Data Brief Supplement

Adolescent Birth Rate Decline in California

Regional Contributions (2010–2020)

Methods

Data Sources

The following data sources were used in the development of this data brief:

- 2010–12, California Birth Statistical Master File. California Department of Public Health, Center for Health Statistics and Informatics.
- 2018–20, California Comprehensive Master Birth File. California Department of Public Health, Center for Health Statistics and Informatics.
- 2010-20, Population data, State of California, Department of Finance. Demographic Research Unit. County Population Projections 2010–2060. Sacramento, California. January 2020. Updated July 14, 2021.

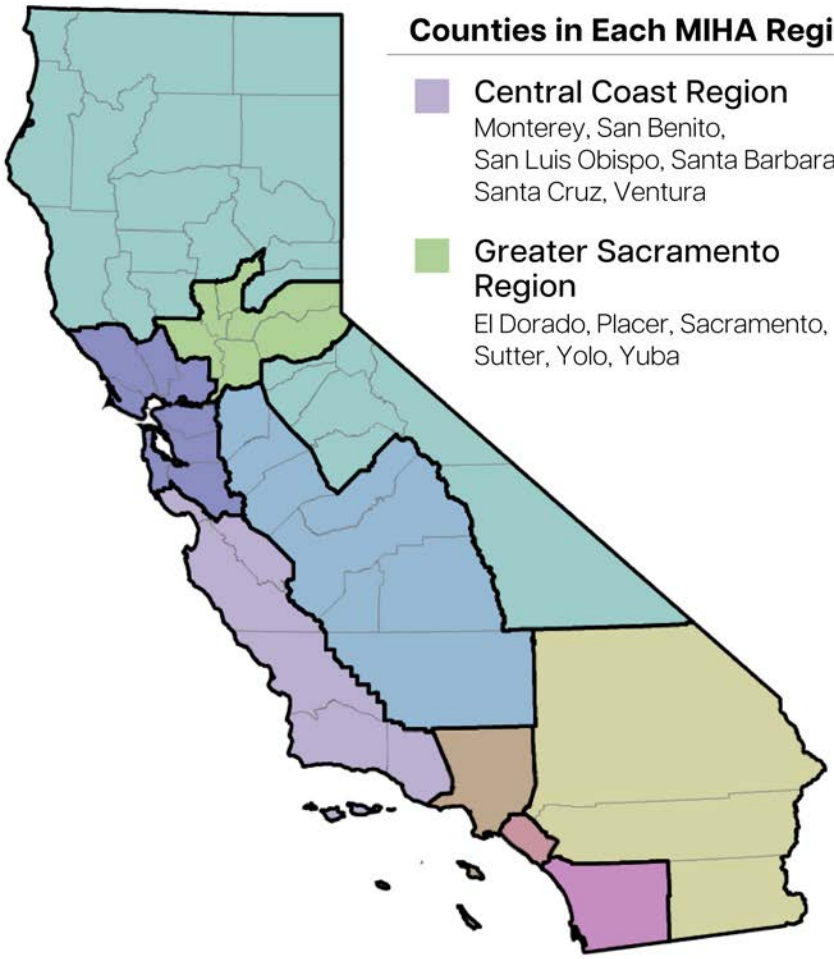
To obtain stable statewide demographic characteristics of births by demographic and geographic characteristics, three-year aggregated (2010–12 and 2018–20) data were used.

Definition of Adolescent Birth Rate (ABR)

The ABR is defined as the number of live births to adolescents aged 15–19 years divided by the total number of female adolescent population ages 15–19 years, then multiplied by 1,000.

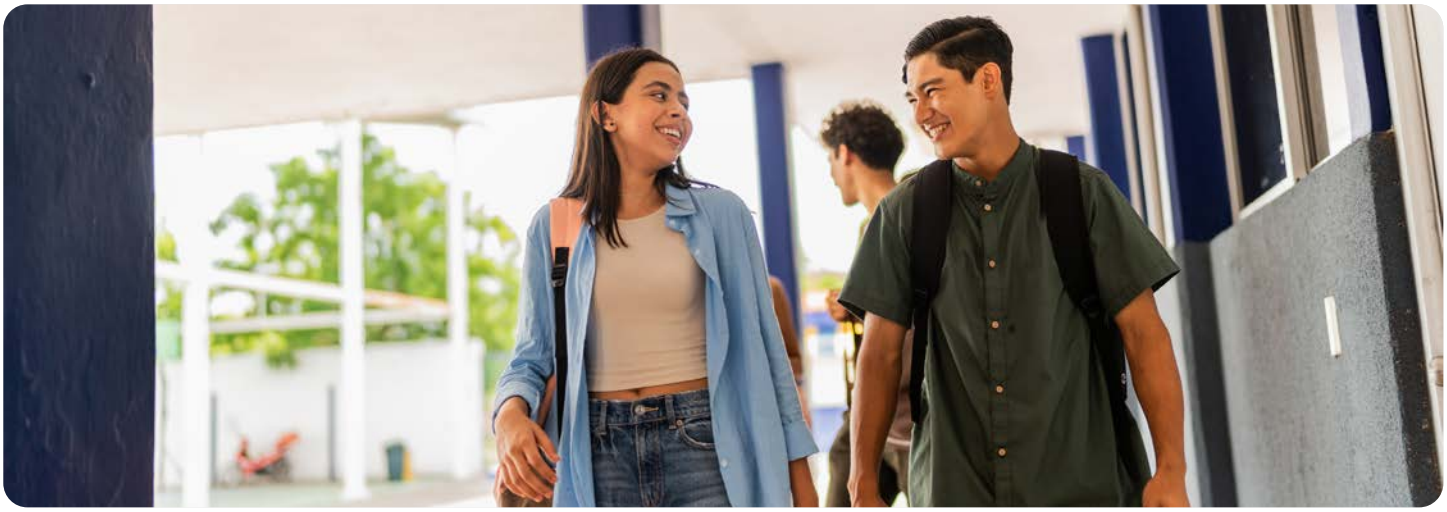
Definition of Regions

Regions are groups of counties as defined by California's Maternal and Infant Health Assessment (MIHA). Three regions are standalone counties: Los Angeles, Orange, and San Diego. See map below.



Counties in Each MIHA Region

- **Central Coast Region**
  Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura
- **Greater Sacramento Region**
  El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba
- **Los Angeles County**
- **North/Mountain Region**
  Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, Trinity, Tuolumne
- **Orange County**
- **San Diego County**
- **San Francisco Bay Area**
  Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma
- **San Joaquin Valley**
  Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare
- **Southeastern California**
  Imperial, Riverside, San Bernadino



Kitagawa Rate Decomposition

To estimate the regional contributions to the ABR decline, the Kitagawa rate decomposition method was used. This method identifies the relative contributions of changes to ABR's two factors: (1) distribution of birthing people ages 15–19 by time and geography; (2) each ABR-specific to time and geography (see equation below). The Kitagawa rate decomposition method compared the ABR between two periods, 2010–12 and 2018–20, by region. This method breaks down the total change in the birthing population over time, partitioning changes in the given region and region-specific ABR, to determine the contribution attributable to a region.

The difference in the overall rates ($R_1 - R_2$) is attributable to these factors:

1. Distribution of factor (percent by category i, P_i)
   $\sum_i (P_{1i} - P_{2i}) \times ((R_{1i} + R_{2i}) \div 2)$
2. Factor-specific rates of an outcome (rates by category i, R_i)
   $\sum_i (R_{1i} - R_{2i}) \times ((P_{1i} + P_{2i}) \div 2)$
   Where:
   Factor 1, P = distribution of birthing population
   Factor 2, R = ABR factor-specific rates
   1i = time 1, 2010–12
   2i = time 2, 2018–20

Limitation

The Kitagawa rate decomposition method evaluates a single covariate or risk factor assessment at a time and, thus, is not a multivariable approach.

Table 1. Adolescent Birth Rate by County within Regional Groups, 2010–12 and 2018–20

County Name	ABR, 2010–12	ABR, 2018–20	ABR change
Central Coast Region			
Monterey	45.2	22.4	-50.4%
San Benito	21.7	11.3	-47.9%
San Luis Obispo	16.2	6.8	-58.0%
Santa Barbara	29.5	16.7	-43.4%
Santa Cruz	21.7	7.1	-67.3%
Ventura	26.9	11.3	-58.0%
Greater Sacramento			
El Dorado	13.0	4.5	-65.4%
Placer	12.6	5.0	-60.3%
Sacramento	27.3	10.9	-60.1%
Sutter	29.3	14.9	-49.1%
Yolo	15.7	5.8	-63.1%
Yuba	43.1	18.8	-56.4%
Los Angeles			
Los Angeles	27.9	10.6	-62.0%
North/Mountain			
Alpine	*	*	*
Amador	19.4	11.6	-40.2%
Butte	23.2	10.2	-56.0%
Calaveras	19.1	10.6	-44.5%
Colusa	34.7	16.5	-52.4%
Del Norte	53.4	20.9	-60.9%
Glenn	39.5	15.6	-60.5%
Humboldt	22.8	10.4	-54.4%
Inyo	34.9	21.4	-38.7%
Lake	38.2	22.8	-40.3%
Lassen	36.3	23.1	-36.4%
Mariposa	23.7	18.8	-20.7%
Mendocino	37.3	17	-54.4%
Modoc	28.6	16.5	-42.3%
Mono	21.5	10.8	-49.8%
Nevada	14.7	6.1	-58.5%
Plumas	23.9	13.6	-43.1%

County Name	ABR, 2010–12	ABR, 2018–20	ABR change
North/Mountain			
Shasta	29.8	14.5	-51.3%
Sierra	*	*	*
Siskiyou	35.9	15.4	-57.1%
Tehama	36.6	19.8	-45.9%
Trinity	38.5	19.2	-50.1%
Tuolumne	16.0	12.3	-23.1%
Orange			
Orange	20.1	7.5	-62.7%
San Diego			
San Diego	26.0	9.1	-65.0%
San Francisco Bay Area			
Alameda	18.6	6.3	-66.1%
Contra Costa	18.3	7.6	-58.5%
Marin	10.7	4.3	-59.8%
Napa	21.7	7.5	-65.4%
San Francisco	12.3	5.1	-58.5%
San Mateo	16.1	6.6	-59.0%
Santa Clara	19.0	5.7	-70.0%
Solano	24.0	11.2	-53.3%
Sonoma	19.1	7.8	-59.2%
San Joaquin Valley			
Fresno	45.6	19.4	-57.5%
Kern	52.4	23.3	-55.5%
Kings	48.8	20.3	-58.4%
Madera	50.2	20.4	-59.4%
Merced	41.9	18.9	-54.9%
San Joaquin	33.9	15.9	-53.1%
Stanislaus	34.7	16.7	-51.9%
Tulare	55.6	23.0	-58.6%
Southeastern CA			
Imperial	50.8	22.4	-55.9%
Riverside	29.1	13.0	-55.3%
San Bernardino	35.9	15.6	-56.5%

* Data are suppressed due to small numbers (i.e., between 1 and 9).

References

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2 Power to Decide U.S. Teen Birth Rates Down 73% Since 1991 May, 2021 https://powertodecide.org/about-usnewsroom/us-teen-birth-rates-down-73-1991

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