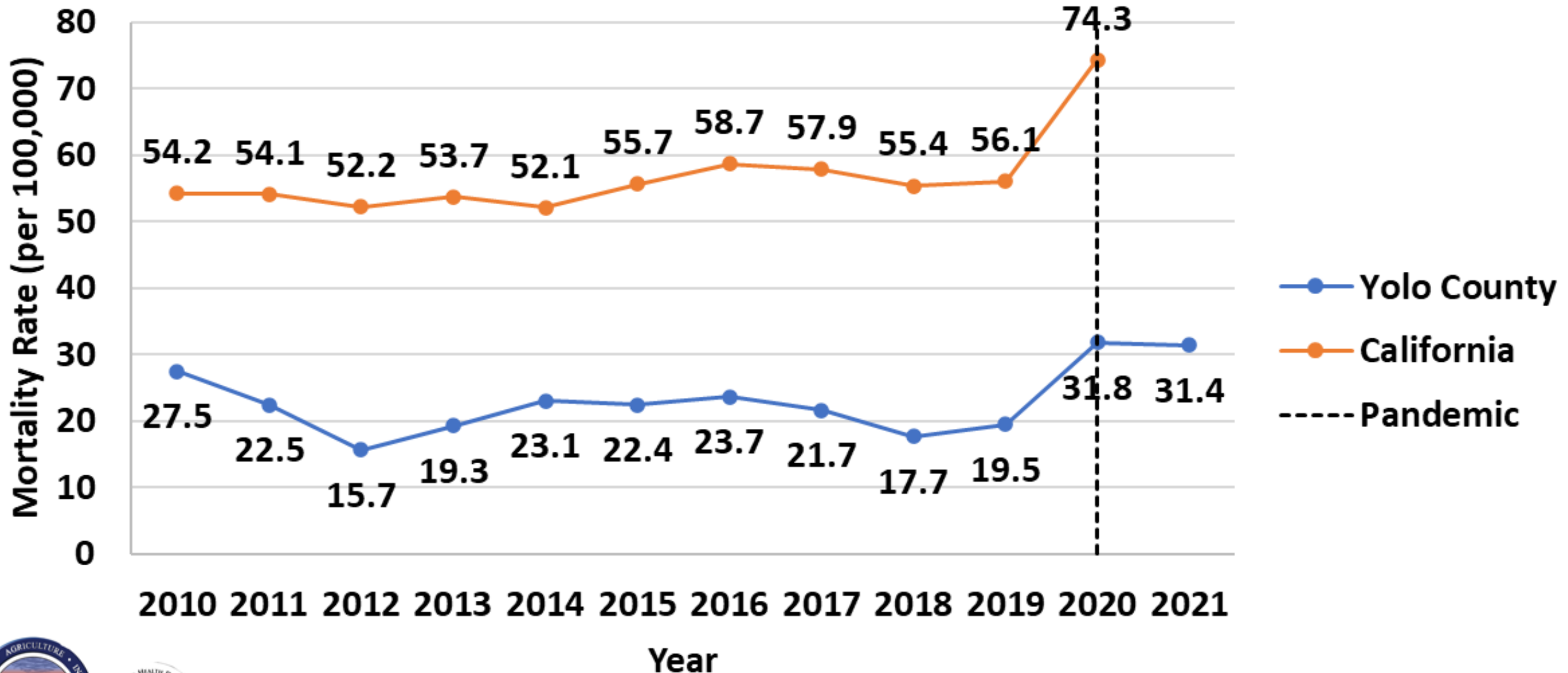


Note: School measurements taken at different time periods. Most recent data present.

Source: California School Climate, Health, and Learning Surveys (CaSCHLS)



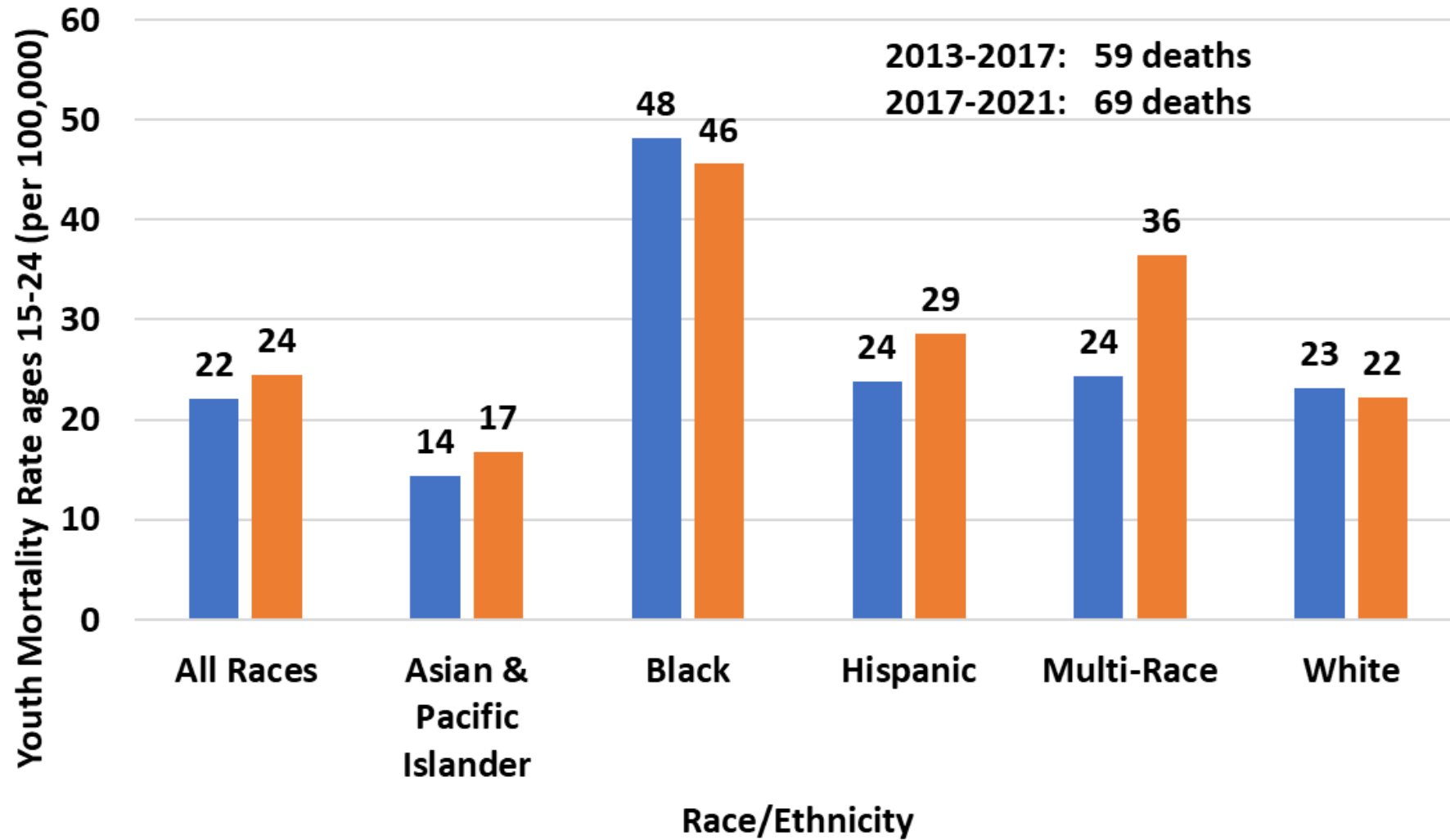
Youth (Age 15-24) Mortality Rates, Yolo County vs. California, 2010-2020



Source: Vital Records (VRBIS); CDC Wonder, California Data



Youth (Age 15-24) Mortality Rates by Race-Ethnicity, Yolo County, 2013-2021

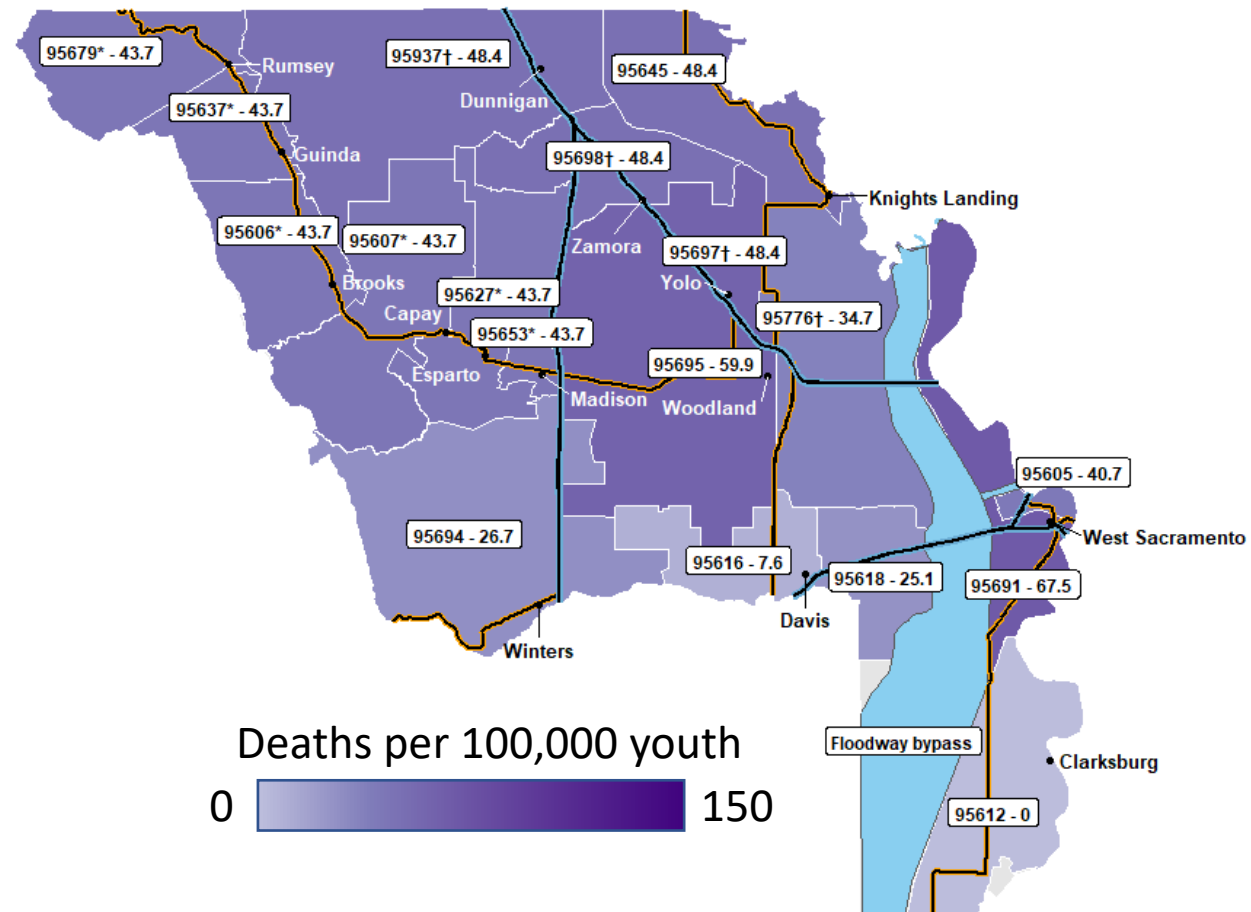
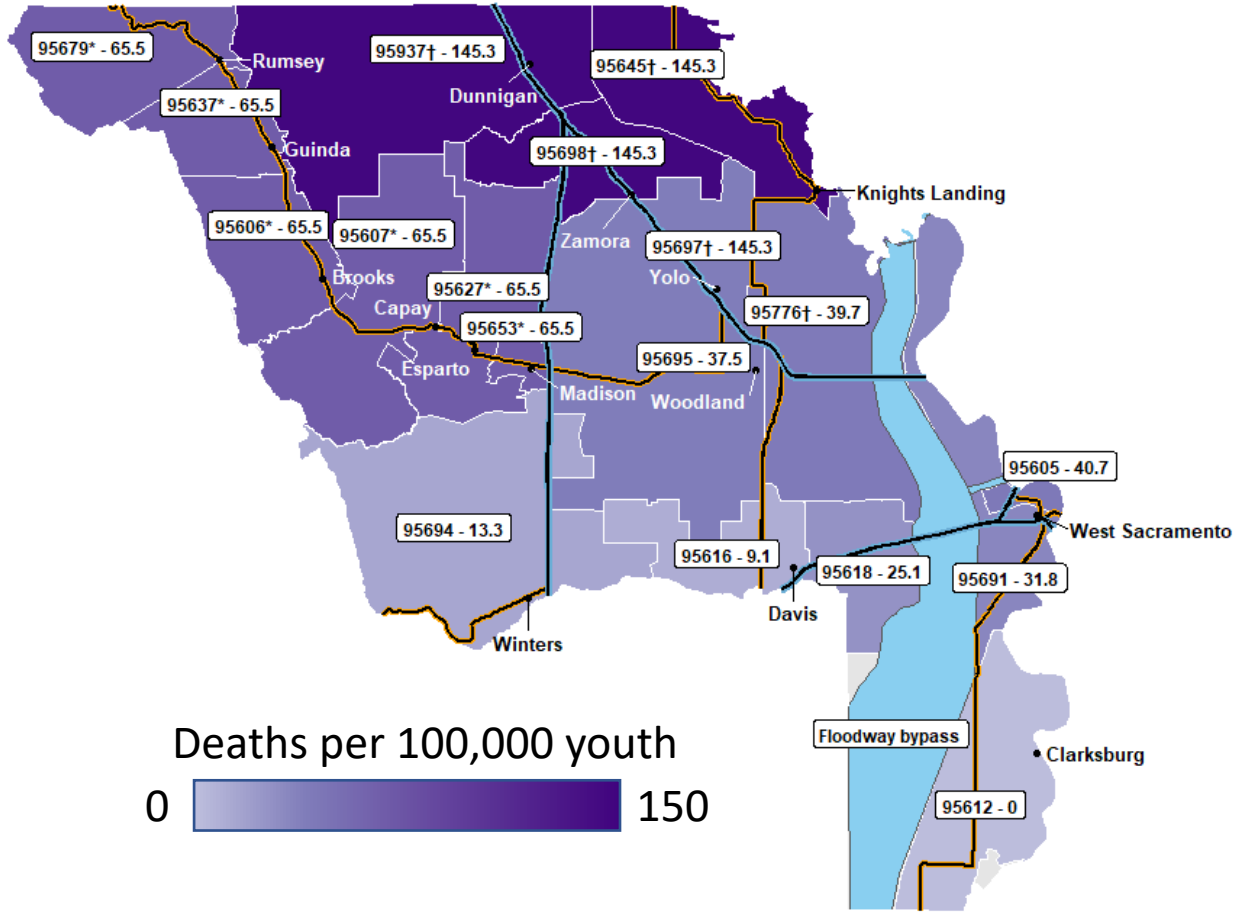


Source: Vital Records (VRBIS); CDC Wonder, California Data

Youth (Age 15-24) Mortality Rates by ZIP Code

2013-2017

2017-2021



Notes:

* Average across all Capay Valley zip codes

† Average across all North County zip codes

Source: Vital Records (VRBIS)



Top Three Cause of Death in Youth (age 15-24), Yolo County, 2018-2021

2018-2021 Aggregate:

1. Accidents (Unintentional Injuries)
 - Rate: 11.03 per 100,000 (7.14, 16.28)
2. Motor Vehicle Traffic Crashes
 - Rate: 5.29 per 100,000 (2.73, 9.24)
2. Firearm Related Deaths
 - Rate: 5.29 per 100,000 (2.73, 9.24)



Source: Vital Records (VRBIS); ACS population data

Conclusions - Accomplishments

- 1st trimester PNC entries (up to 2021)
- Neonatal & Post-neonatal Mortality rates (up to 2021)
- Rates and cases of substantiated child abuse (down from 2019 peak)
- Vaccination in schools (absolute increase over time period)
- High school graduation (increasing in 2021)
- Sexually transmitted diseases (decrease from 2019 to 2021)
- 11th grade alcohol/substance use (decrease in 2019-2021)
- Infant Mortality rates (decrease in 2017-2021)
- Teen Birth Rates (steadily decreasing; including Hispanics)



Conclusions – Things to keep an eye on

- Hospitalization rates (women w/ mental health diagnosis)
- Preterm births (increased from 2018 but dropping in 2021)
- Gestational diabetes mellitus (increased in 2018, dropping in 2021)
- Exclusive breastfeeding in hospital (max in 2015)
- Denti-Cal Utilization (steady rise up until pandemic)
- Teen birth **disparities** (West Sacramento & Woodland)
- Suicidal Ideation (no real change but still high)
- Youth mortality (steady rise in 2020, no change in 2021)



Conclusions – Areas for Improvement

- Pre-pregnancy obesity in multiparous mothers (steady increase)
- Poverty disparity for female headed households (>double prevalence)
- Exclusive breastfeeding at 6months (large decline in 2020-2021)
- Oral Health (Esparto, Woodland, & West Sac; 2019-2020)
- Body composition 5th graders (increased overweight & obesity)
- Harassment/bullying 7th grade (increase 2017-2019 at county level)
- Hispanic teen birth rate (75% of teen births for 2017-2021)



Questions?

