

Decomposing adolescent birth rates in the U.S.: Contributions of individual states and population subgroups to the nationwide decline

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Introduction

- There have been dramatic declines in the adolescent birth rate (ABR; births per 1,000 females aged 15-19) across the U.S. between 1991 and 2011, decreasing 49% in this period.
- There is considerable interest in identifying drivers of this decline.
- Here, the focus is on changes in population demographics at the state level to determine the contribution of each state to the national decline in ABR between 1991 and 2011.

Data Sources

- Birth and population counts by age, race and Hispanic ethnicity are from the Centers for Disease Control and Prevention, National Center for Health Statistics Vital statistics and bridged race files from 1991 – 2011.

Births: [/nchs/vitalstats.html](#); Population: 2011 [/nchs/nvss/bridged_race.htm](#) as of June 30, 2015; 2001: Revised bridged-race 2000-2009 intercensal population estimates as of 10/26/2012; 1991: Bridged-Race Population Estimates, compiled from 1990-1999 bridged-race intercensal, 7/26/2004

Methods

- We applied a rate standardization and decomposition method* to determine the relative contribution of each state to the change in ABR in the US overall, by age and by race and Hispanic ethnicity. See example below for calculation of CA contribution to overall decline.

Example

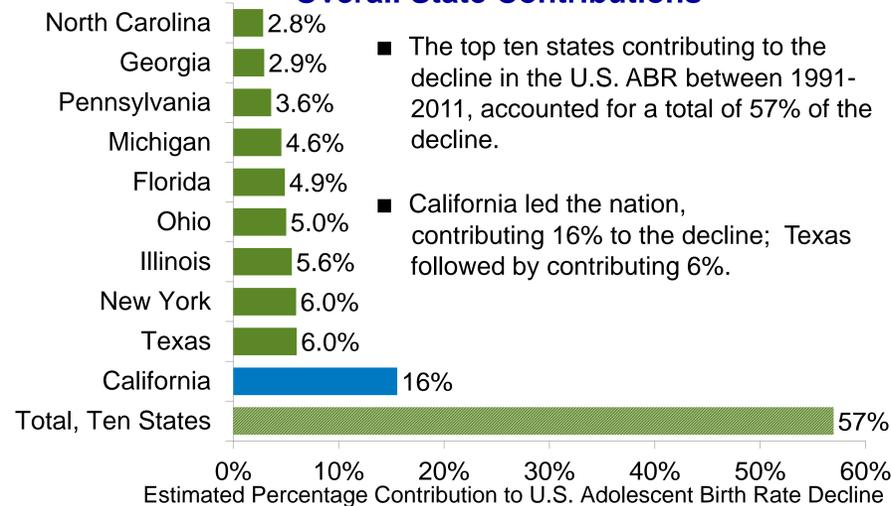
$$\Delta USABR = \frac{\Delta (ABR_{CA} * PWT_{CA})}{\Delta (ABR_{US_CA} * PWT_{US_CA})}$$

where:
ABR_{CA} = CA ABR
PWT_{CA} = proportion of CA population to total U.S. population, females aged 15-19
ABR_{US_CA} = U.S. ABR, excluding CA
PWT_{US_CA} = proportion of U.S. population excluding California to total U.S. population, females aged 15-19

* Das Gupta, Prithwis, Standardization and Decomposition of Rates: A User's Manual, U.S. Bureau of the Census, Current Population Reports, Series P23-186, U.S. Government Printing Office, Washington, DC, 10031. <https://www.census.gov/popest/research/p23-186.pdf>

Results

Overall State Contributions

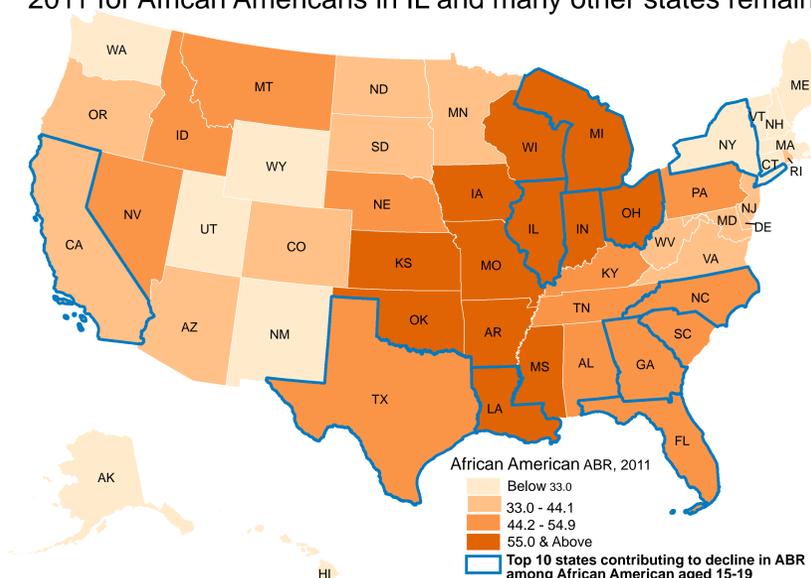


- The top ten states contributing to the decline in the U.S. ABR between 1991-2011, accounted for a total of 57% of the decline.

- California led the nation, contributing 16% to the decline; Texas followed by contributing 6%.

State Contributions, by race/ethnicity

- Between 1991 and 2011:
 - California's contribution to the ABR decline among Hispanic (50%), White (11%), and Asian/Pacific islander (48%) adolescents are the largest, followed by Texas (20%), Ohio (7%) and Hawaii (18%).
 - African-American adolescent populations and births are concentrated in the South; in 2011 Georgia led the nation in both and contributed 5% to the decline among African-American adolescents.
 - Illinois contributed the largest percentage to the decline in African American birth rates at 8.2%; however, as shown in the map, the ABR in 2011 for African Americans in IL and many other states remain high.

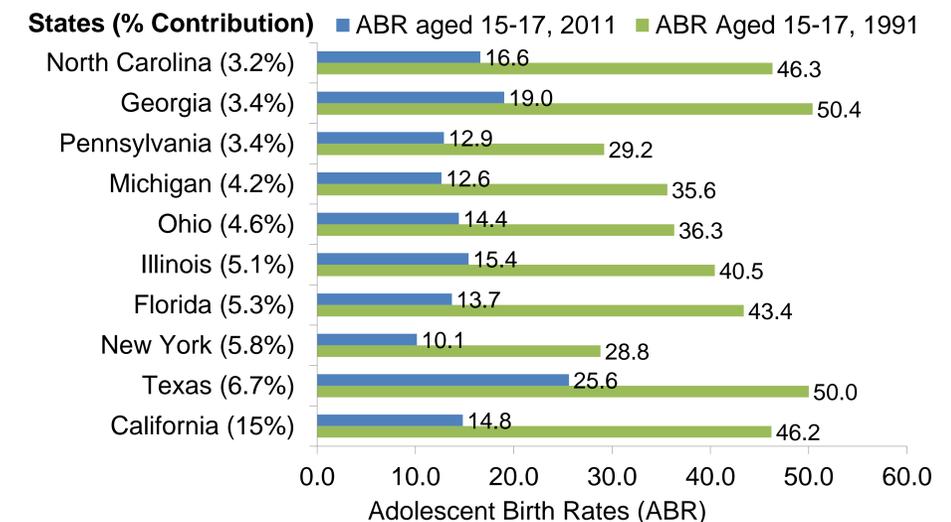


- Among American Indian/Alaskan Native females aged 15-19, Oklahoma's contribution to the ABR decline was the largest at 13%; followed by Arizona at 10%.

State Contributions, by age group

- Overall, 66% of the ABR decline between 1991 and 2011 was accounted for by adolescents aged 18-19 and 44% by adolescents aged 15-17; results for state contributions by age subgroups were similar to those for overall females aged 15-19.
- In the young adolescent aged 15-17, CA & TX have similar adolescent population demographics (age, race, and Hispanic ethnicity) and have the highest numbers of births; yet, CA's ABR is 14.8 versus TX's 25.6 in this age group.

Birth Rates and Estimated Percentage Contribution to the ABR decline among adolescents aged 15-17, Top Ten States, 1991-2011.



Conclusion

- Despite universal declines and percentage contributions of each state, ABR disparities exist across states. Although not examined here, differences in state public policies and social, cultural and economic conditions likely contribute to the differential adolescent birth rates.
- California's large contribution on the ABR decline among Hispanics is phenomenal because Hispanic adolescents have higher rates of childbearing and are an increasing share of the adolescent female population since 1991, which otherwise would have increased ABR in the State.
- Comparisons of ABR trends and contribution to the ABR decline of each state nationwide can inform development of policies and programs that promote equitable access to key supports of adolescent reproductive health among all youth in the U.S.