May 21, 2008

2008 NO TIME FOR COMPLACENCY
Data Sources and Analysis Methods

I. Estimation of Teen Birth Numbers

A. Statewide

Statewide teen (ages 15-19 years) birth numbers for 2005 and 2006 are used in the 2008 No Time for Complacency materials. The source of these data is the California Department of Public Health's (CDPH) Vital Statistics Reports showing the number of live births by age of mother for 2005 and 2006.

B. By legislative districts

Teen birth numbers for 2004 and 2006 by legislative district (both senate and assembly) were estimated using the following sources of data:

1. CDPH's birth profiles by zip code for 2004 and 2006, which include number of live births by zip code of mother's residence for mothers under age 20.

2. Population estimates for female teens (ages 15-19) commercially available from Nielsen Claritas for 2004 and 2006. (These estimates are required because exact census data by zip-code are only available every ten years.)

3. 2002 Election District Zip Code File, containing zip code to legislative district mapping and proportions, commercially available from Capitol Enquiry, Sacramento, CA

For each district, female teen population and zip code birth totals were weighted by zip code proportion in the district. District-weighted population and zip-code-specific birth data were then combined to provide female teen (ages 15-19 years) population and birth estimates for each district.

All teen births were linked to zip codes, however some zip codes with very small populations were not linked to a legislative district in the 2002 Election District Zip Code File. As a result, approximately 98.5% of teen births were assigned to legislative districts, whereas 1.5% were not assignable. This is not likely to bias the teen birth *rate* results because both population and births from non-assignable zip codes were excluded together. This does, however, add a very small negative bias, on average, to the district-level teen birth *numbers*; actual district teen birth numbers (and estimated costs) are on average about 1.5% higher than reported in the *No Time For Complacency* 2008 Teen Birth Update.

C. By counties

Teen birth numbers for 2004 and 2006 by county were estimated using the following sources of data:

1. CDPH's birth profiles by zip code for 2004 and 2006, which include number of live births by zip code of mother's residence for mothers under age 20.

2. Population estimates for female teens (ages 15-19) commercially available from Nielsen Claritas for 2004 and 2006.

For each county, female teen population and zip code births were aggregated into counties based on county-zip code matching in the population data file.

II. Estimation of Teen Birth Rates

A. Statewide

The statewide teen birth rate for 2005 was obtained from the CDPH's Vital Statistics Reports showing birth rates by age of mother, for mothers aged 15-19 years.

The statewide teen birth rate for 2006 was not yet available from CDPH at the time of our publication. Therefore, we replicated the CDPH's approach for calculating rates by using the number of live births to mothers aged 15-19 years in 2006 and the female teen population estimate from the California Department of Finance.

B. By legislative districts

Teen birth rates for 2004 and 2006 by legislative district (both senate and assembly) were estimated using the following sources of data:

1. CDPH's birth profiles by zip code for 2004 and 2006, which include number of live births by zip code of mother's residence for mothers under age 20.

2. Population estimates for female teens (ages 15-19) commercially available from Nielsen Claritas for 2004 and 2006.

3. 2002 Election District Zip Code File, containing zip code to legislative district mapping and proportions, commercially available from Capitol Enquiry, Sacramento, CA

For each district, female teen population and zip code birth totals were weighted by zip code proportion in the district. District-weighted population and zip-code-specific birth data were then combined to provide female teen (ages 15 to 19) population, birth numbers, and birth rates for each district.

C. By counties

Teen birth rates for 2004 and 2006 by county were estimated using the following sources of data:

1. CDPH's birth profiles by zip code for 2004 and 2006, which include number of live births by zip code of mother's residence for mothers under age 20.

2. Population estimates for female teens (ages 15-19) commercially available from Nielsen Claritas for 2004 and 2006.

For each county, female teen population and zip code births were aggregated into counties based on county-zip code matching in the population data file, and rates were calculated.

United States

Teen birth rates for the Unites States as a whole were obtained from the National Vital Statistics Reports showing birth rates by age of mother, for mothers aged 15-19 years.

Texas

Teen birth rates for Texas were calculated using the number of live births to mothers aged 15-19 years and teen female population estimates obtained from Texas Department of State Health Services.

The latest available teen birth numbers for Texas are for 2004. To estimate Texas's 2005 and 2006 teen birth rate, the trend in the United States teen birth rate from 2004 to 2005 to 2006 was applied to the 2004 Texas rate.

International

The median teen birth rate of 16 other Western democracies was calculated from teen birth rates for Australia, Austria, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, and United Kingdom, which were obtained from the United Nations' Demographic Yearbook 2005, showing the teen birth rates for live births to mothers under age 20.

III. Estimation of Taxpayer and Societal Costs

A. Statewide

In 1997 Rebecca Maynard led a team of nationally prominent sociologists, demographers, and economists who developed a method to estimate the average annual cost to taxpayers in the United States for each birth to a school-age (age 17 years or younger) teen mother[1]. Maynard and her group employed conservative assumptions, and used the most directly attributable costs, including tax revenue costs based on mother's and father's income and consumption, public assistance direct costs such as welfare and medical assistance as well as the associated administrative costs of these programs, costs for increased foster placement and incarceration of children, and tax revenue costs based on children's incomes and consumption when they reach young adulthood. Some costs, such as public assistance, were averaged over the first 13 years of parenthood, while others, such as adult children's income-related costs, were averaged over longer periods of time. Appropriately, and

[1] Maynard, R.A. (1997). *Kids having kids: Economic costs and social consequences of teen pregnancy* Washington, DC: Urban Institute Press.

unlike other less rigorous cost analyses, Maynard estimated net costs, adjusted for estimated costs in these same categories had the teen mother delayed her birth until age 20 or 21. Although Maynard did not estimate costs for teens aged 18 and 19, net costs for older teens can be extrapolated, again relative to what the costs would have been for 20-21 year olds, by assuming half the average annual cost per birth to school-aged mothers (because 18-19 year old mothers are half as far from age 21 as are the 17.4 years average school-aged mothers). For the original *No Time for Complacency* report in 2003, we calculated the age-weighted average annual taxpayer cost associated with each teen birth for ages 15-19 years, in year 2000 dollars. Assuming average annual inflation of 2.7% since the year 2000, we calculated an average annual taxpayer cost per teen birth equivalent to $2,493 in 2006.

In addition to taxpayer costs, Maynard estimated total costs to society, which included in addition to taxpayer costs, estimated changes in earnings of the teen mothers, fathers, and children when they reached young adulthood, and privately paid medical costs. Estimates of these costs were less directly anchored in data and therefore required additional assumptions. Yet the results appear plausible - these costs were estimated to be approximately two and one third times the costs to taxpayers. Assuming again an average annual inflation of 2.7% since the year 2000, we calculated an average societal cost per teen birth equivalent to $5,562 in 2006.

To obtain the statewide taxpayer and societal costs, we multiplied the statewide number of births in 2004 and 2006, as reported by the CDPH, with the average taxpayer and societal cost per teen birth over the first 13 years of parenthood.

B. By legislative districts

To obtain the estimated taxpayer and societal costs for senate and assembly districts, we applied the above method III.A. to obtain taxpayer and societal costs, to the estimated number of births per district described in section I.B. above.

C. By counties

To obtain the estimated taxpayer and societal costs for counties, we applied the above method III.A. to obtain taxpayer and societal costs, to the estimated number of births per county described in section I.C. above.