

# Maternal Child and Adolescent Health Indicators

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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 State data and between subgroups
- ▶ Enable analysis of trends and progress towards goals (such as Healthy People 2020)
- ▶ 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
- ▶ We **welcome input** about trends or issues you think we should be tracking

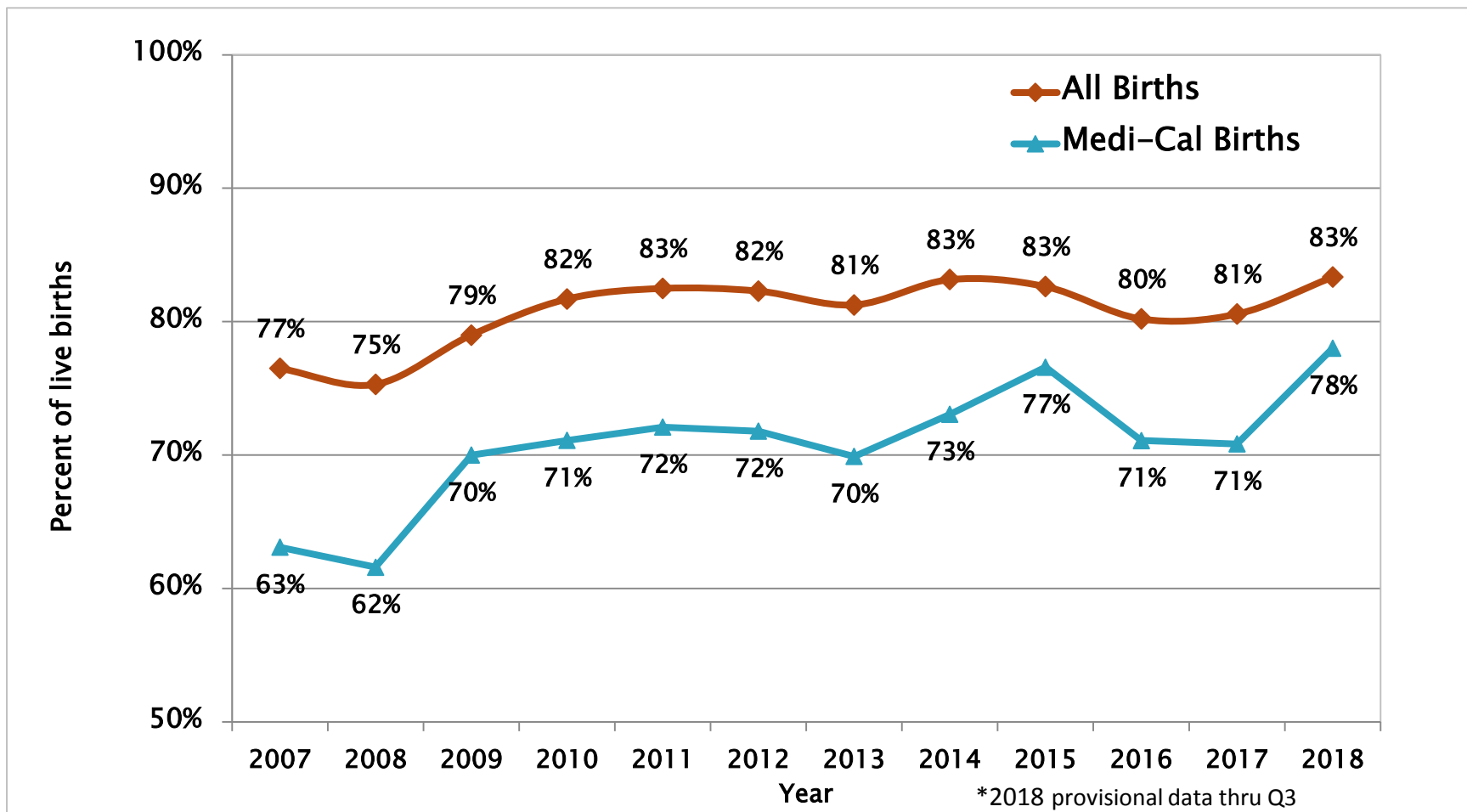


# Maternal–Infant Indicators

- Prenatal Care
- » Mental Health/Substance Use
- Hospitalizations
- Preterm Birth
- Obesity and GDM
- Poverty by City Age 0–5
- FPL and Household Income
- Breastfeeding Rates
- Infant and Fetal Mortality



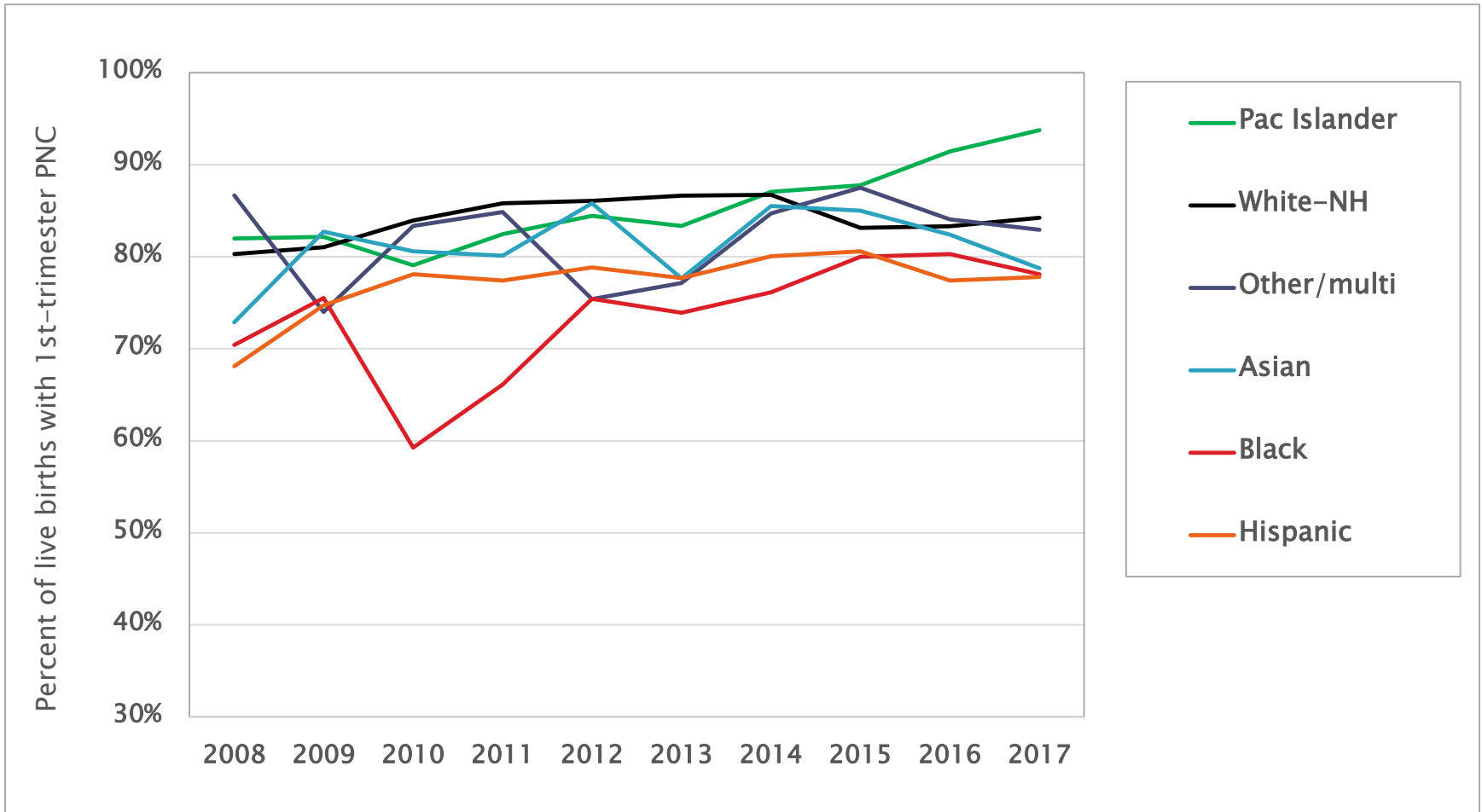
# 1<sup>st</sup> Trimester Entry into Prenatal Care, Yolo County Resident Live Births, 2007–2018



Source: Yolo County HHSA Community Health Branch, Vital Records Business Information System (VRBIS)



# 1<sup>st</sup>-Trimester Entry into Prenatal Care (PNC) by Race-Ethnicity



Source: Yolo County HHSA Community Health Branch, VRBIS



# Percent of Births with First-Trimester PNC by ZIP Code, Yolo County, 2017

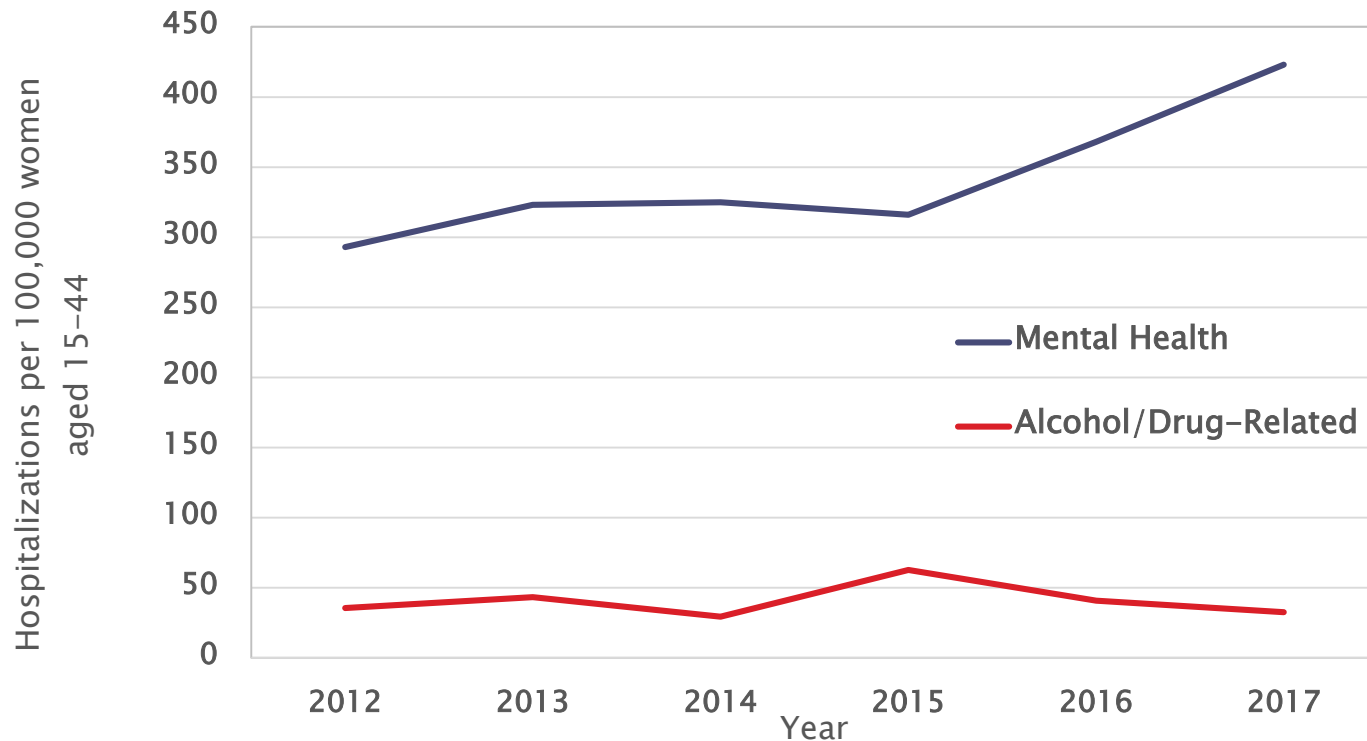
Have data, need map

Source: Yolo County HHSA Community Health Branch, VRBIS





# Hospitalization Rates for MDC\*=19 (MH) and MDC=20 (A/D), Women Aged 15 to 44, Yolo County, 2012-2017

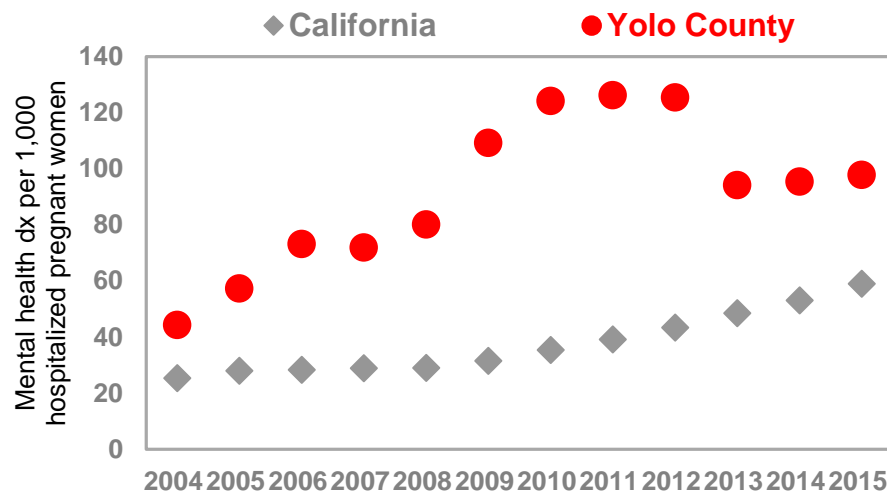


\*Major Diagnostic Category 19=Mental Health and 20=Alcohol or Drug Abuse

Source: Office of Statewide Planning and Development (OSHPD), Patient Discharge Data, Yolo County residents

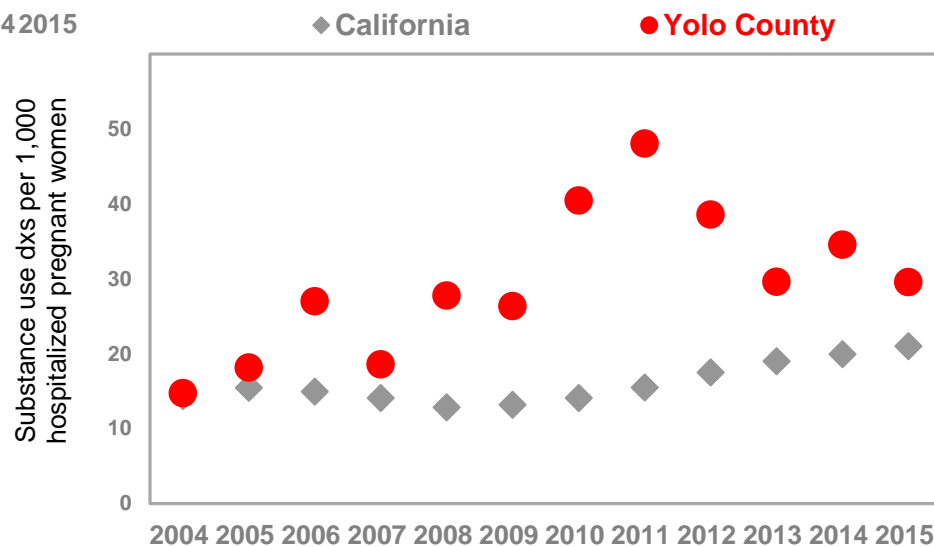


# Hospitalization Rates for Pregnant Women with MH/Substance Use Diagnoses vs. California



Hospitalizations for Mental Health (MH) diagnoses, pregnant women

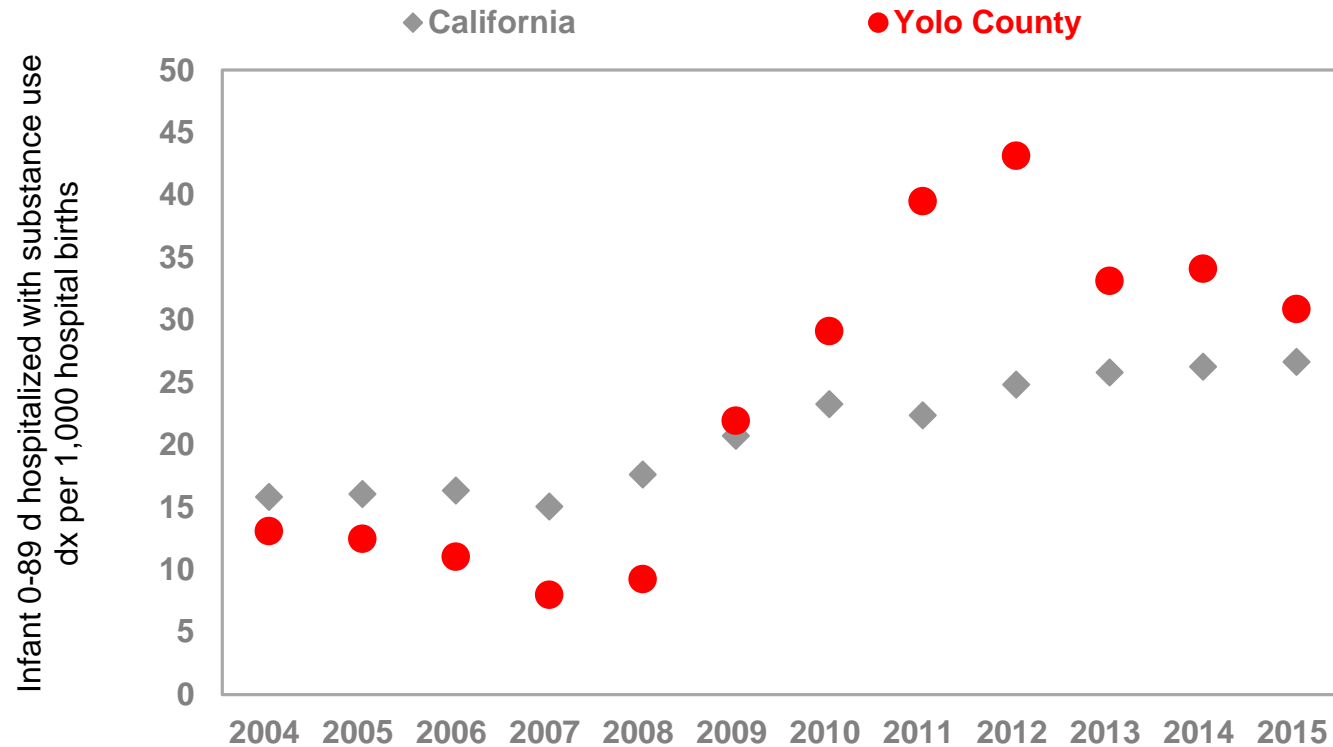
Hospitalizations for substance use diagnoses, pregnant women



Source: Family Health Outcomes Project (FHOP), OSHPD Patient Discharge Data, Yolo County vs. California



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

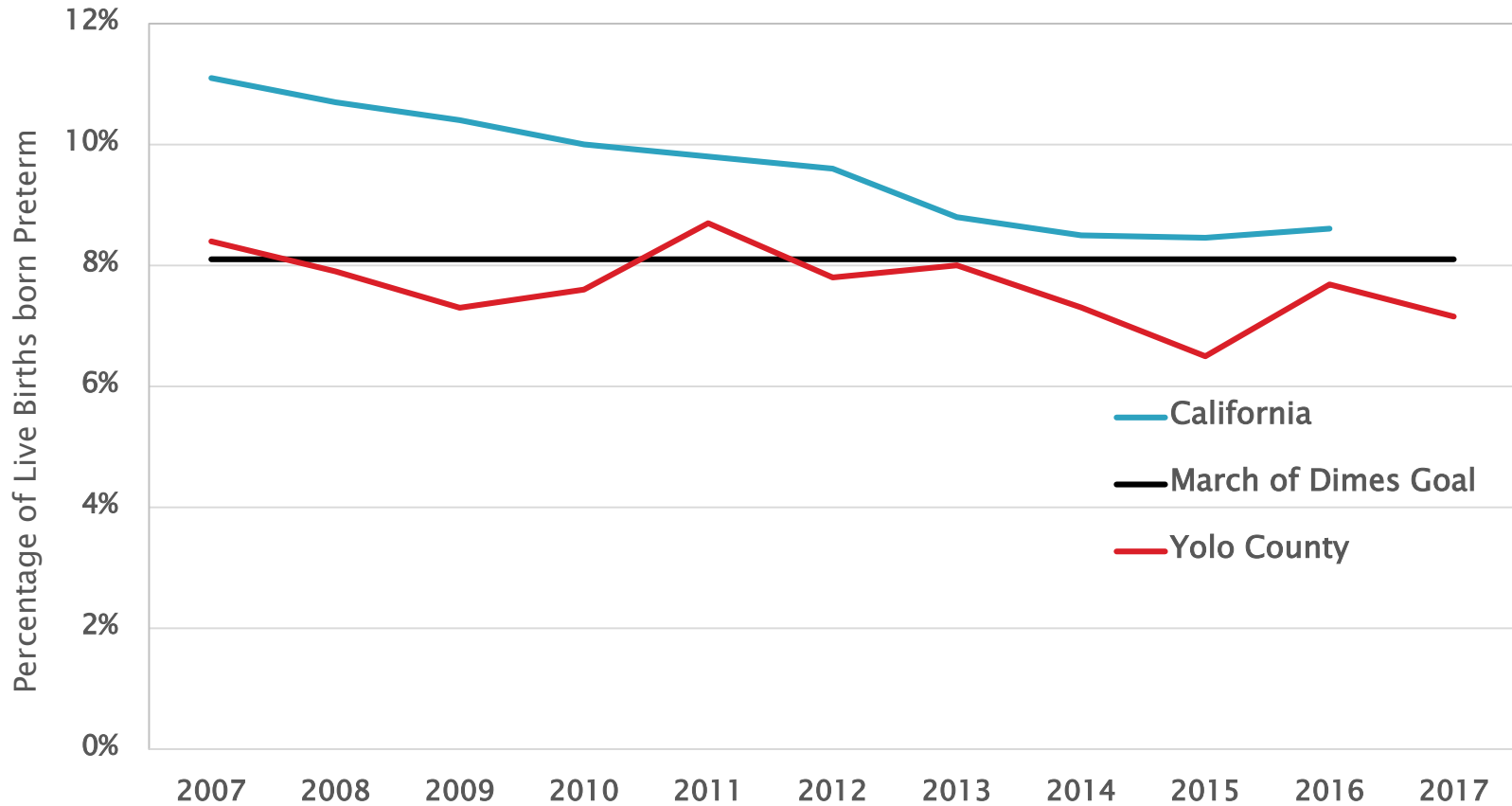


In Yolo County, increased from 31 in 2004 to 105 in 2012, down to 54 in 2015

Source: Family Health Outcomes Project (FHOP), OSHPD Patient Discharge Data, Yolo County vs. California



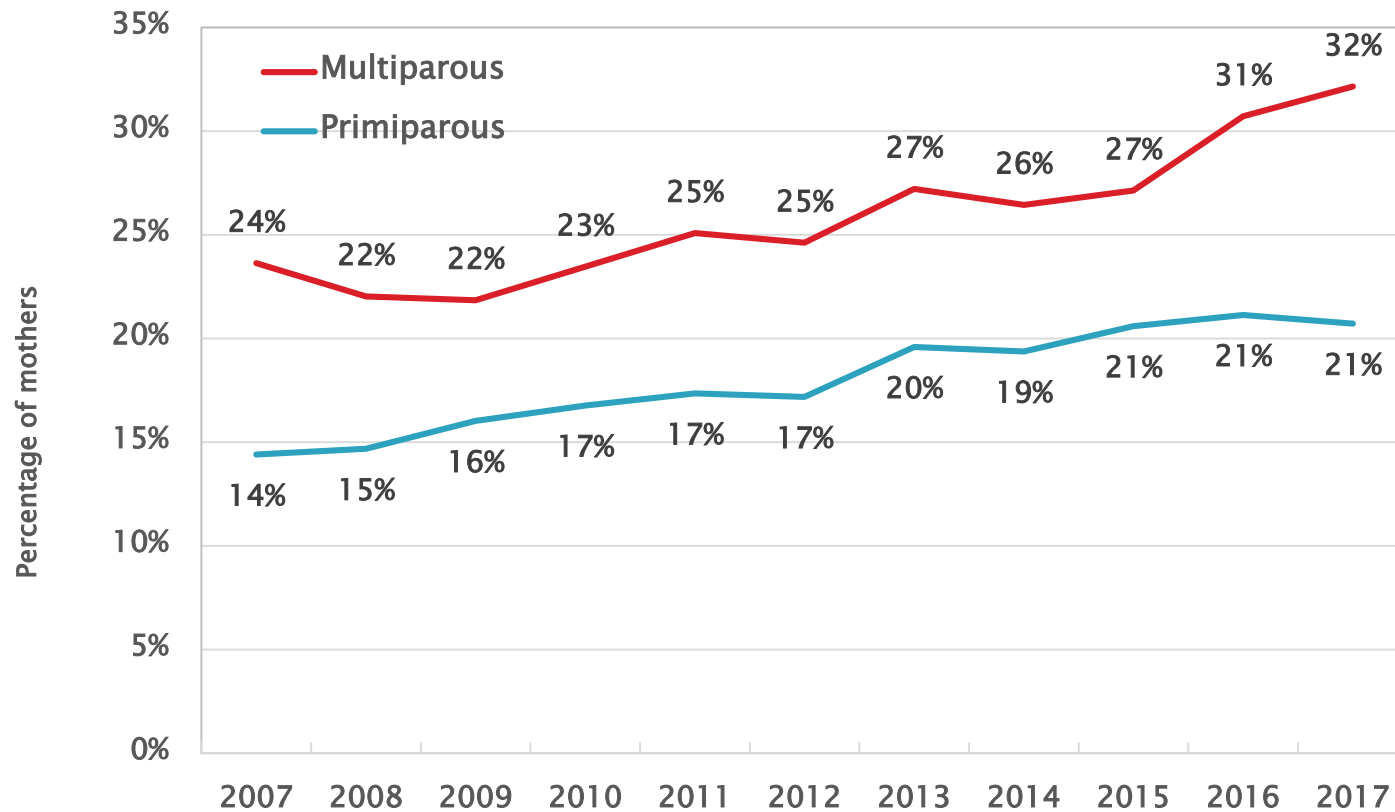
# Percent of Births Preterm (<37 wks), Yolo County Resident Live Births, 2007-2017



Source: Yolo County HHSA Community Health Branch, VRBIS



# Percent of Yolo County Mothers with Pre-Pregnancy BMI $\geq 30$ by Parity, 2007–2017

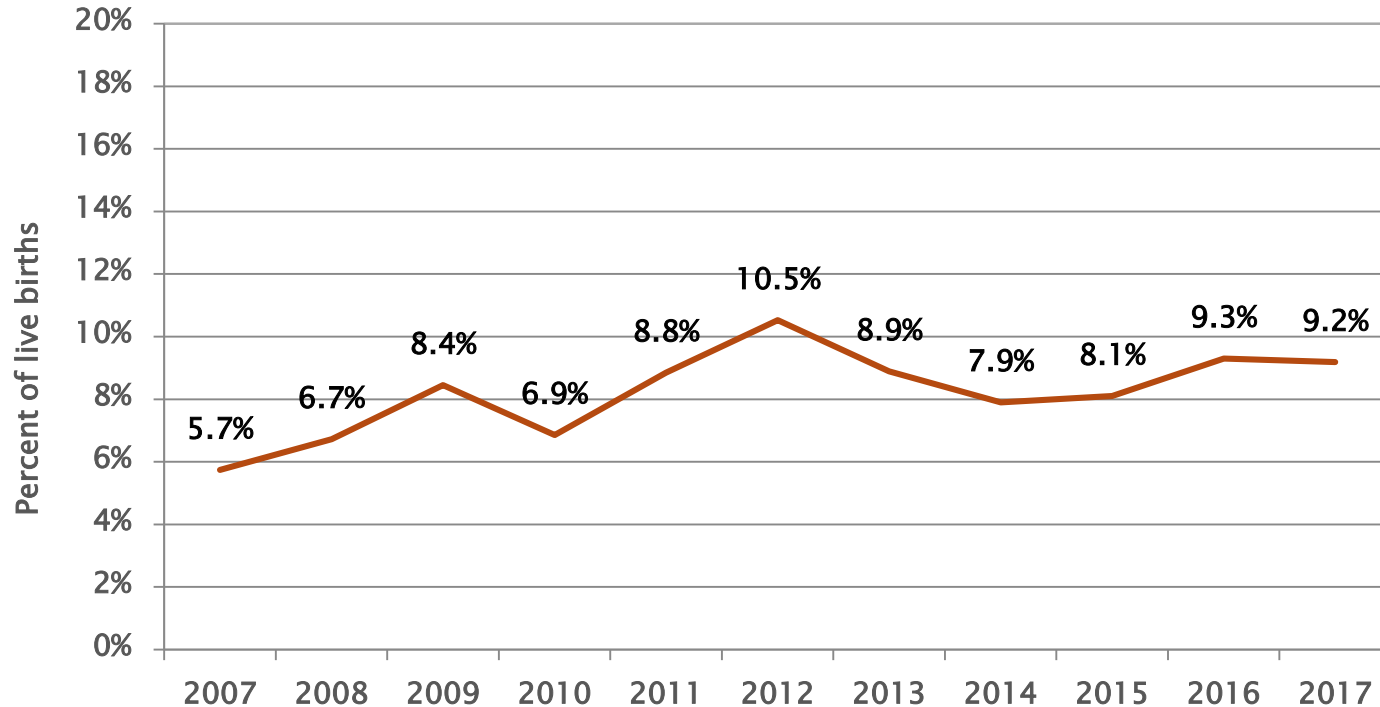


Multiparous: Significant for increasing trend (R squared=0.95)

Source: Yolo County HHSA Community Health Branch, VRBIS



# Percent of Yolo County Births with Gestational Diabetes as a Complicating Factor, 2007–2017

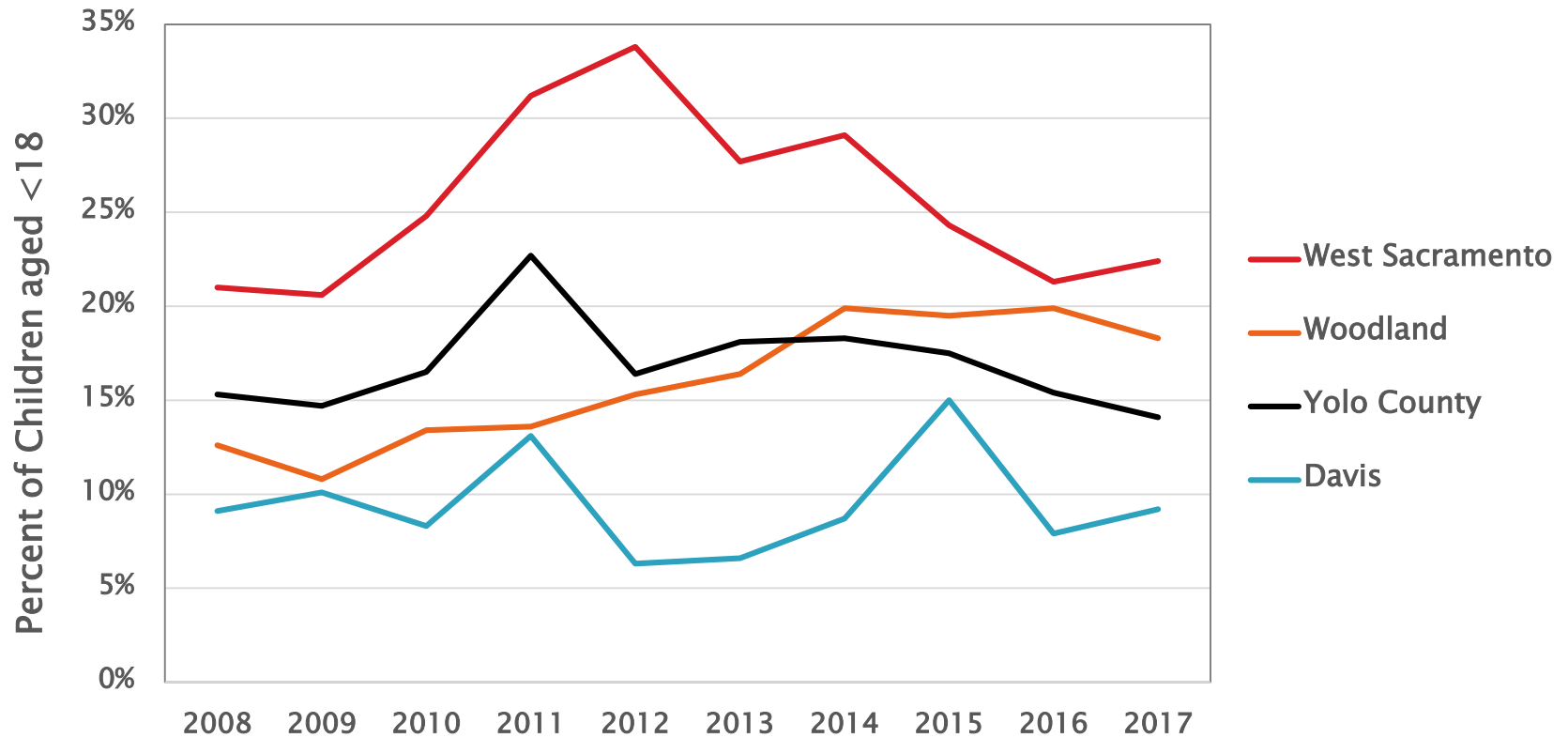


Significant increasing linear trend 2007 to 2012 ( $R^2=0.77$ ), but not since

Source: Yolo County HHS Community Health Branch, VRBIS



# Percent of Yolo County Children <5 years at or below 100% of FPL by City, 2008–2017



Source: American Community Survey, US Census Bureau, 2008–2017 five-year estimates



# Federal Poverty Level (FPL) by Household Size, 2018

Persons in Household	100% FPL
1	\$12,140
2	\$16,460
3	\$20,780
4	\$25,100

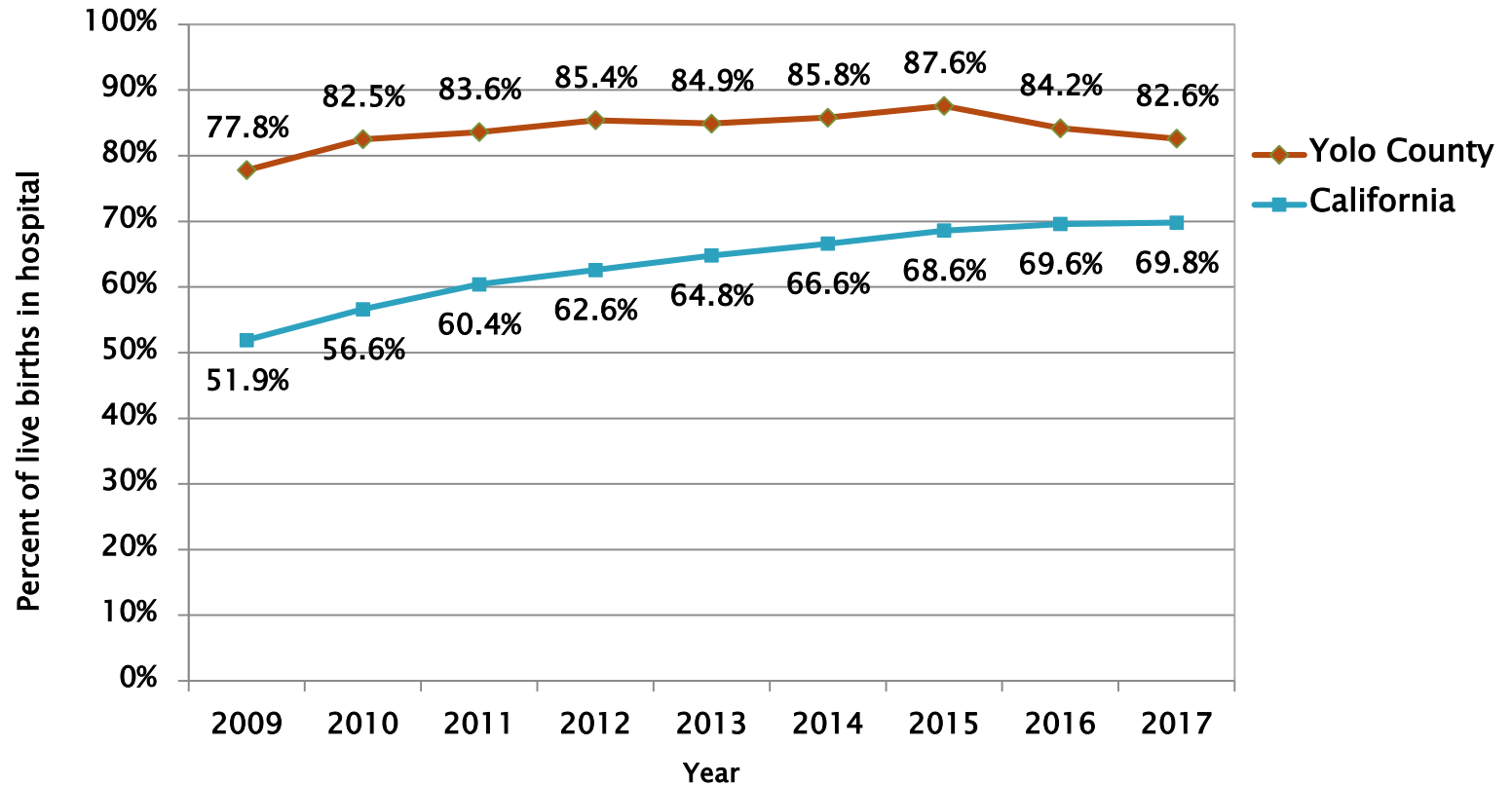
**Median income earnings per worker: \$35,544**  
**Median family income (8.9M families): \$82,009**  
**% of CA families w/children below FPL: 14.5%**  
**% of CA female-headed HHs w/children below FPL: 32.7%**

Source: US Census Bureau Table DP03 (2017) and Federal Register  
<https://www.federalregister.gov/documents/2018/01/18/2018-00814/annual-update-of-the-hhs-poverty-guidelines>





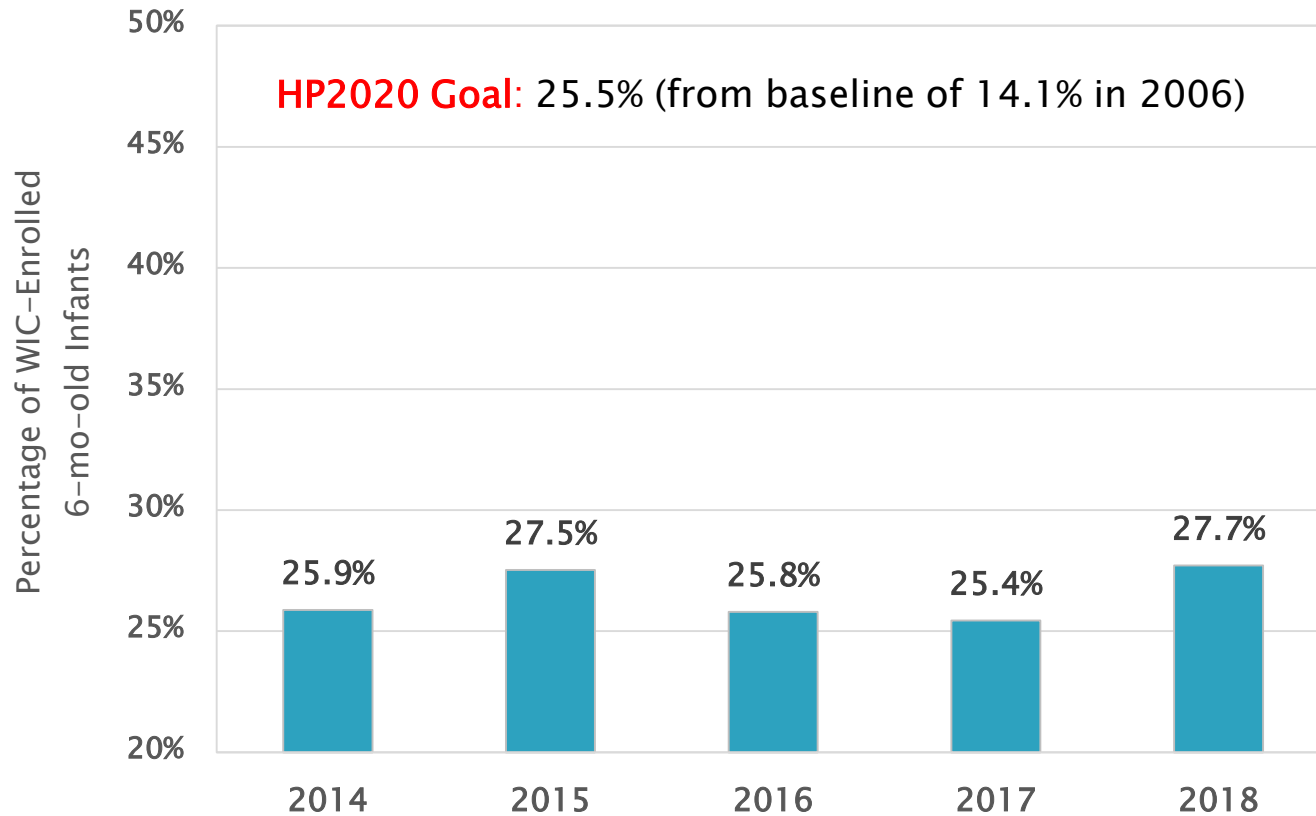
# Percent of Infants Exclusively Breastfed in the Hospital, Yolo County vs. CA 2009–2017



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



# Exclusive Breastfeeding Rates at 6 mos old, Yolo County WIC Program, 2014–2018\*

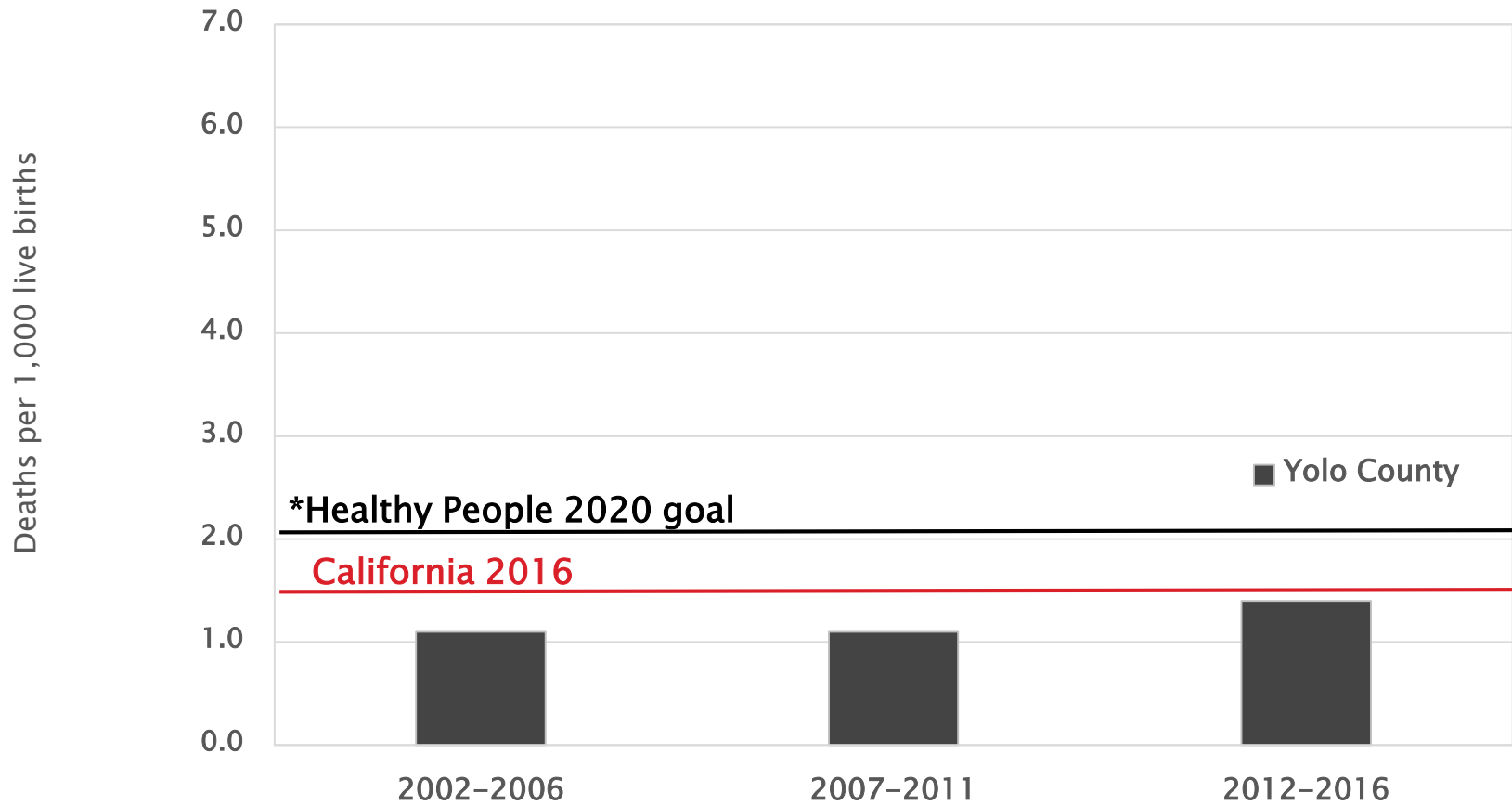


\*Thru November 2018

Source: Yolo County WIC Program, Raptor database



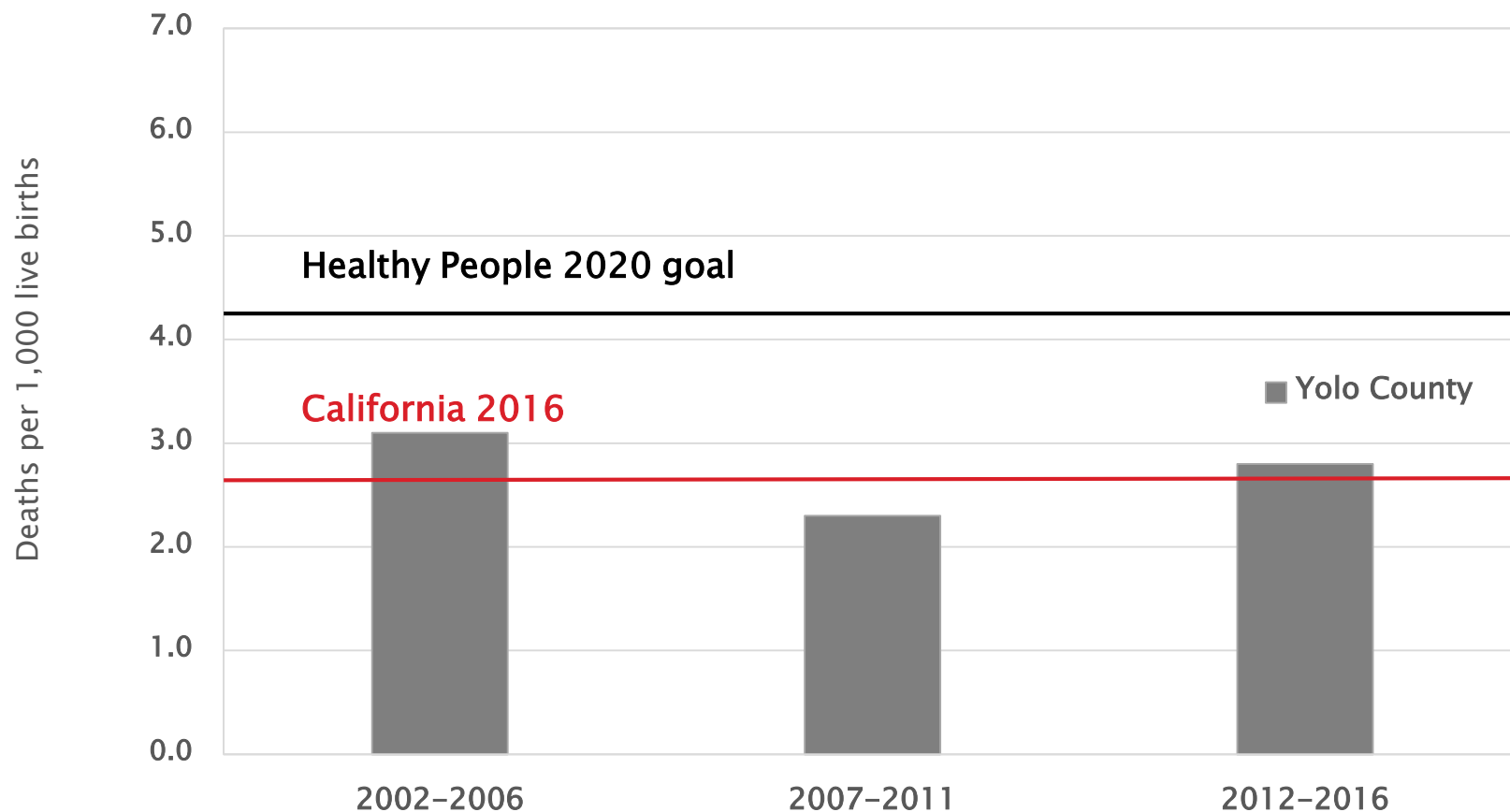
# Yolo County Postneonatal Mortality Rates (Infant $\geq 28$ to $< 365$ d) vs. California and HP2020\*



Source: Yolo County HHS Community Health Branch, VRBIS



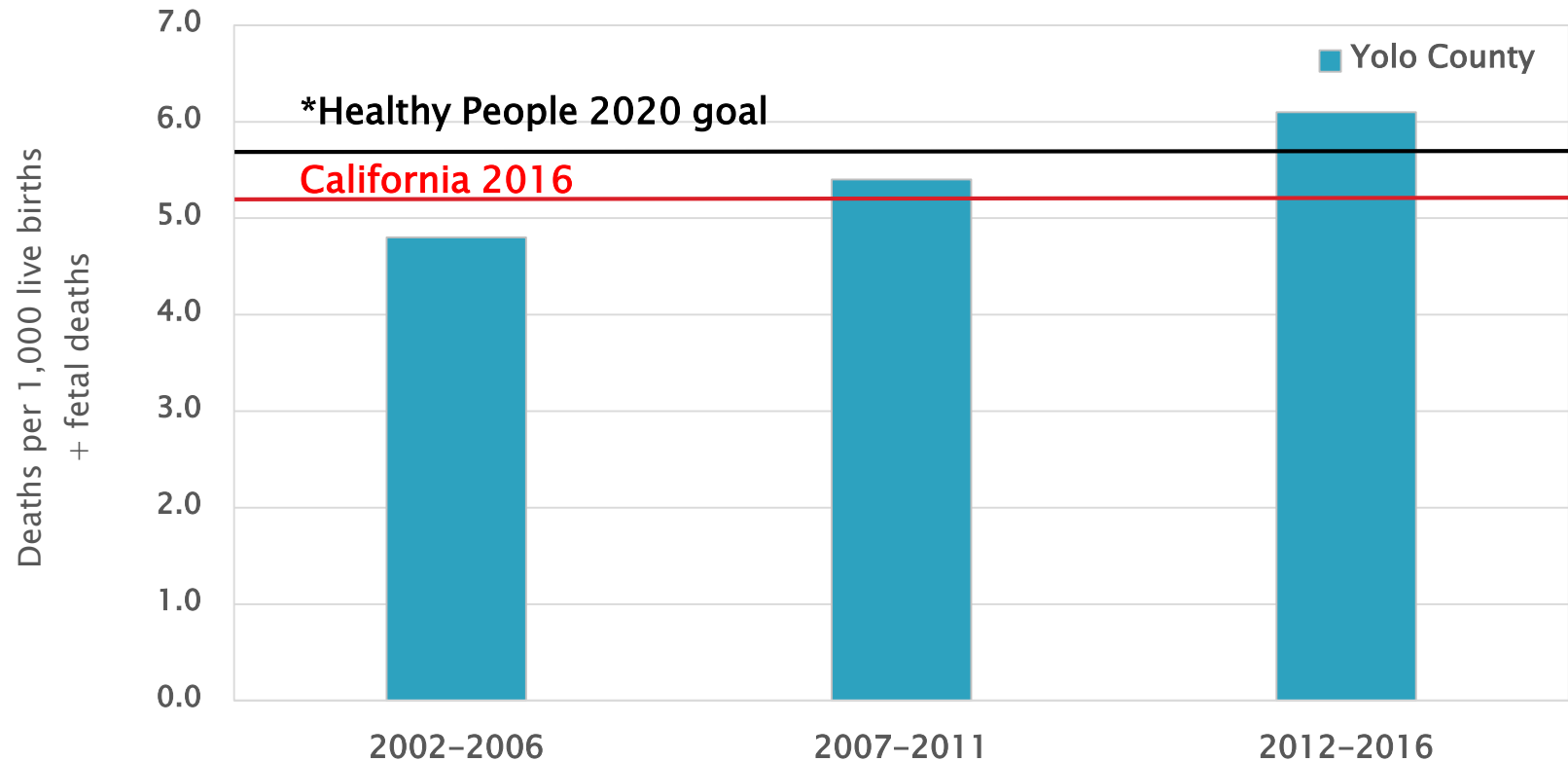
# Yolo County Neonatal Mortality Rates (Infant <28 d) vs. California and HP2020\*



Source: Yolo County HHSA Community Health Branch, VRBIS



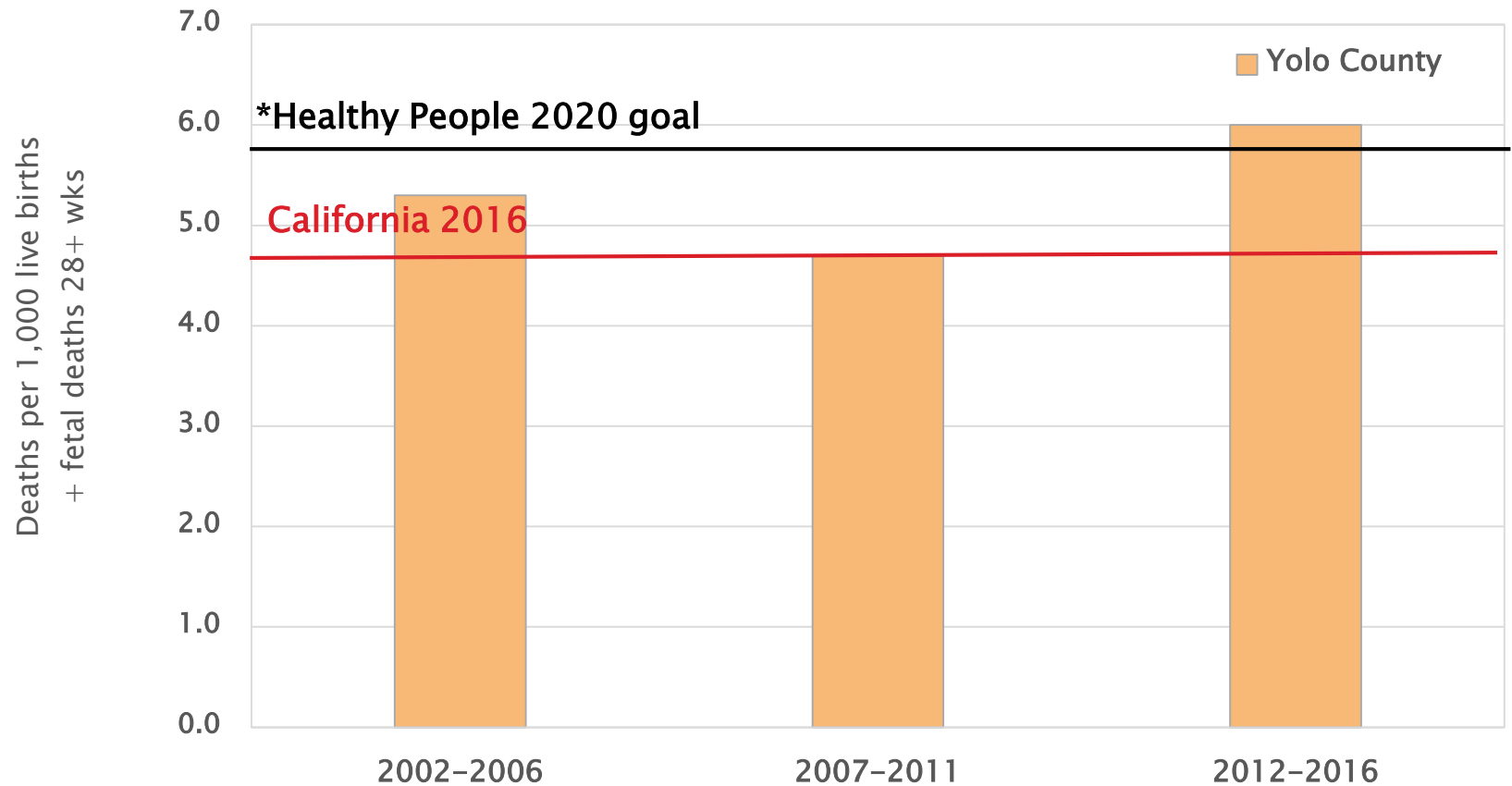
# Yolo County Fetal Mortality Rates (20+ wks) vs. California and HP2020\*



Source: CDPH, Fetal Death records for Yolo County



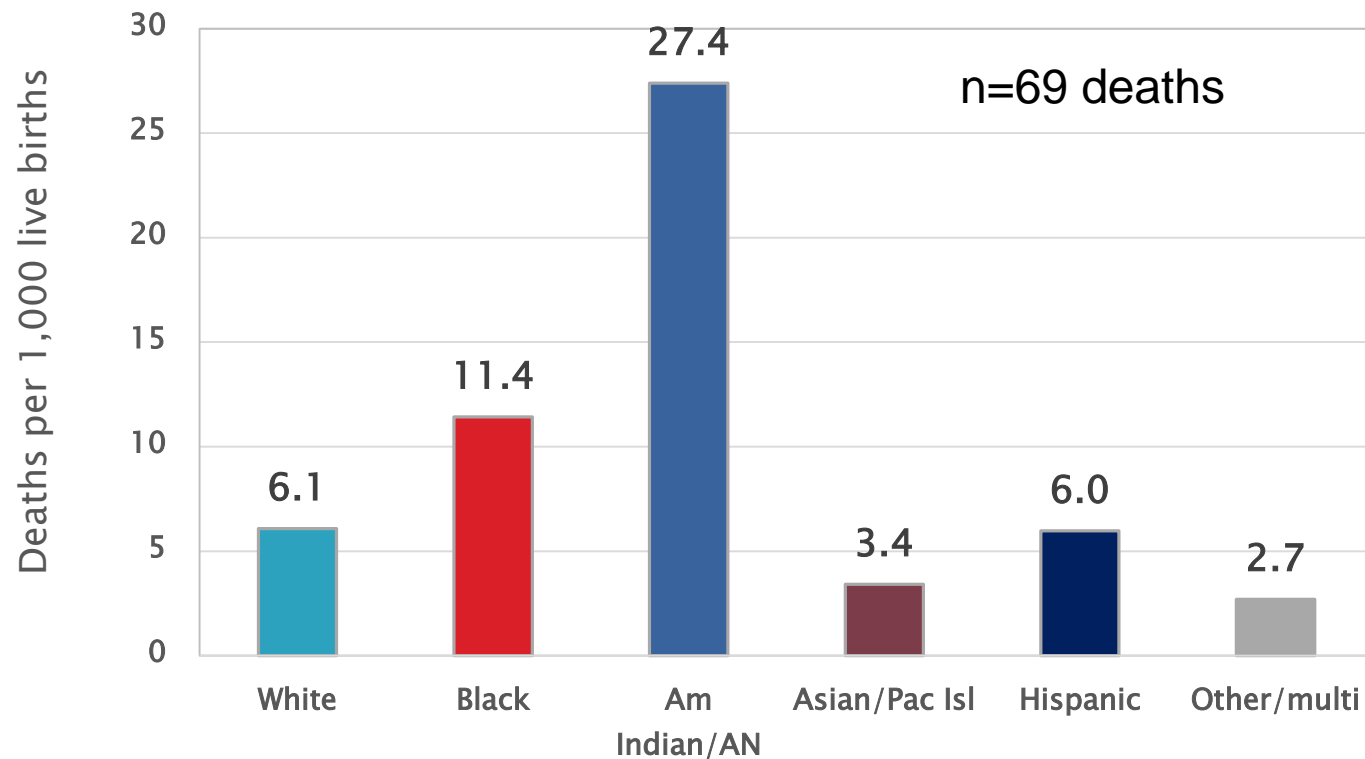
# Yolo County Perinatal Mortality Rates (Fetal 28+ wks & Infant <7 d) vs. California and HP2020\*



Source: CDPH, Fetal and Infant Death records for Yolo County



# Infant Mortality by Race–Ethnicity, Yolo County, 2013–2017



73 Am Indian live births & 2 deaths;  
350 Black births and 4 deaths

Source: Yolo County HHS Community Health Branch, VRBIS



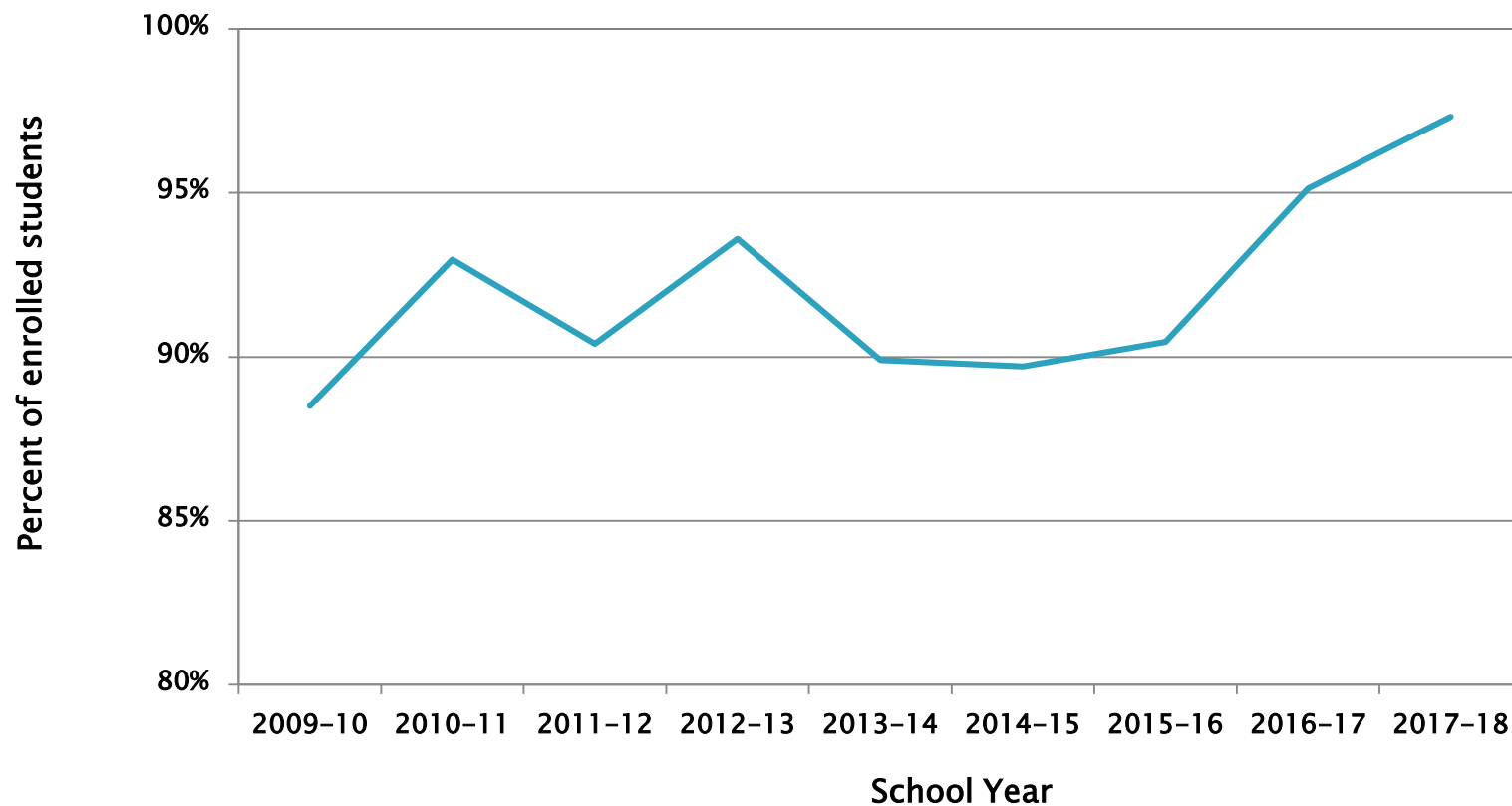
# Early Childhood (Age 1 to 4) Indicators

- » Preschool Vaccinations
- Children in Foster Care
- Preschool Obesity
- Children in Special Ed
- Mental Health Utilization
- Oral Health





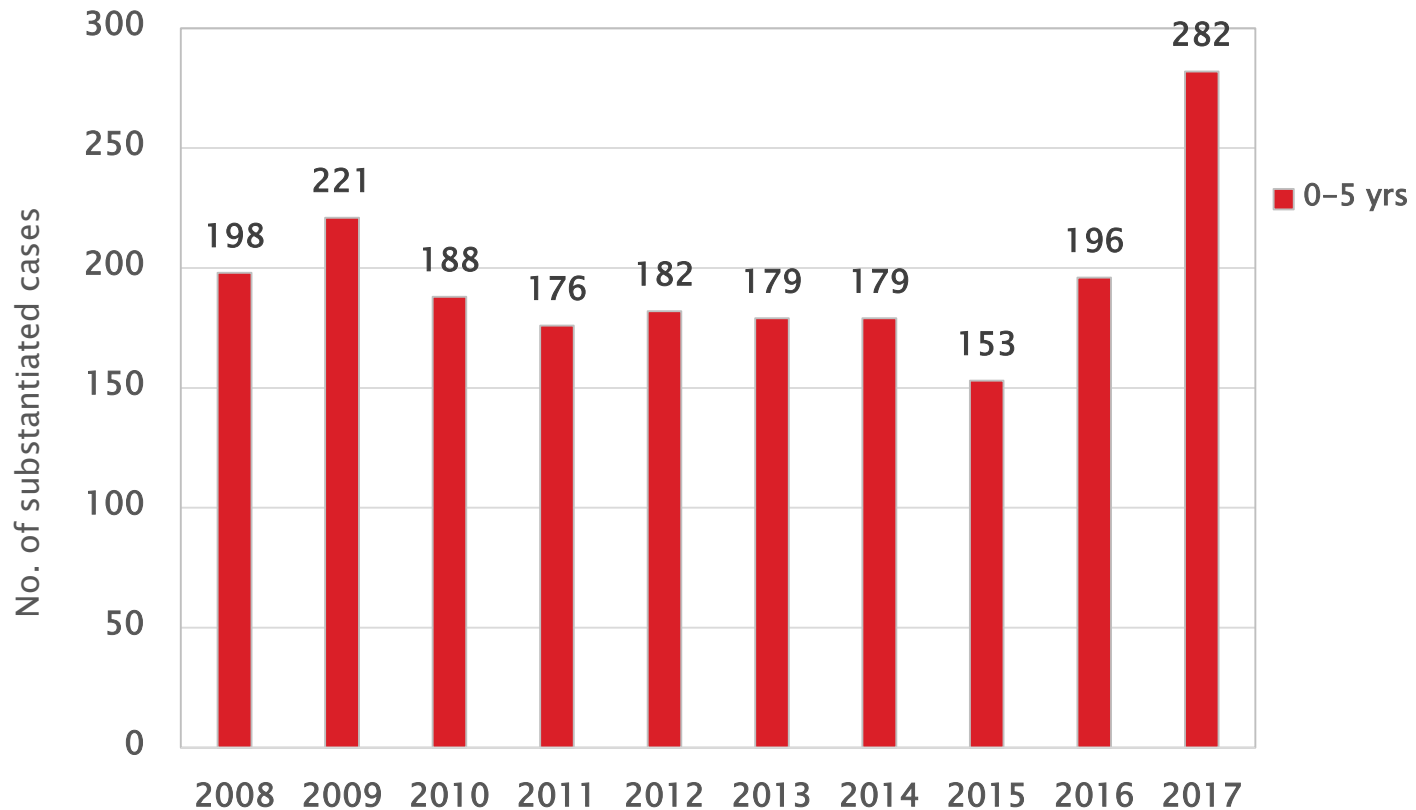
# Percent of Children in Preschool/Childcare Up-to-Date on Vaccinations



Source: CDPH, Immunization Assessment



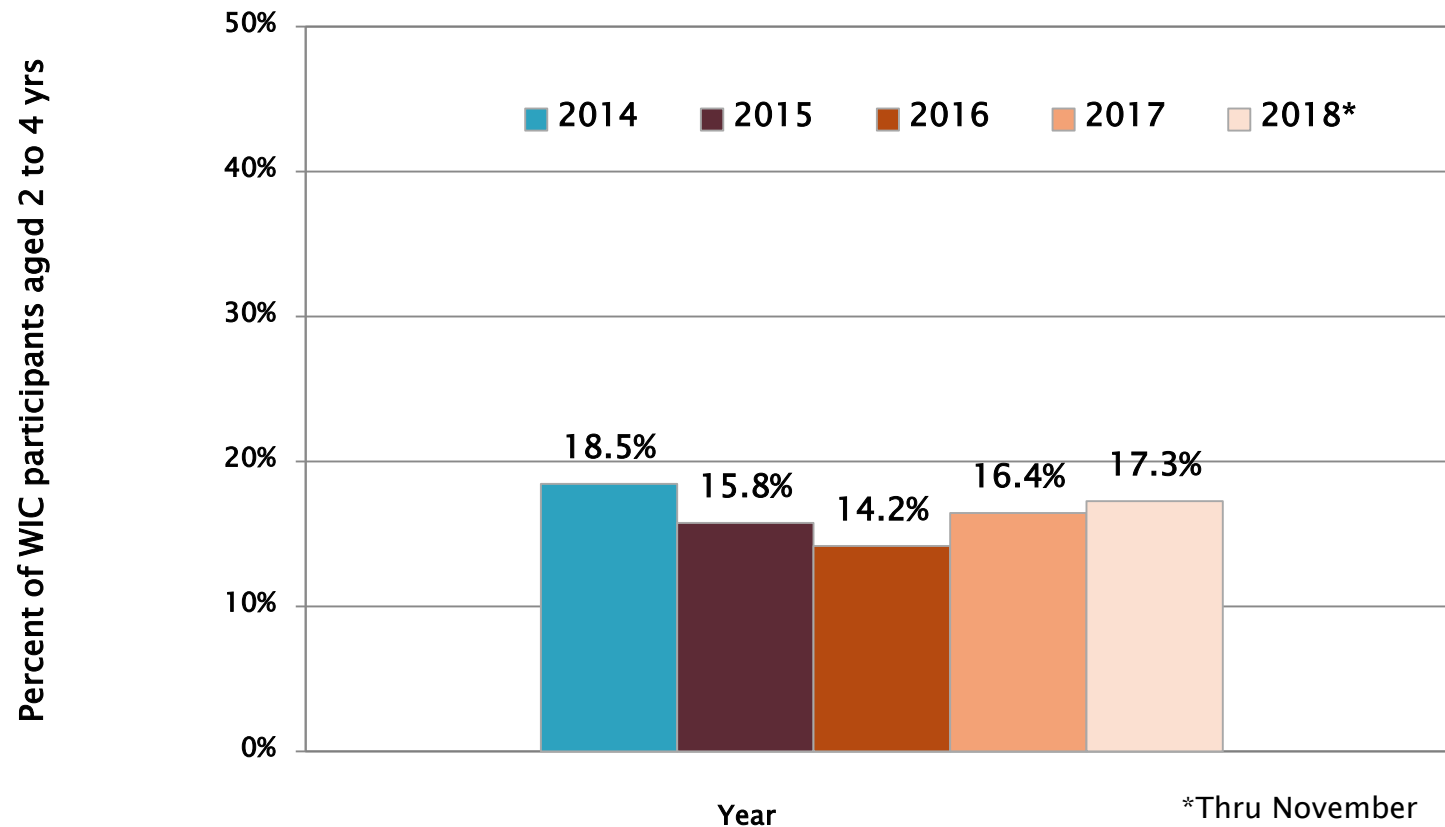
# Substantiated Cases of Child Abuse/Neglect, Age 0-5, Yolo County



Source: UC Berkeley Center for Social Services Research (UCB CSSR)  
[https://cssr.Berkeley.edu/ucb\\_childwelfare/Entries.aspx](https://cssr.Berkeley.edu/ucb_childwelfare/Entries.aspx)  
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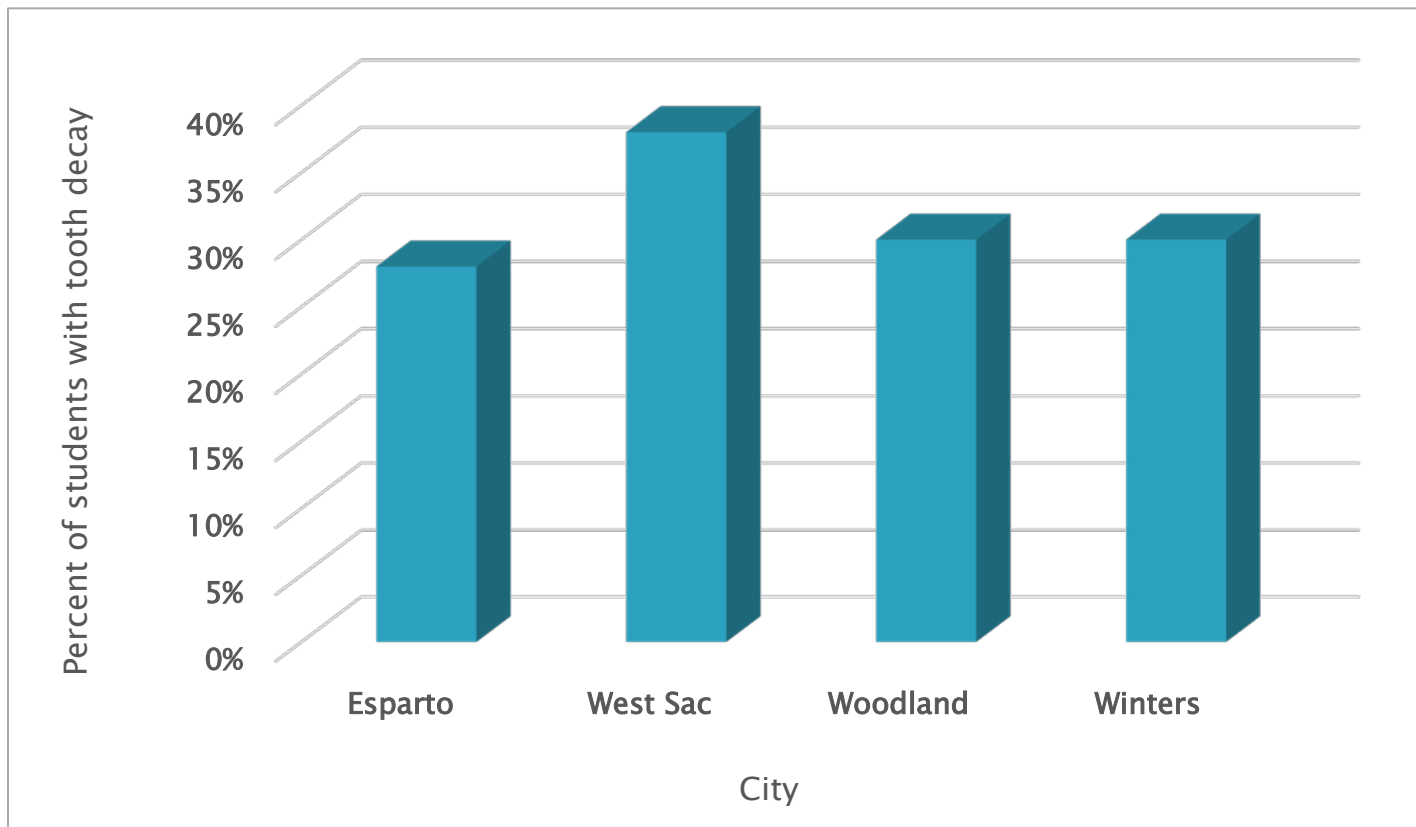
# Overweight among WIC Children Aged 2 to 4, Yolo County, 2014–2018



Source: Yolo County WIC Program, Raptor database



# Oral Health – Percent of Children\* in SmileSaver Program with Dental Decay by City



\*Low-income children: migrant, preschool, Head Start, or elementary students

Source: SmileSaver, 2015–2016



# School–Age (5 to 14) Child Health Indicators

Child Abuse



School Lunch Eligibility

Current on Vaccinations

Oral Health

Special Ed

Scholastic Achievement – 3<sup>rd</sup> G

Obesity/Overweight

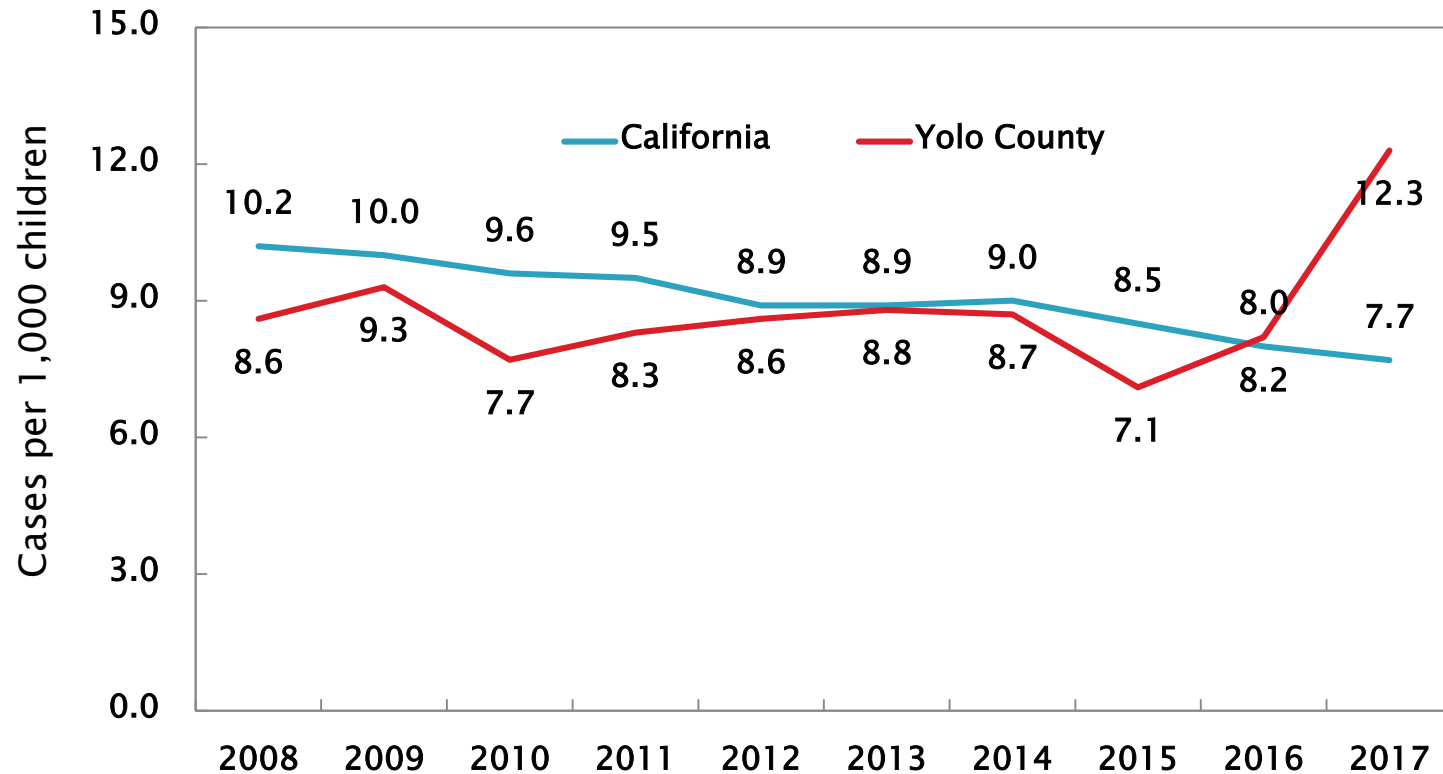
Mental Health Hospitalizations

Social Connectedness/Bullying

Current Drug/Alcohol Use



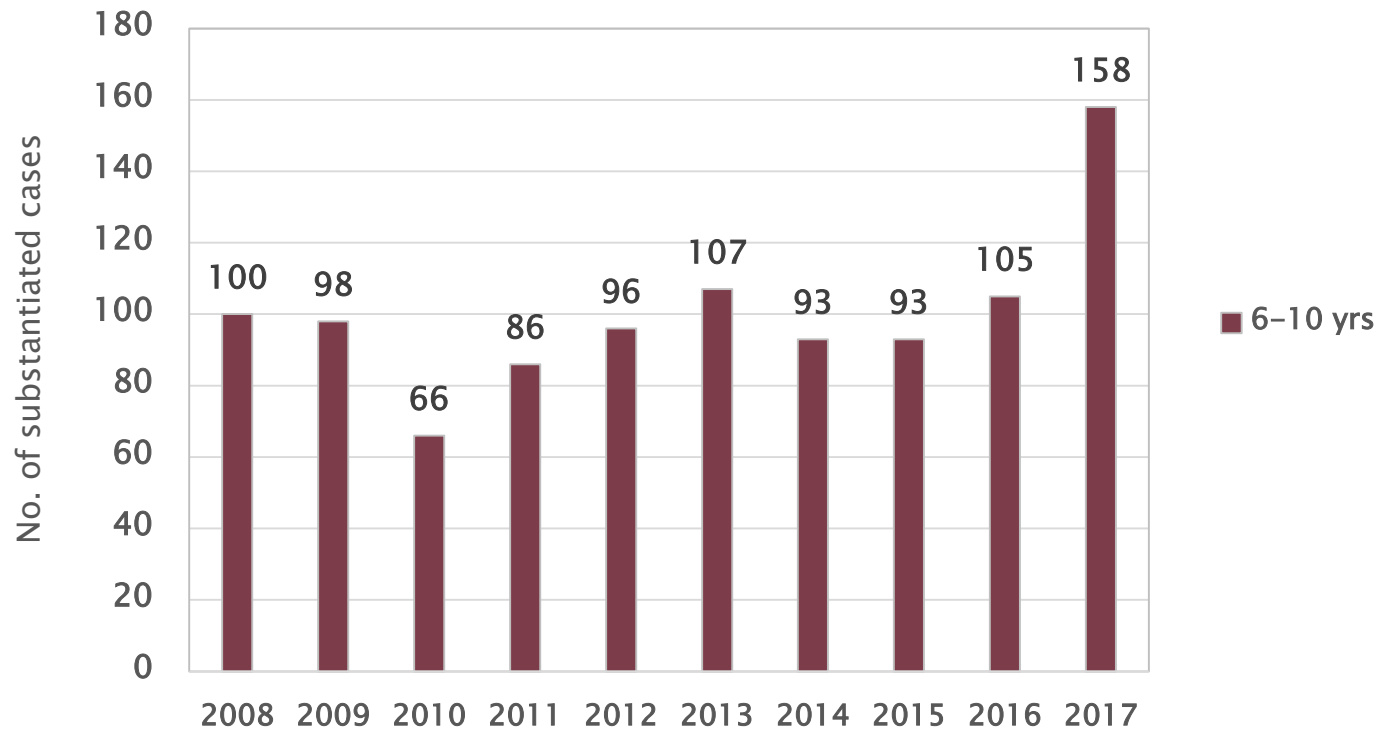
# Substantiated Cases of Child Abuse per 1,000 Children (0-17), Yolo County vs. CA, 2008-2017



Source: UCB CSSR  
[https://cssr.Berkeley.edu/ucb\\_childwelfare/Entries.aspx](https://cssr.Berkeley.edu/ucb_childwelfare/Entries.aspx)



# Substantiated Cases of Child Abuse Children Aged 6–10 Years, 2008–2017

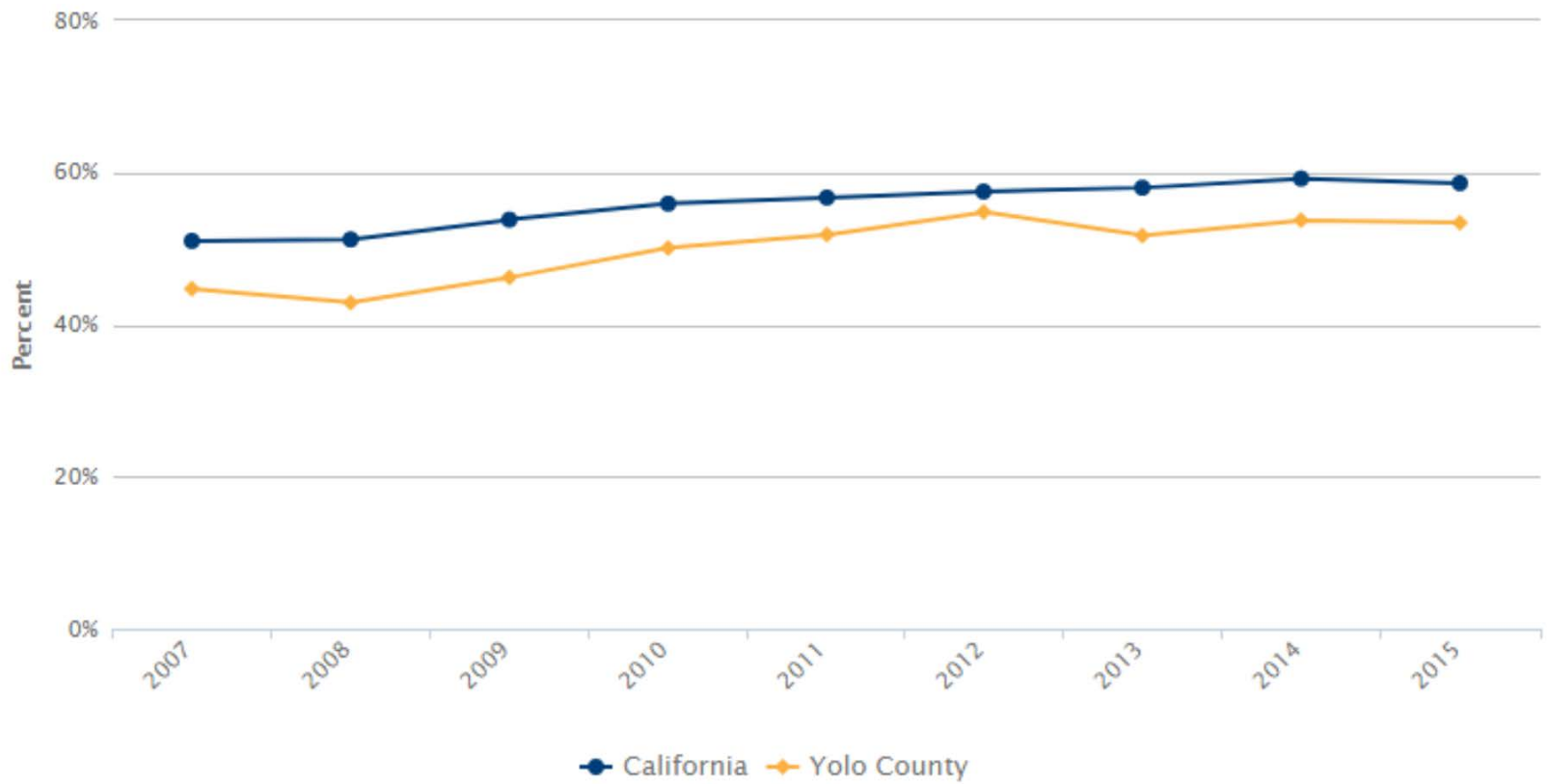


Source: UCB CSSR <https://cssr.Berkeley.edu/>





# Student Eligibility for Free or Reduced Price School Meals, Yolo County vs CA: 2007-2015

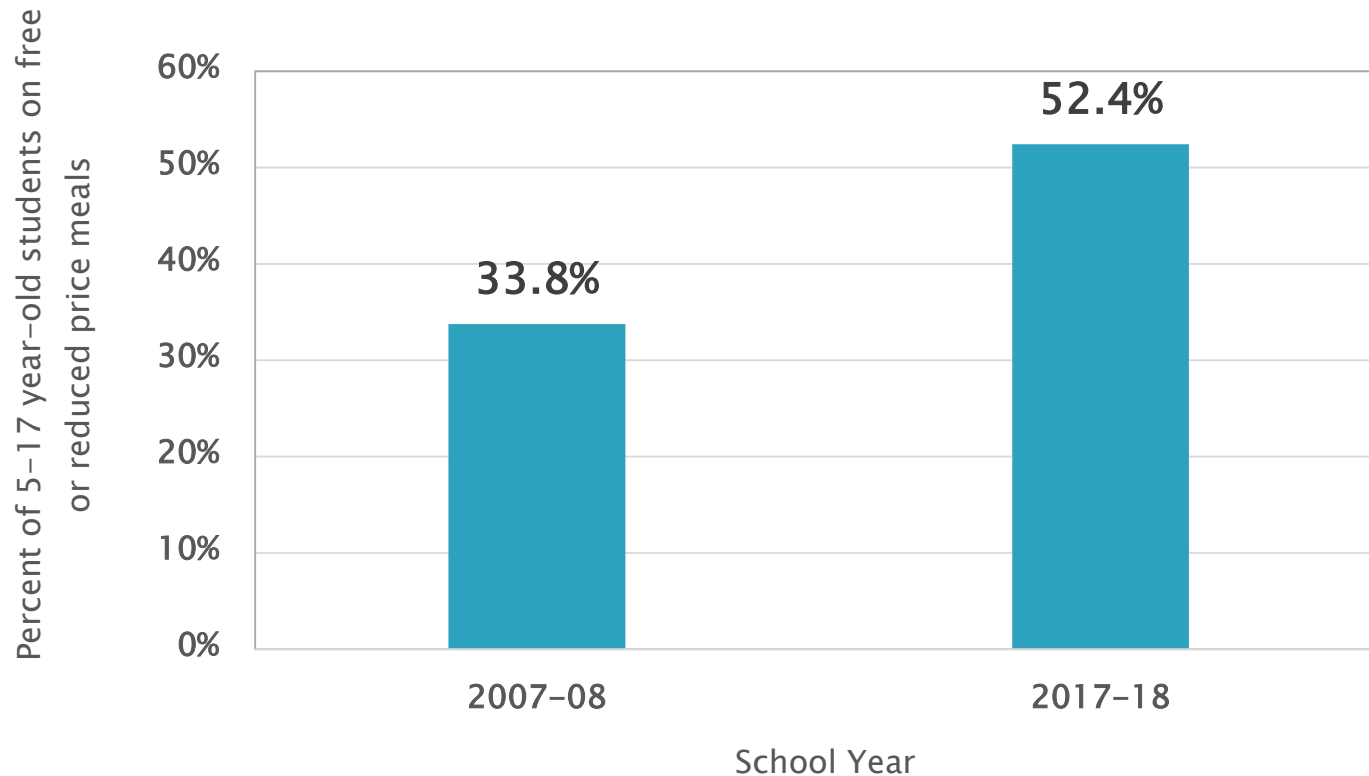


Definition: Percentage of public school students eligible to receive free or reduced price meals. A child's family income must fall below 130% of the federal poverty guidelines (\$31,005 for a family of four in 2014-2015) to qualify for free meals, or below 185% of the federal poverty guidelines (\$44,123 for a family of four in 2014-2015) to qualify for reduced price meals.

Data Source: [As cited on kidsdata.org](http://kidsdata.org), California Dept. of Education, Student Poverty FRPM Data (Mar. 2016); U.S. Dept. of Education, NCES Digest of Education Statistics (Mar. 2016).



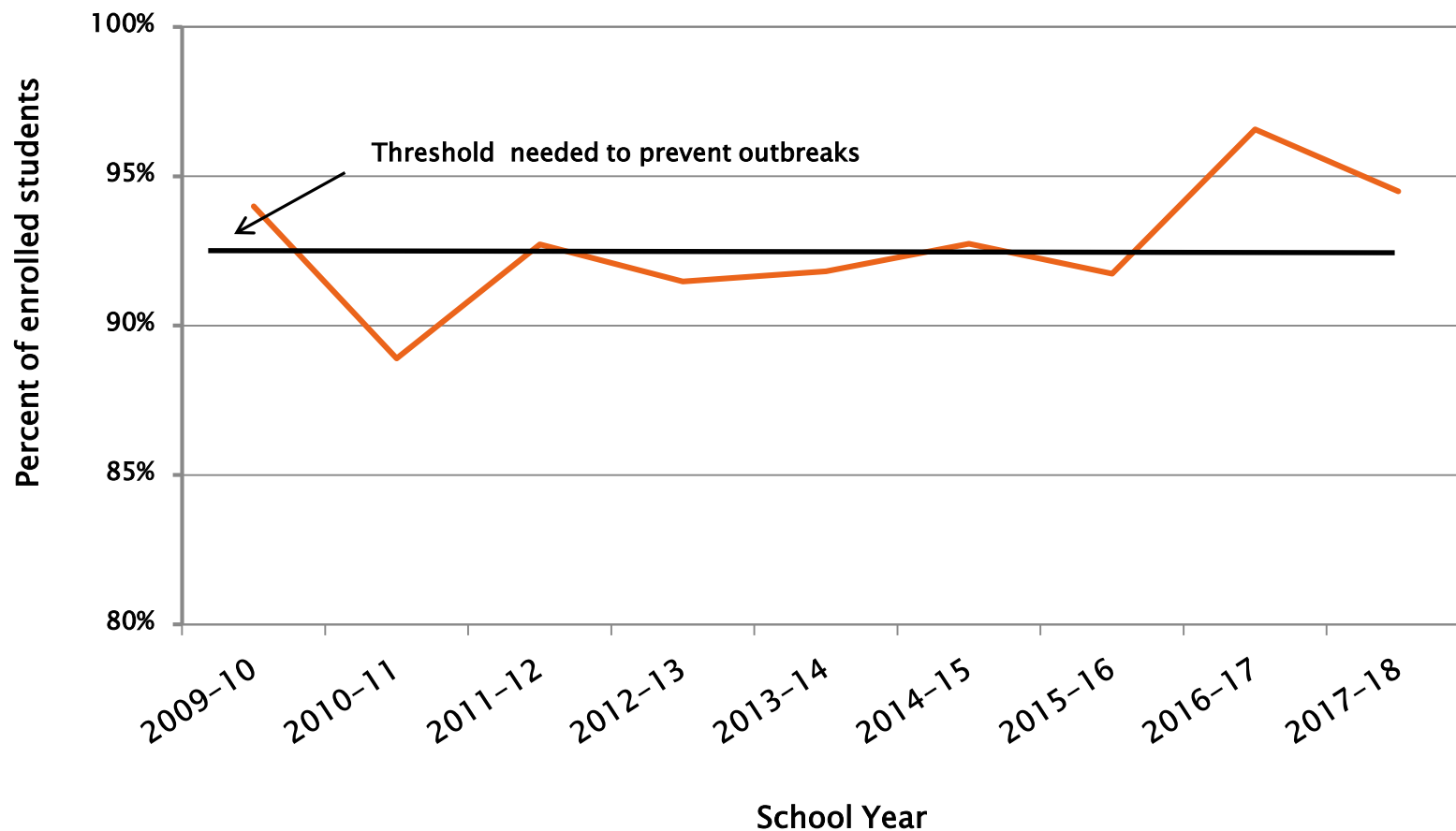
# Percent of Students 5–17 Eligible for Free or Reduced Price School Meals, Yolo County, 2007 vs. 2017



Source: California Department of Education (CDE) <http://www.cde.ca.gov>



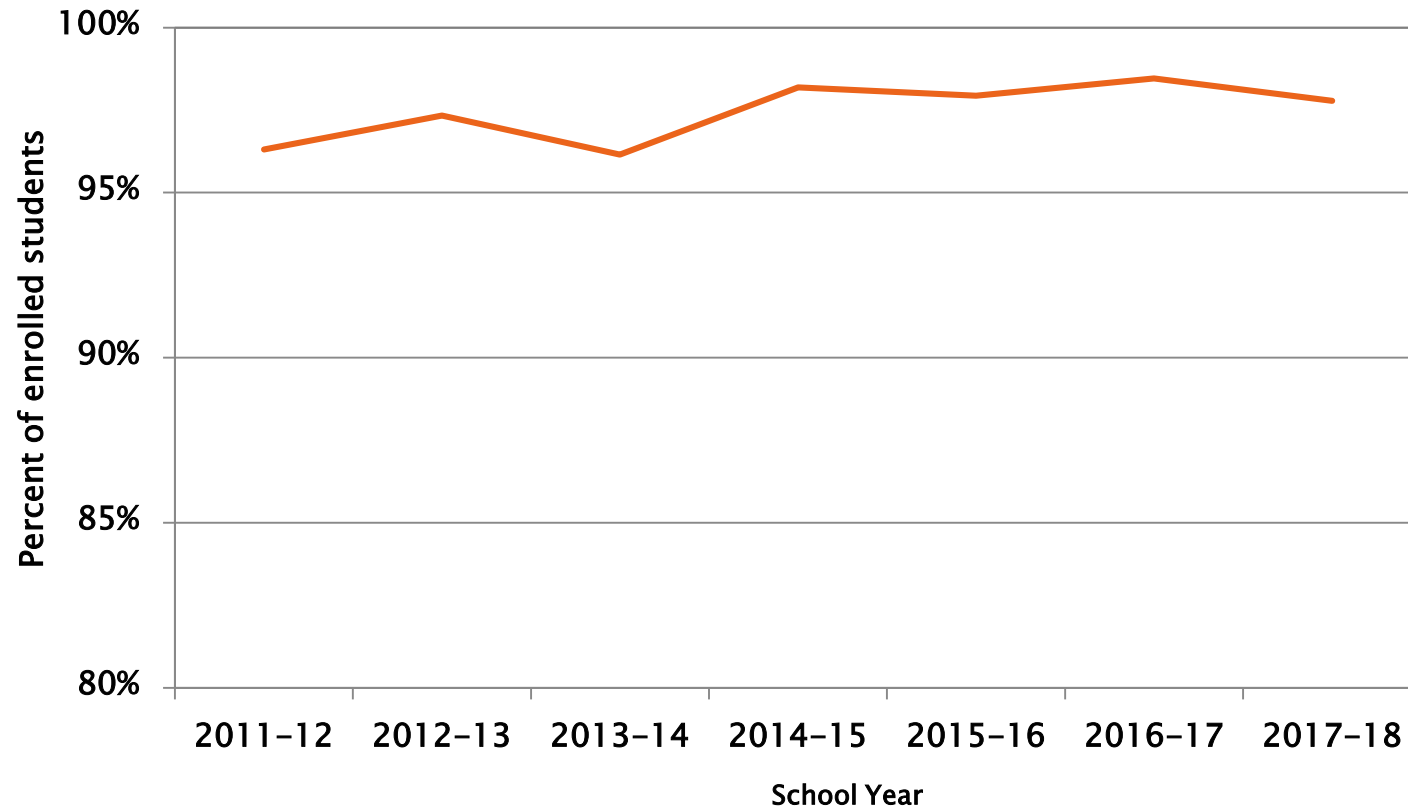
# Percent of Yolo County Kindergarteners Up-to-Date on Vaccinations, 2009–2017



Source: California Dept of Public Health, Immunization Assessment



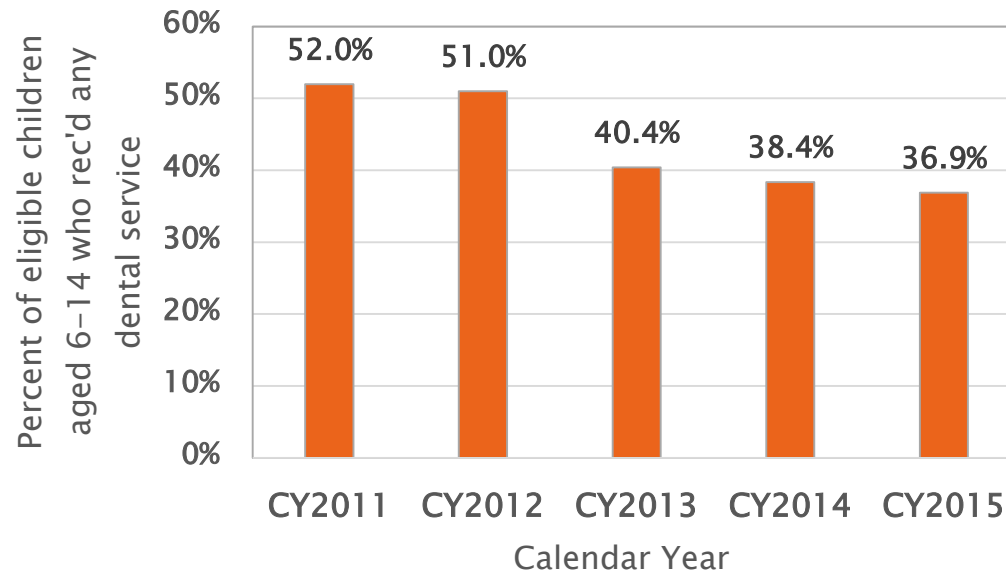
# Tdap Immunization Rates, Yolo County 7<sup>th</sup> Graders, 2011–2017



Source: California Dept of Public Health, Immunization Assessment



# Denti-Cal Utilization Age 6-14, Yolo County

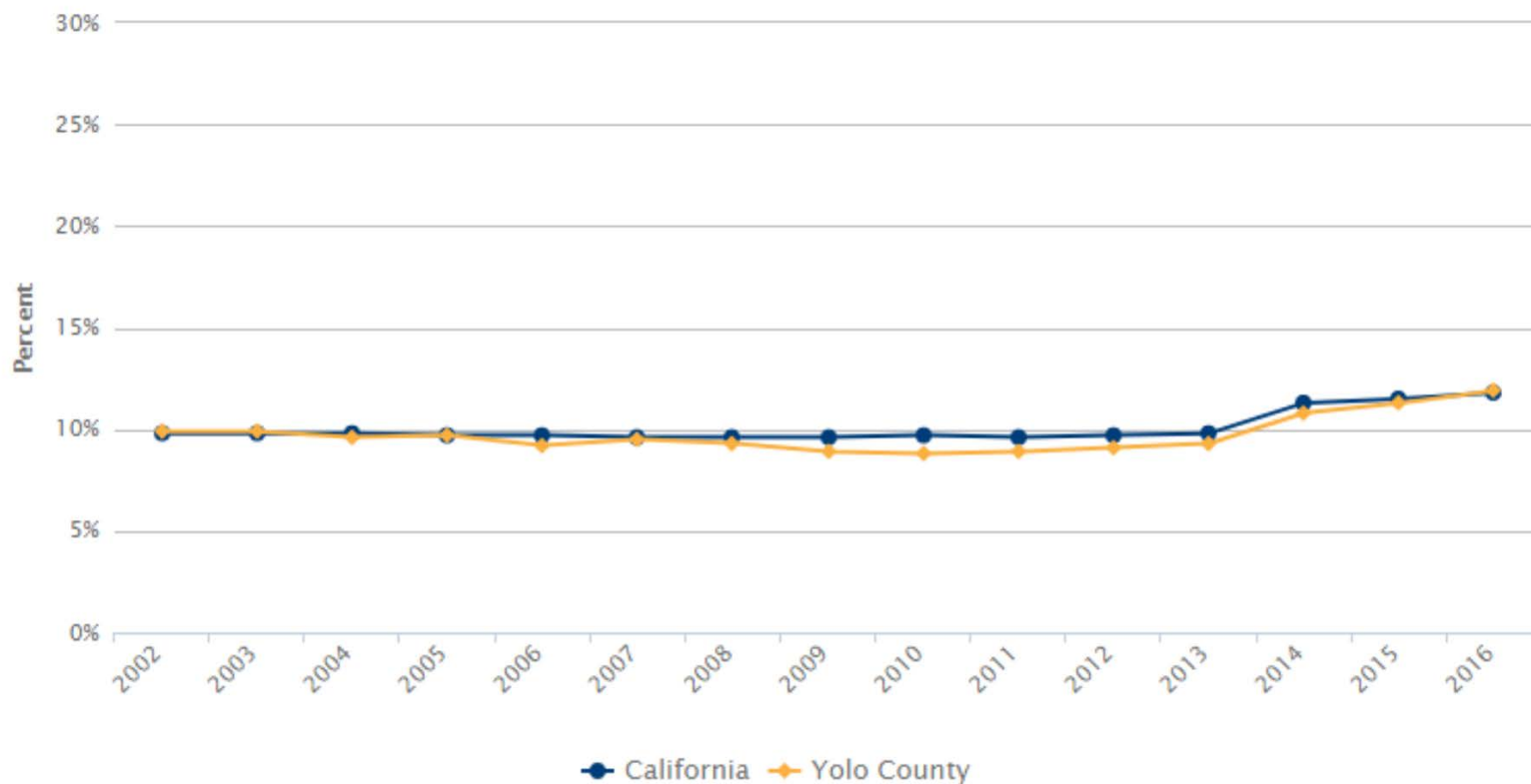


- Big drop after 2014 – enrollees almost doubled (due to changes in Medi-Cal eligibility as a result of Obamacare)
- Lack of Denti-Cal providers in Yolo County
- Long waits to obtain appointments with Denti-Cal providers

Source: Department of Healthcare Services (DHCS)  
<https://www.dhcs.ca.gov/services/Pages/DentalReports.aspx>



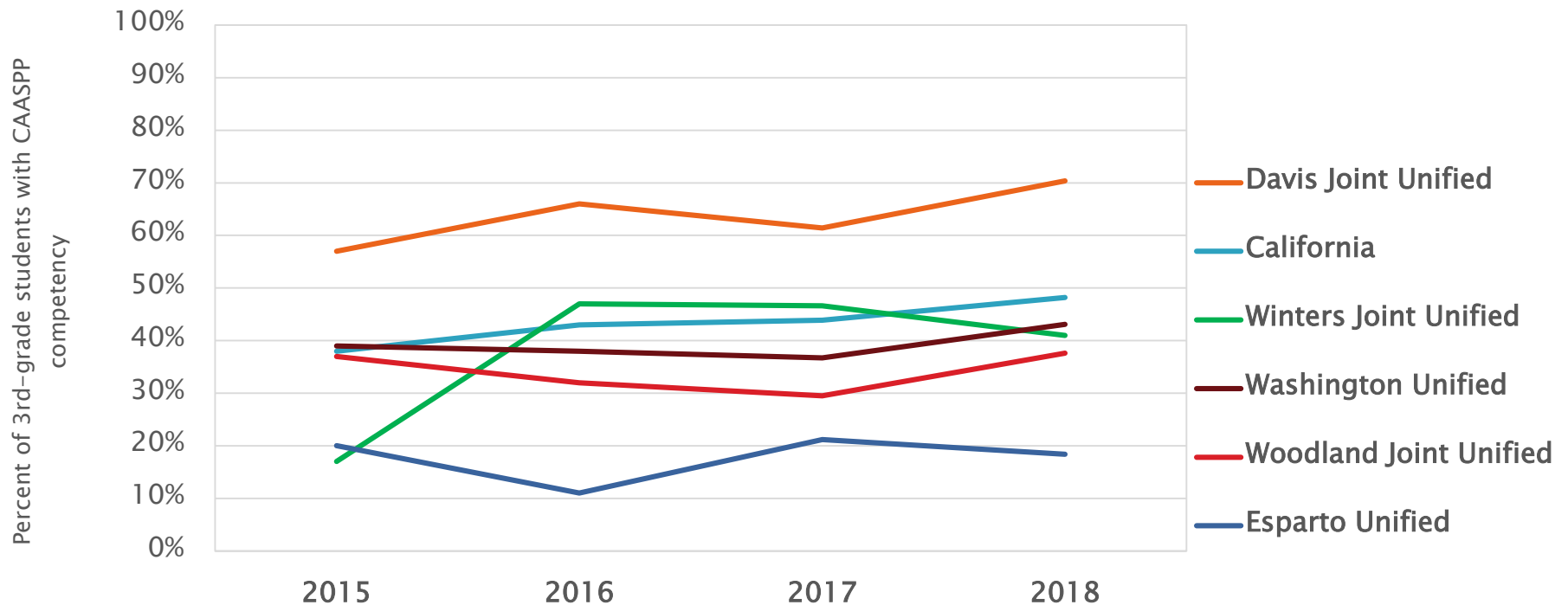
# Percent of Public School Children (0-17) Enrolled in Special Education, Yolo County



Source: CDE, [California Basic Educational Data System](#) (CBEDS), & [Special Education Division](#) custom tabulation (2016)  
Jennifer Travis, Help Me Grow??



# 3<sup>rd</sup> Grade CAASPP\* English Language Proficiency, Yolo County 2015–2017

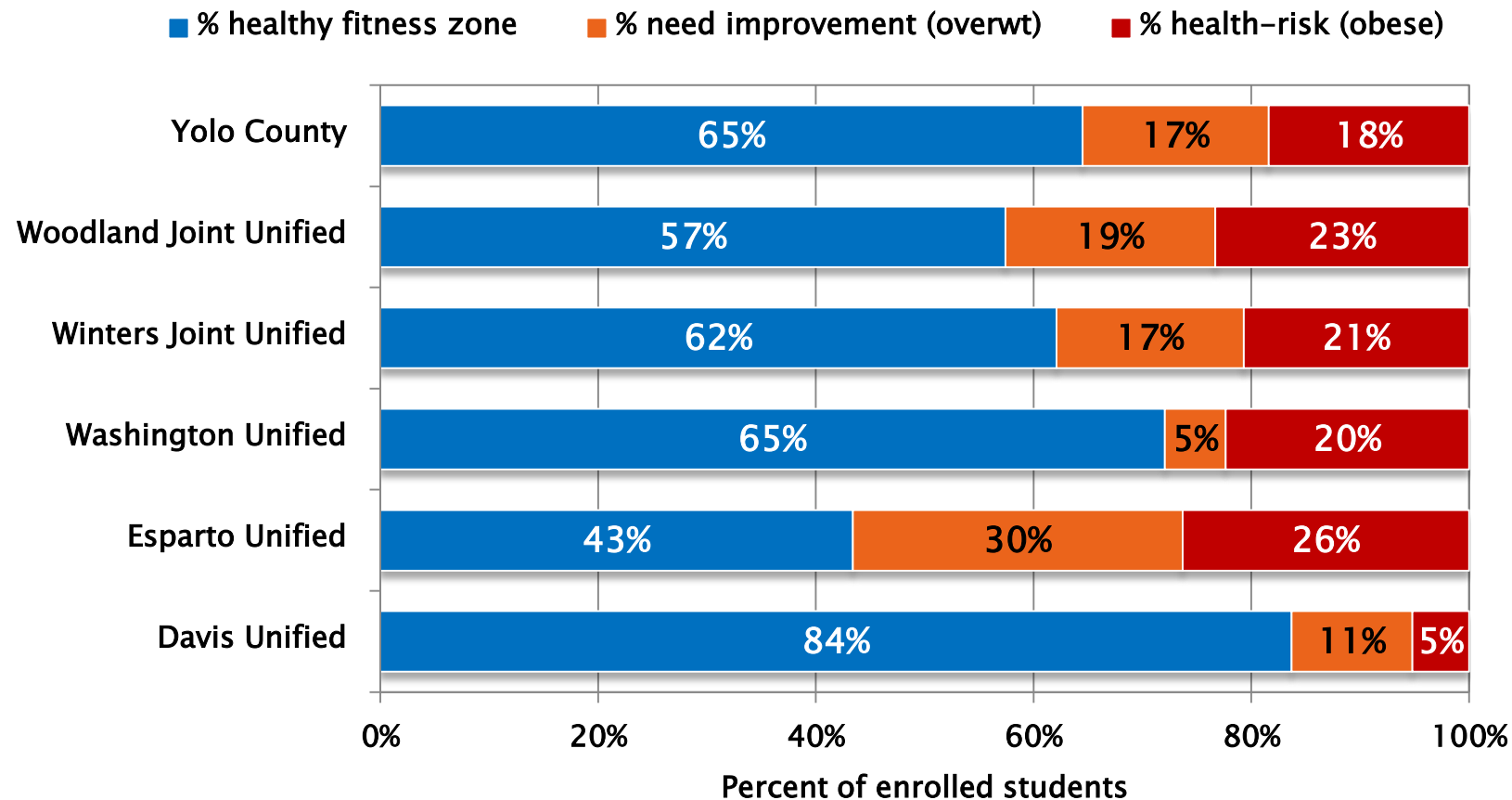


\*California Assessment of Student Performance and Progress

Source: CDE <http://www.cde.ca.gov>



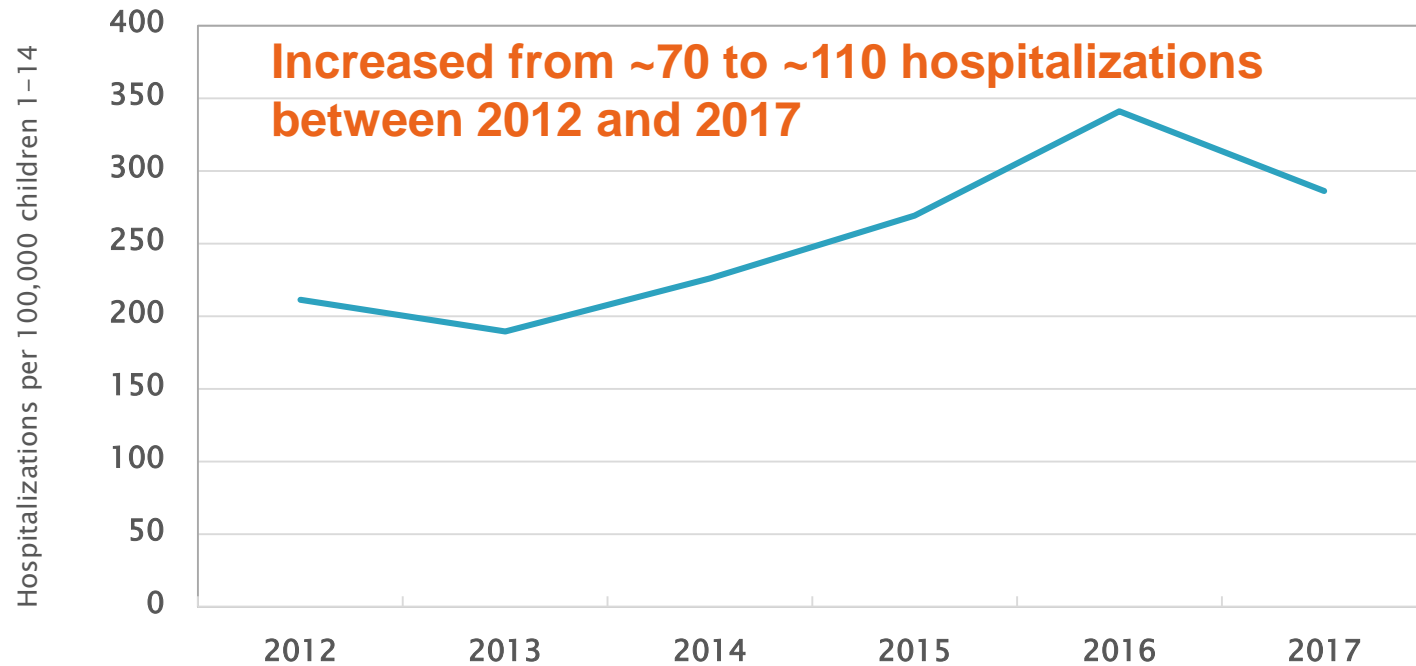
# Body Composition of 7<sup>th</sup> Graders by School District, Yolo County, 2017–2018



Source: CDE, School Physical Fitness Testing  
<http://www.cde.ca.gov>



# Hospitalization Rates for Mental Health (MDC=19\*) Age 1-14, 2012-2017



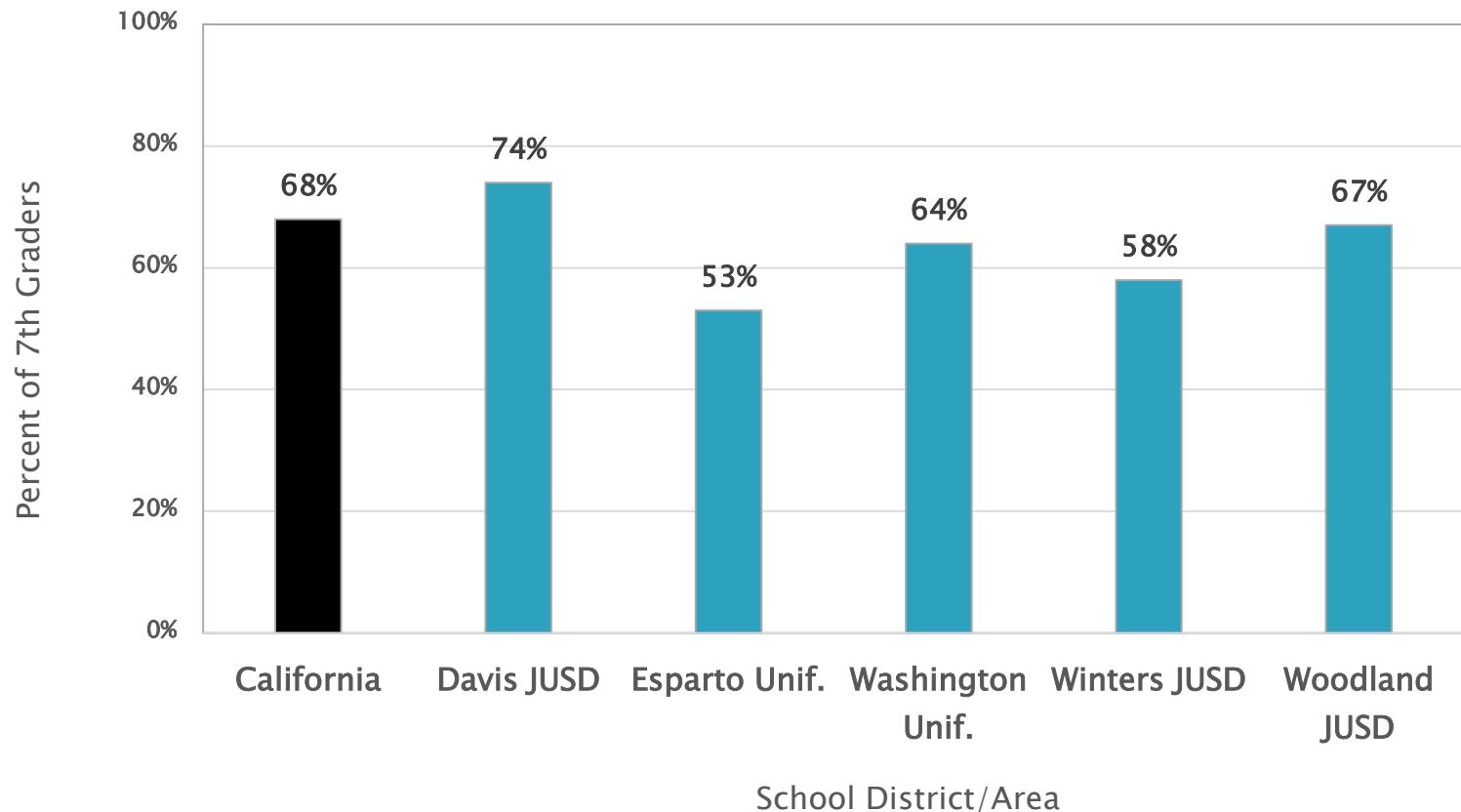
\*Major Diagnostic Category 19 (Mental Health)

Source: OSHPD, Patient Discharge Data





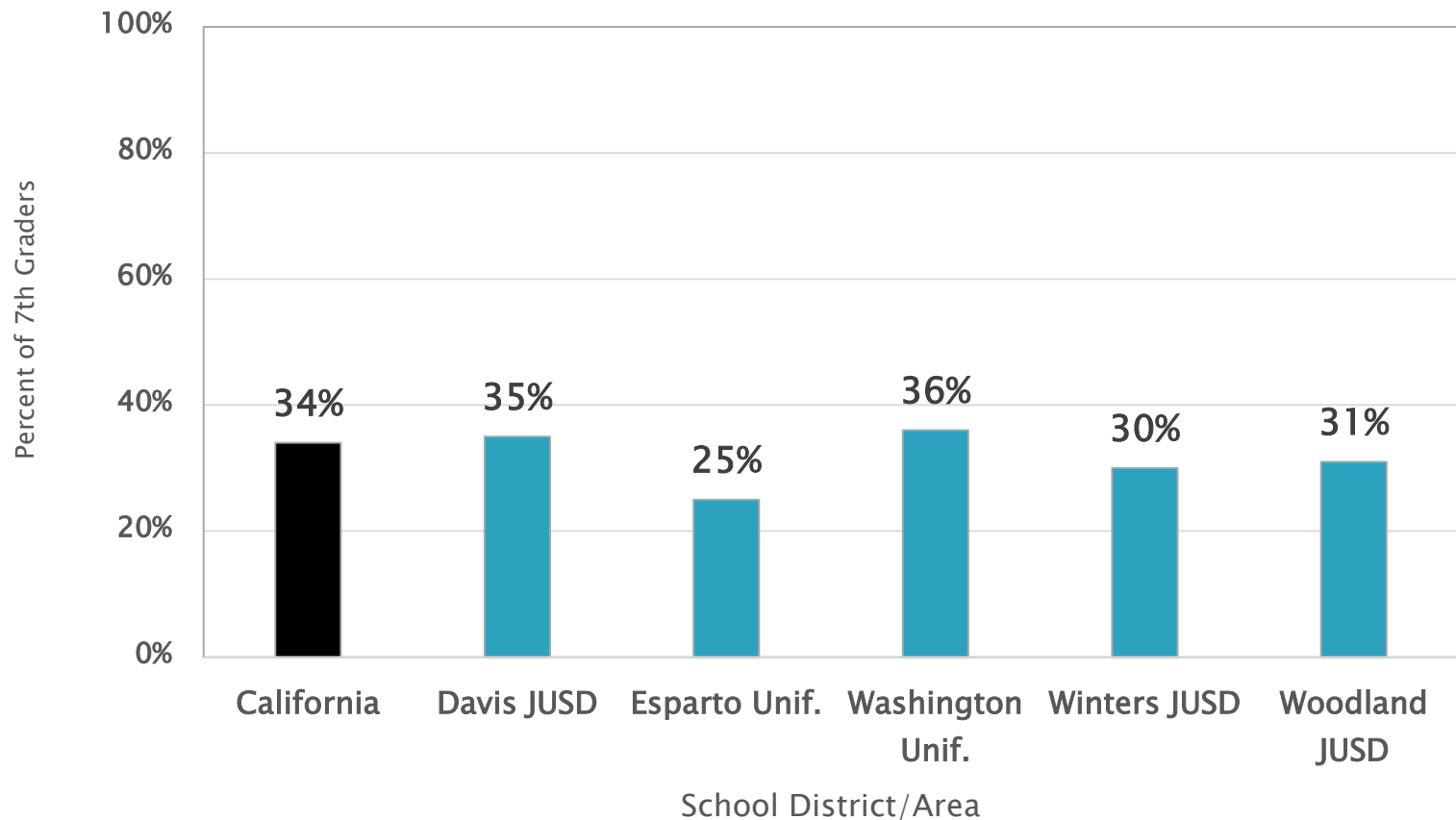
# School Connectedness by School District, 7<sup>th</sup> Grade, 2015–2017



Source: CHKS, <https://calschls.org/reports-data/>



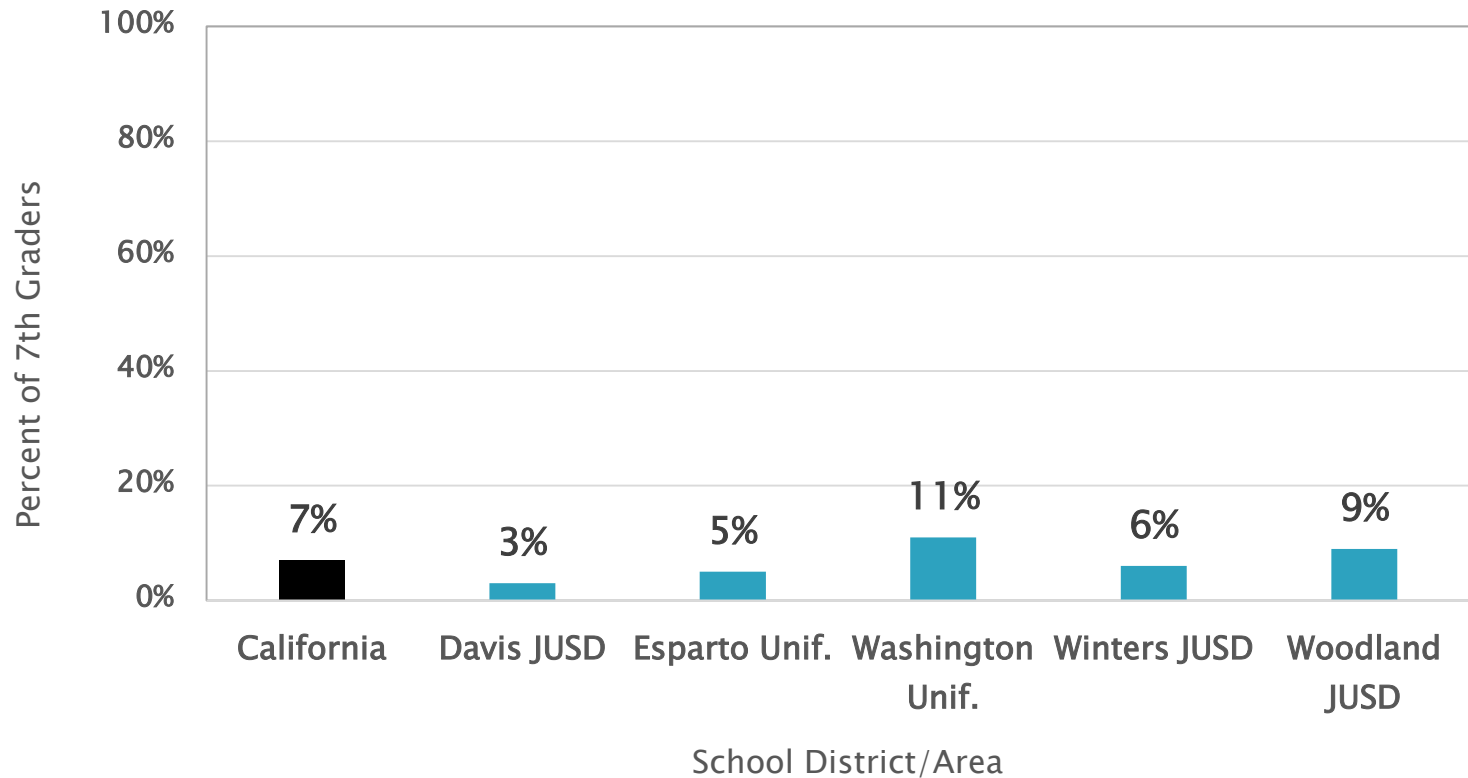
# Harassment and Bullying by School District, 7<sup>th</sup> Grade, 2015–2017



Source: California Healthy Kids Survey (CHKS), <https://calschls.org/reports-data/>



# Current Drug/Alcohol Use (past 30 d) by School District, 7<sup>th</sup> Grade, 2015–2017



Source: CHKS, <https://calschls.org/reports-data/>

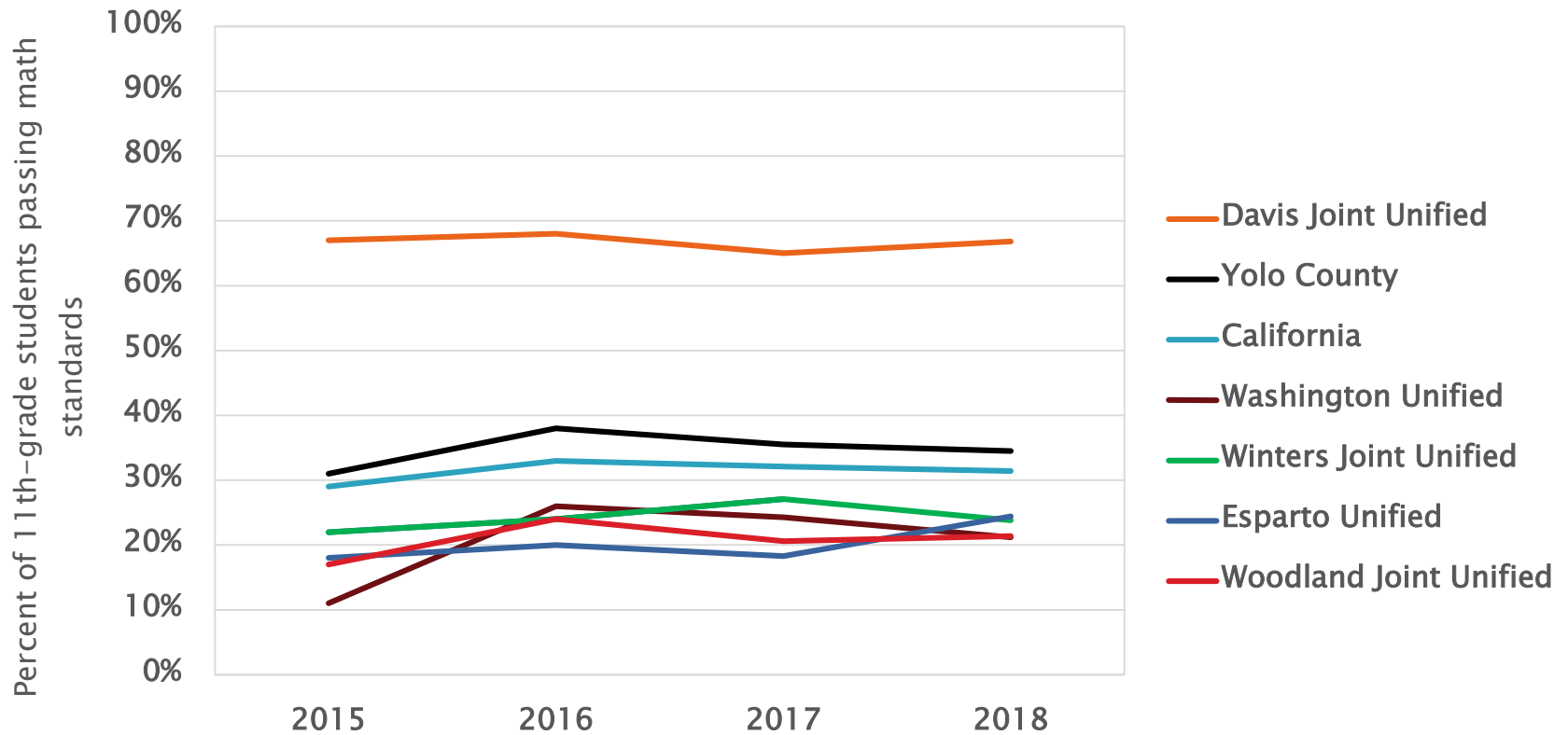


# Teen/Young Adult Indicators

- » Scholastic Achievement – 11<sup>th</sup> 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 CAASPP\* Standards, Yolo County 2015-2017

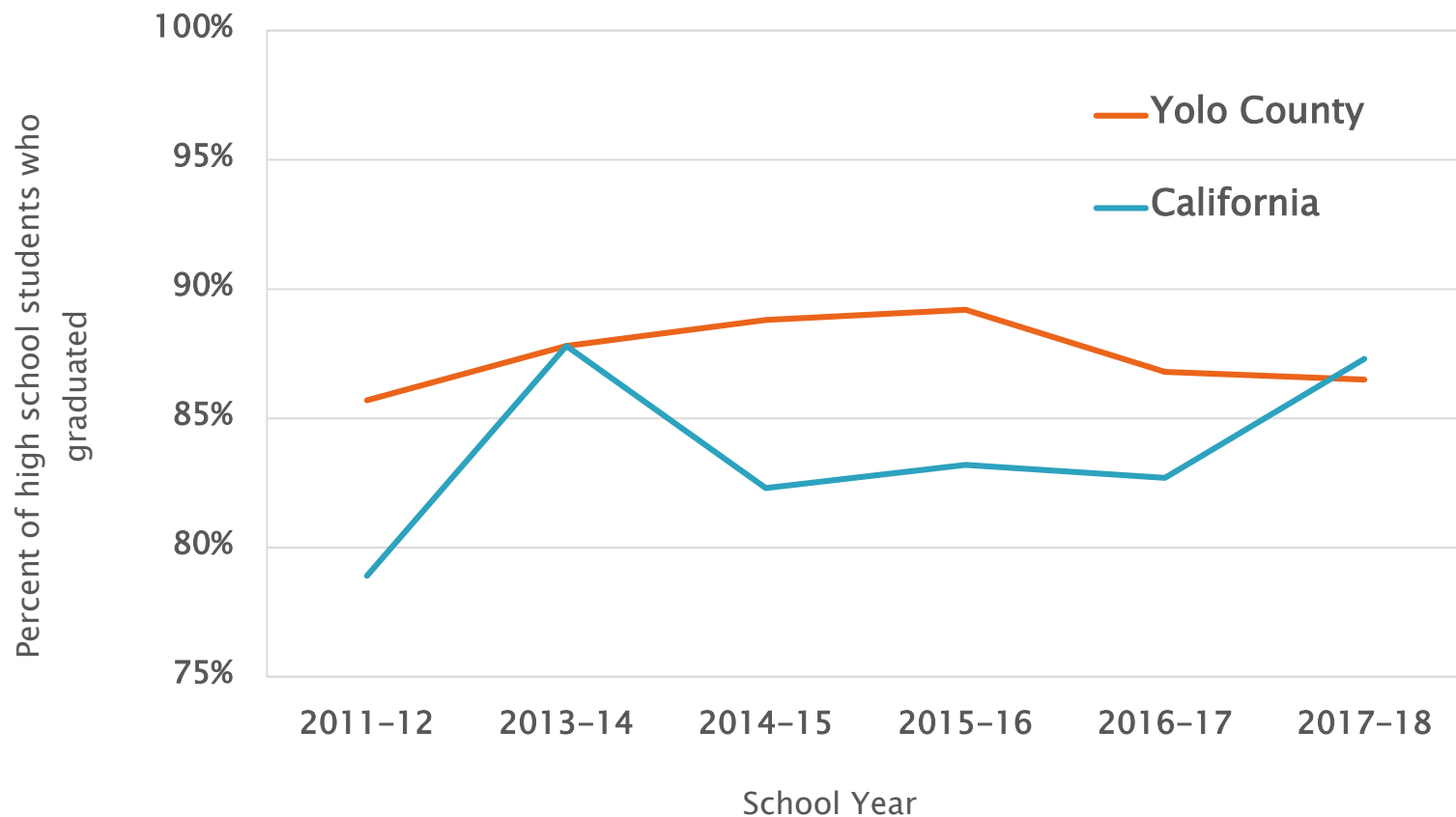


\*California Assessment of Student Performance & Progress

Source: CDE <http://www.cde.ca.gov>



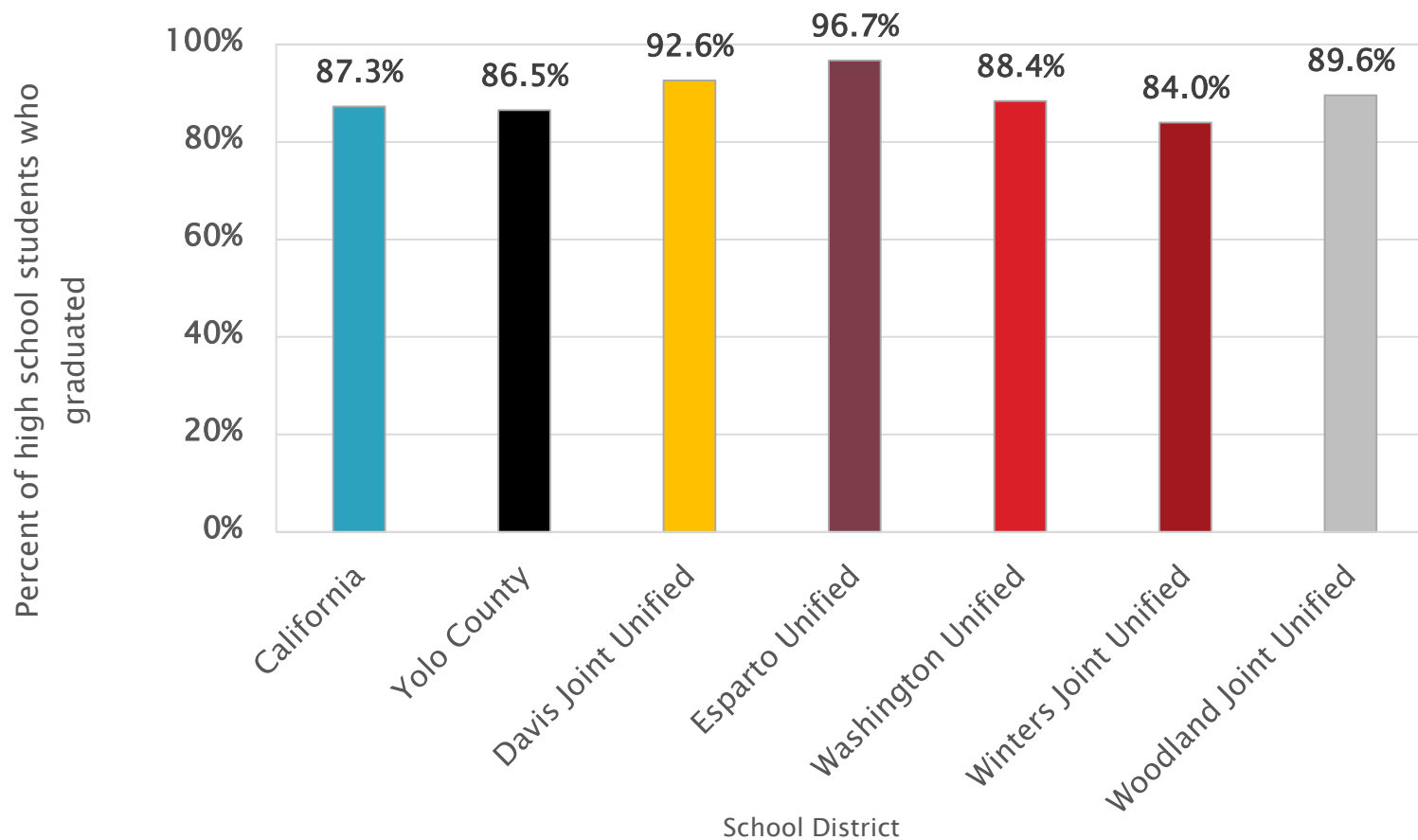
# High School Graduation Rate, Yolo County vs. California 2011–2017



Source: CDE, <http://www.cde.ca.gov>



# High School Graduation Rates by School District, Yolo County 2017-18

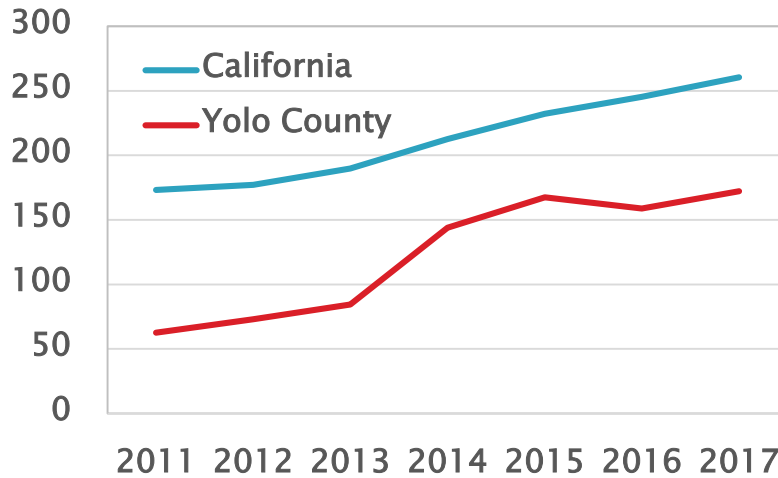


Source: CDE, <http://www.cde.ca.gov>

# Age 15 to 19 Gonorrhea Rates, Yolo County vs. California 2011–2017

Gonorrhea cases per 100,000 persons aged 15–19

Gonorrhea Rate 15–19

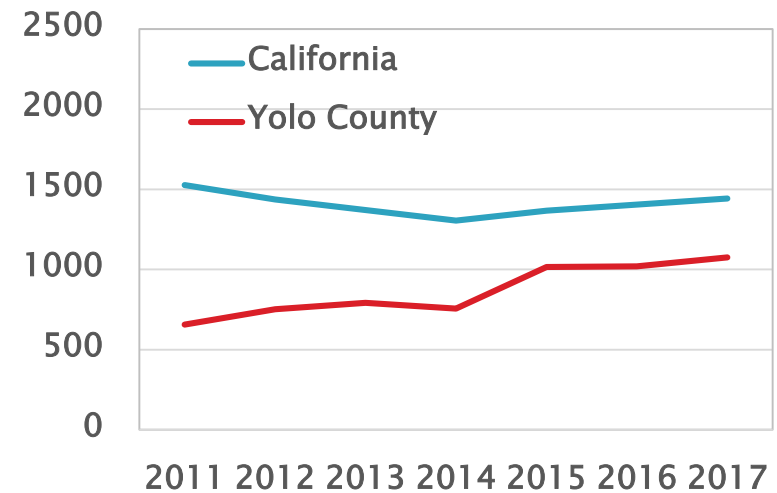


Gonorrhea – increasing trends both CA & Yolo County

Chlamydia – no increase in CA; increasing trend for Yolo County ( $\rho^2=0.88$ )

Chlamydia Rate 15–19

Chlamydia cases per 100,000 persons age 15–19

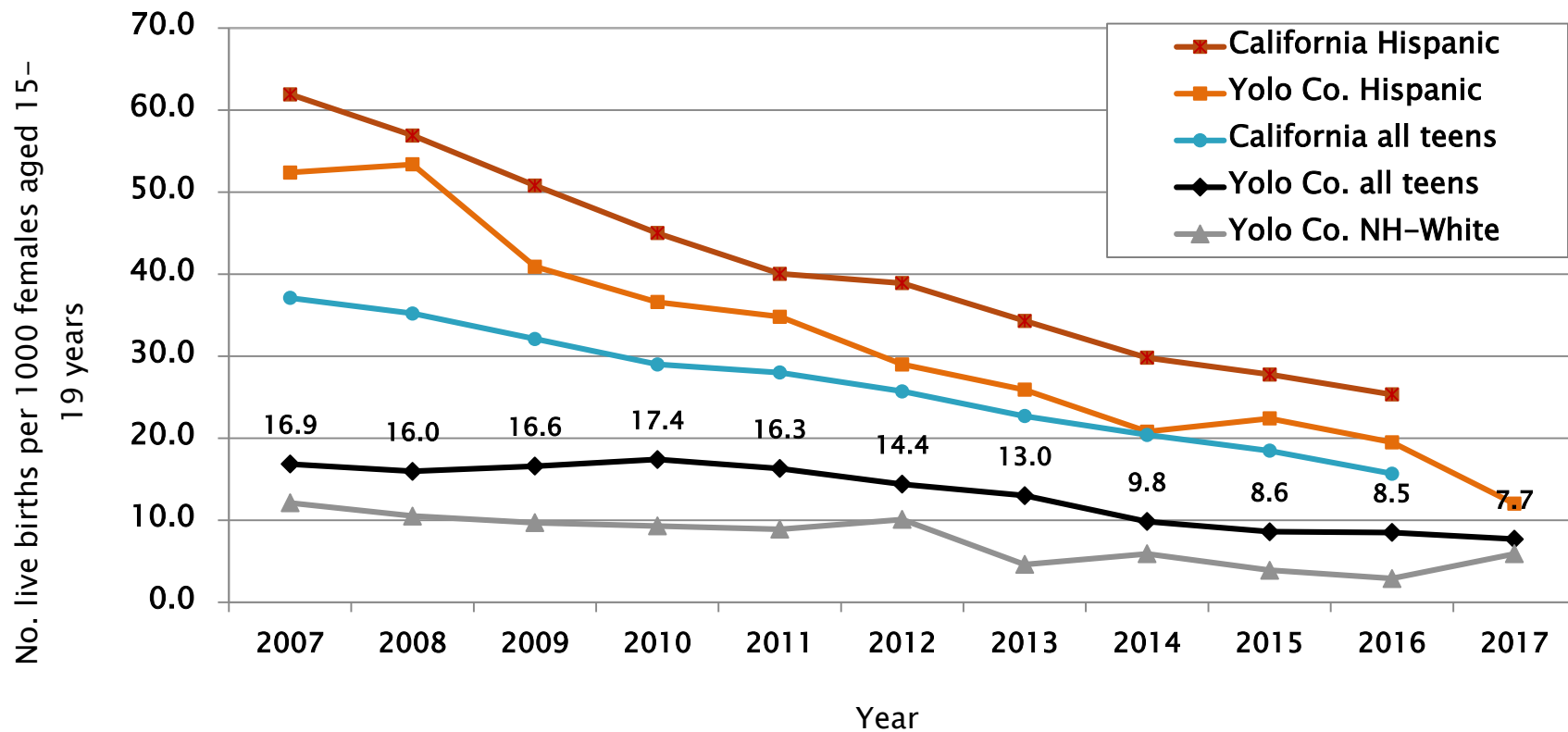


Source: Yolo County Communicable Disease, CalREDIE database and CDPH STD Branch





# Teen (Age 15–19) Birth Rates by Race–Ethnicity, Yolo County vs. California, 2007–2017



Source: Yolo County HHS Community Health Branch, live births and CDC Wonder (California data)



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

Have data, need map

Source: Yolo County HHSA Community Health Branch, Live Births

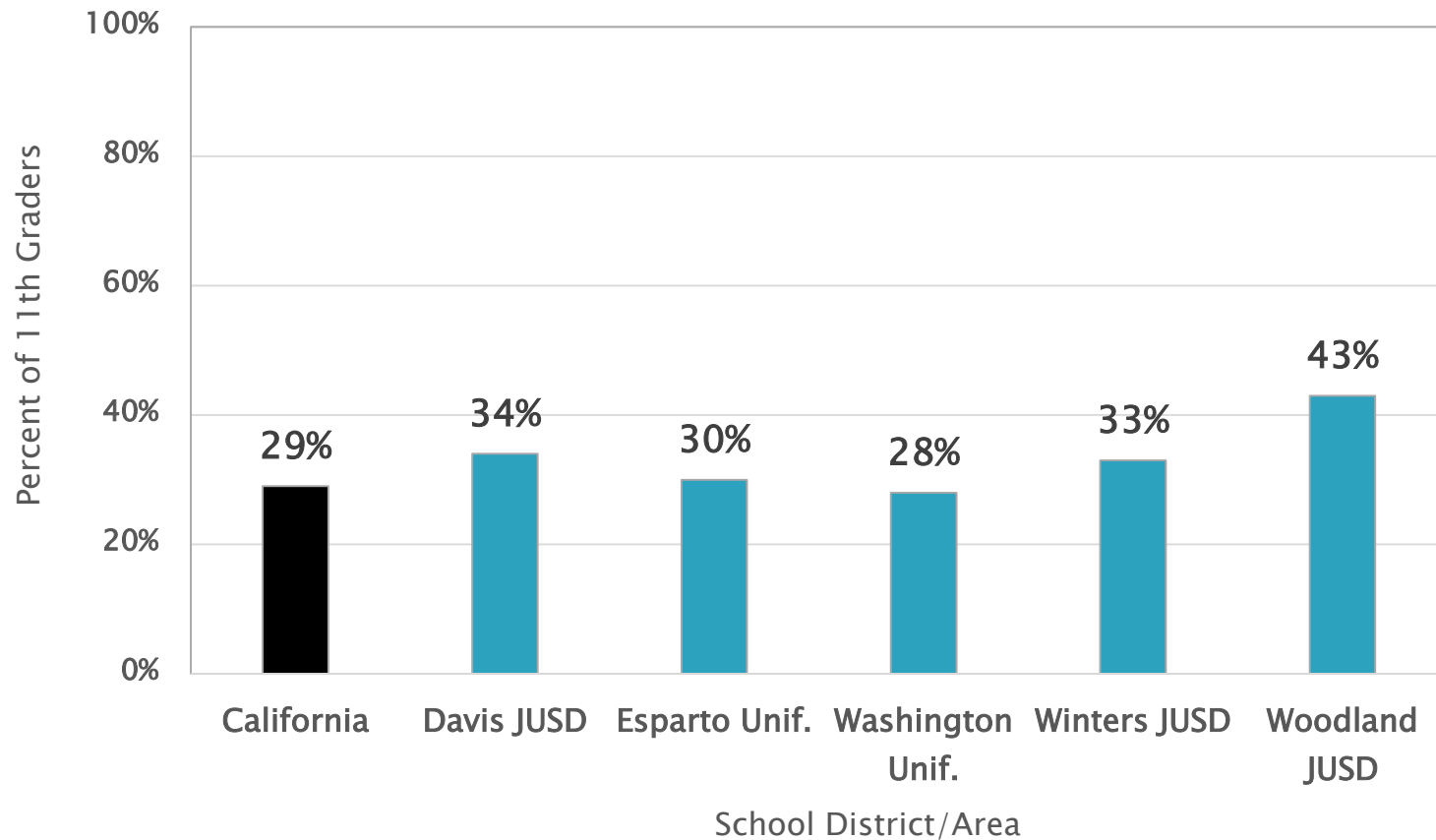


# Teen Birth Disparities

- ▶ In 2017: 78 births to teens aged 15–19 yr
  - 45/78 (58%) were to Hispanic teens (fewer than in the past)
  - 32/78 (41%) were to Woodland residents
  - 24/78 (31%) were to West Sacramento residents



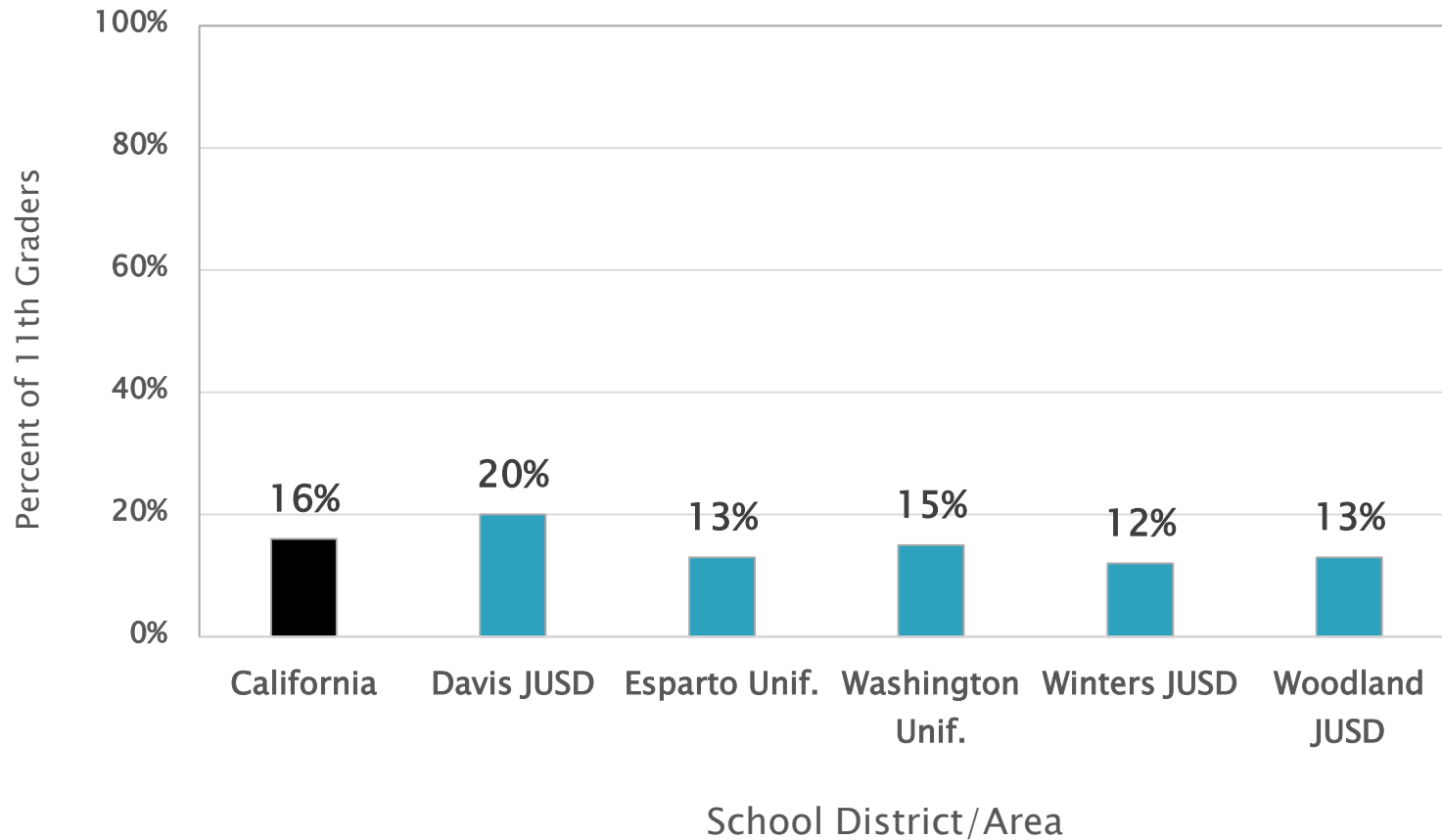
# Alcohol/Drug Use (past 30 d) by School District, 11<sup>th</sup> Grade, 2015–2017



Source: CHKS, <https://calschls.org/reports-data/>



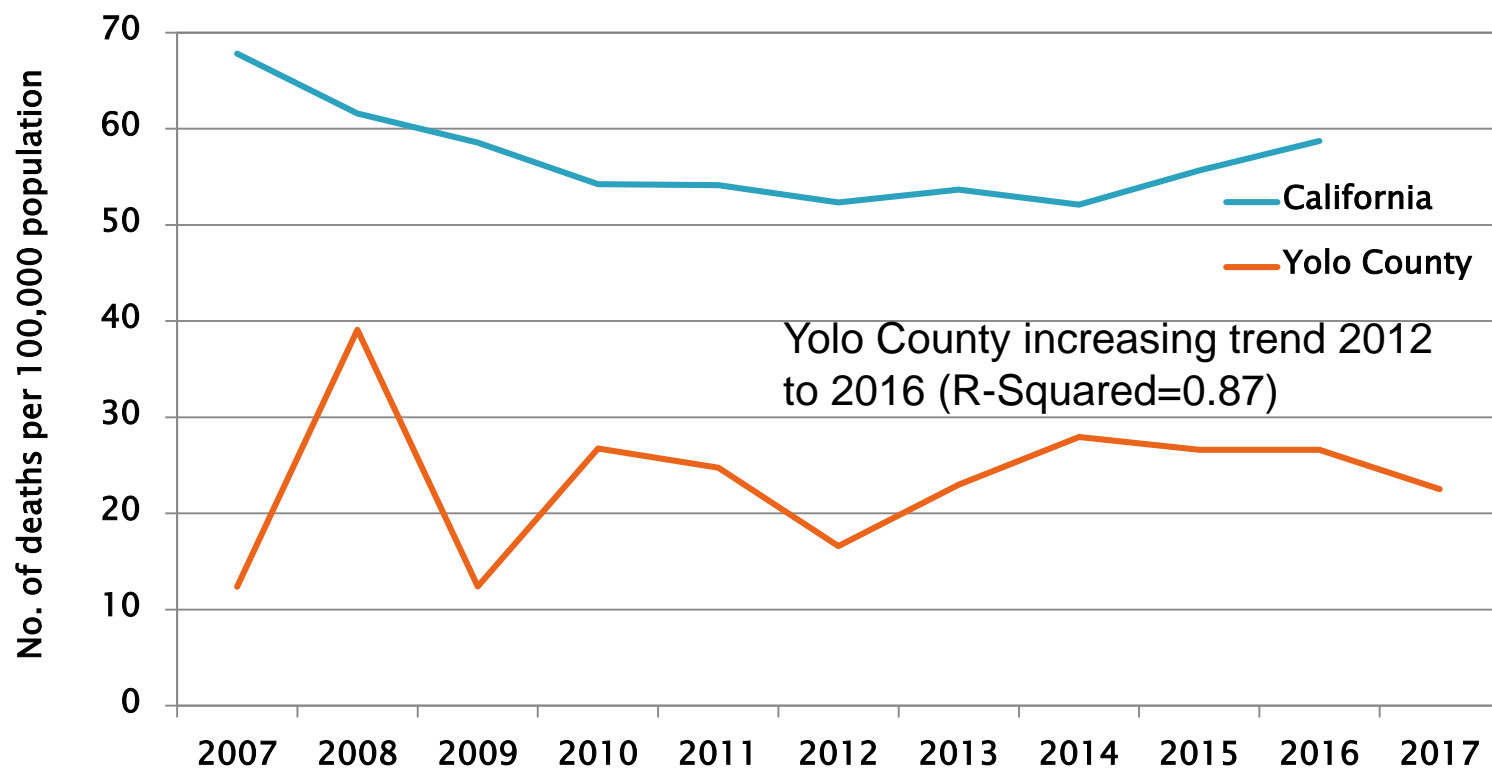
# Seriously Considered Suicide, 11<sup>th</sup> Grade, 2015-2017



Source: CHKS, <https://calschls.org/reports-data/>



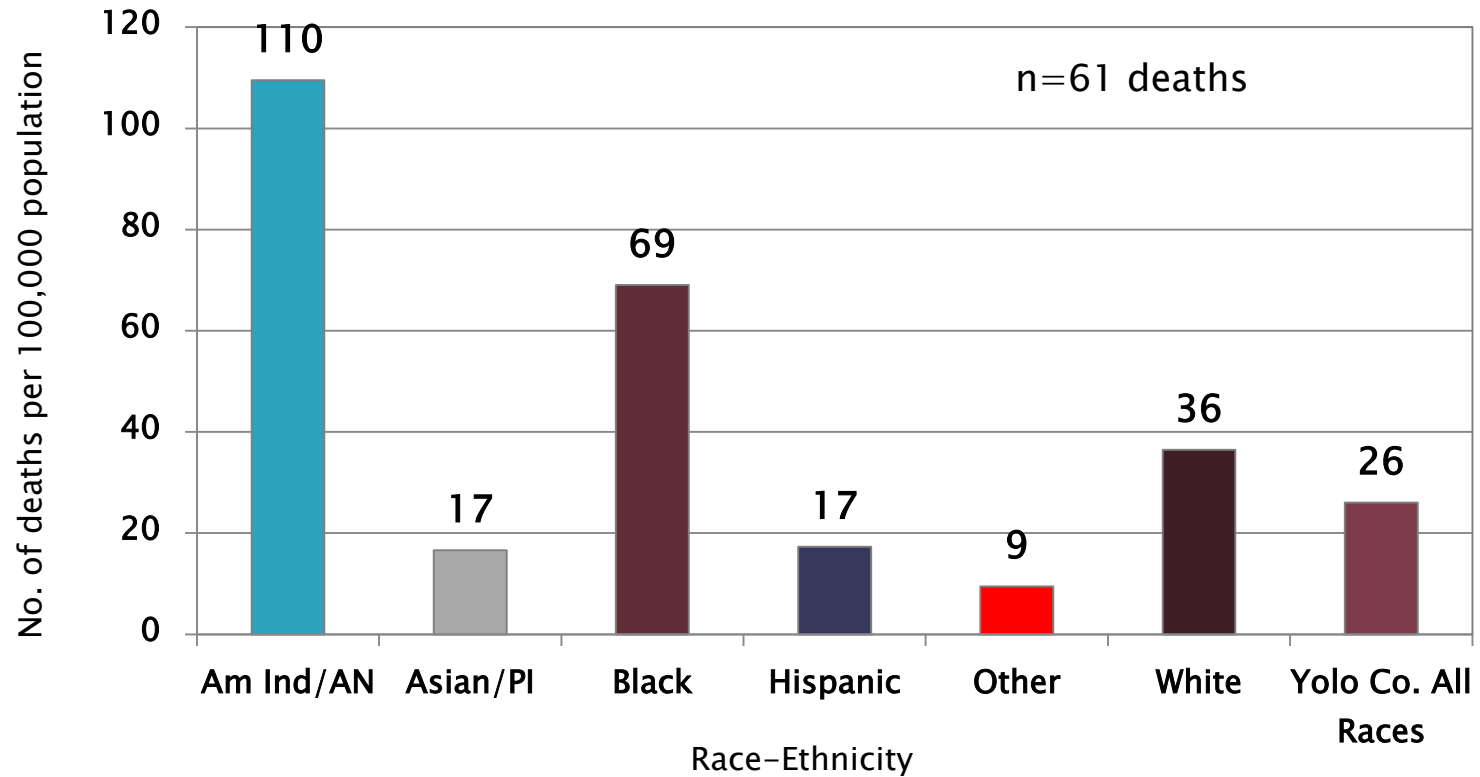
# Youth (Age 15–24), Mortality Rates Yolo County vs. California, 2007–2017



Source: Yolo County Death Records, VRBIS and CDC Wonder (California data)



# Youth (Age 15 to 24) Mortality Rates by Race–Ethnicity, Yolo County, 2013–2017



Source: Yolo County MCAH Program, Death Records



# Youth (Age 15–24) Mortality Rates by ZIP Code, 2013– 2017

Have data, need map

Source: Yolo County MCAH Program, Death Records





# Conclusions – Accomplishments

- ▶ High in-hospital breastfeeding rates, but rate dropped in the past 2 yrs
- ▶ Met HP2020 goal for 6-mo exclusive breastfeeding, even among WIC mothers
- ▶ 1<sup>st</sup>-trimester entry into prenatal care higher than State and improved since 2016–17
- ▶ Low preterm births (<8%=March of Dimes goal)
- ▶ Decreasing teen birth rates
- ▶ Low infant, child and young adult mortality vs. State and HP2020



# Conclusions – Areas for Improvement

- ▶ Mental health – hospitalization rates on the rise for moms and children, high % of children in CWS referred for services
- ▶ Disparities remain –poorer outcomes for Hispanic and black youth and mothers
- ▶ Scholastic achievement (3<sup>rd</sup> grade reading, 11<sup>th</sup> grade math) – most school districts performing worse than State



# Conclusions – Areas for Improvement (cont'd)

- ▶ Fetal mortality (stillbirth) increased in past 5 years and does not meet HP2020 goal
- ▶ High proportions of mothers, children and youth are overweight or obese
- ▶ High percentage of pregnant mothers with GDM (8–10%)
- ▶ Large increase in STD rates for teens



# Questions?

