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Introduction

Unintended pregnancy is an important indicator of the public health of a population, and the goal of reducing the incidence of unintended pregnancy is included in the U.S. Department of Health and Human Services' ongoing Healthy People 2020 initiative to improve the health of the nation.[1] The Guttmacher Institute has monitored progress toward this goal at the national level, and its most recent estimates—for 2008—of the unintended pregnancy rates for the U.S. population as a whole and for many subgroups were published in 2014 by Finer and Zolna.[2] Their analysis showed that in 2008, 51% of pregnancies in the United States were unintended and the unintended pregnancy rate was 54 per 1,000 women aged 15–44. Between 2001 and 2008, the national rate of intended pregnancy decreased and the national rate of unintended pregnancy increased; also increasing were disparities in unintended pregnancy rates by union status, income and education.

Births from unintended pregnancies present a substantial burden on the lives of women and families,[3–8] as well as significant costs for federal and state governments.[9] Since 2011, the Guttmacher Institute has published periodic estimates of unintended pregnancy rates for individual states, which allow states to monitor trends in these essential public health indicators over time. In addition, these statistics enable comparisons of experiences across states, as well as provide benchmarks for measuring the impact of pregnancy prevention and other public health programs. The estimates presented in this report are the most recent and comparable statistics available on unintended pregnancy for all 50 states and the District of Columbia.

This report provides updated estimates for 2010 of the number of unintended pregnancies, rates of unintended and intended pregnancies, and percentage distributions of unintended pregnancies by wantedness and pregnancy outcome among women aged 15–44 residing in each U.S. state and the District of Columbia. The level and variation among states in 2010 is discussed, as well as trends in unintended pregnancy rates over the period 2002–2010. Previous reports providing estimates for 2002, 2004 and 2006 were first published in 2011 by Finer and Kost.[10] In 2013, estimates for 2008 were published,[11] and included updated estimates for prior years using final intercensal population estimates. In this publication, updated estimates for 2006 and 2008 are also included in an appendix (Appendix Tables 1 and 2).

Data Sources and Methods

The total number of pregnancies in each state is the sum of all births, abortions and fetal losses to residents of that state. Similarly, the total number of unintended pregnancies is the sum of all births from unintended pregnancies, all abortions from unintended pregnancies and all fetal losses from unintended pregnancies. We follow the methodology developed and detailed in a previous publication of state unintended pregnancy rates.[10]

For a few states, estimates for 2006 and 2008 have changed slightly from those published in a prior report.[11] These are the states for which no data were available to directly calculate pregnancy intention of births; instead, we estimated unintended pregnancy rates using multivariate regression models. In this updated version, we have included the same independent variables in the model for all years.* Estimates for California also changed; we have calculated new estimates for 2002–2008 to be consistent with the 2010 estimate (more detail on this change below).

New to the tables in this update are state-specific abortion ratios. The abortion ratio is the number of abortions per 100 pregnancies ending in abortion or live birth (i.e., excluding fetal loss from miscarriage or still birth). This statistic is comparable to those published periodically at the national level.[2]

States with unintended pregnancy rates estimated from multivariate regression are not included in our analyses of trends. In addition to the six states and the District of Columbia for which rates were estimated for each study year, several other states had estimated rates from multivariate regression for some but not all years (Delaware, Kentucky, Massachusetts, Missouri, Montana, North Dakota, Pennsylvania, Tennessee, Virginia and Wisconsin).

*The proportion of the population of women 15–44 who identified their race as American Indian or Alaskan Native was included in all models. It was not included in the previously published estimated rates for 2006 and 2008.

†The surveys in South Dakota were designed to be representative of births at the state level; however, in our previous analyses of births from these surveys, respondents in the sample had higher levels of education than the state's population of women. For this reason, we did not use estimates of the intention status of births from these surveys.[10]

Births: Counts and Intentions

The annual number of births occurring to resident women in each state was obtained from the U.S. vital statistics system for each of the years included in this report.[12]

For most states, the proportion of births that were intended, mistimed or unwanted was obtained from the Pregnancy Risk Assessment Monitoring System (PRAMS).[13] PRAMS consists of annual surveys of resident mothers who have delivered a recent live birth. The sample is drawn from the state vital statistics data file containing all birth certificates, and is weighted to represent all births in the state for the year of the survey. PRAMS surveys were conducted in 31 states in 2002, 29 states in 2004, 28 states in 2006, and 37 states in 2008 and 2010. In addition, PRAMS has been conducted annually in New York City since 2001.

Several states that did not participate in PRAMS in 2010 or prior years have administered survey programs that are based on or similar to PRAMS and include questions on pregnancy intention. The Pregnancy Risk Assessment Tracking System (PRATS) has been administered annually in Idaho since 2001 and was also administered in Connecticut in 2002–2003 and 2010–2011.[14,15] The Maternal Outcomes Measurement System (MOMS) was conducted in Wyoming in 2003, 2004 and 2005. California's Maternal and Infant Health Assessment (MIHA) has collected similar data annually since 2000. The ongoing Barriers to Prenatal Care surveys have included questions on the intention status of Iowa births since 1991. In South Dakota, the Perinatal Risk Assessment survey was conducted in 2003, 2005 and 2007.† Finally, Kentucky administered a PRAMS-based pilot survey in 2007 and again in 2008.

All state surveys—PRAMS, PRATS, MIHA and Iowa's Barriers to Prenatal Care—used a similar question to ascertain pregnancy intention status: "Thinking back to just before you got pregnant, how did you feel about becoming pregnant?" Response categories were "I wanted to be pregnant sooner," "I wanted to be pregnant later," "I wanted to be pregnant then" and " I didn't want to be pregnant then or at any time in the future." The first and third response categories were combined to create an "intended" category; the second and fourth response categories were

combined for "unintended." In the California MIHA, respondents were not offered the first response option, but were offered an additional choice: "I wasn't sure what I wanted" (see Issues with Specific State Surveys below).

We were able to directly calculate 2010 estimates for 42 states, including 40 states that carried out PRAMS or a similar survey in 2010, one state with a PRAMS pilot survey in 2008 (Kentucky) and one state with a survey in 2011 (California).* For each state with available data, we obtained tabulations of the proportion of births that were unintended (and the proportions mistimed and unwanted).† These proportions were applied to the state's total number of births reported in U.S. vital statistics for 2010. A detailed description of methods used for the calculations is available elsewhere.[10]

States Without PRAMS or PRAMS-Like Surveys

For the nine jurisdictions where PRAMS or similar data were not available at all (Arizona, District of Columbia, Indiana, Kansas, Nevada, New Hampshire and South Dakota) or since 2002 (Montana and North Dakota) to provide the distribution of births by intention status, we predicted the unintended pregnancy rates using a multivariate linear regression model. In the model, each of the 42 states with data represented an observation. The dependent variable was the state unintended pregnancy rate. We included several independent variables, based on demographic characteristics that have been shown to be associated with unintended pregnancy rates.[16,17] These included age, race and ethnicity, poverty status and marital status. The model included state-level data, rather than individual-level data. So, for example, race and ethnicity was entered as four separate variables: percentage of the state population of women aged 15–44 who were non-Hispanic white in 2010, percentage who were non-Hispanic black in 2010, percentage who were Native American or Alaskan Native in 2010 and percentage who were Hispanic in 2010 (non-Hispanic other was omitted to prevent overspecification). Finally, we included the state's overall pregnancy rate as a key independent variable. The R^2 of the final model was .90.

To test the accuracy of the model, we used the resulting regression coefficients to calculate predicted rates for states for which we had already estimated an actual rate using PRAMS or similar data. We then compared the model's predictions to these actual rates. Twenty-seven of 42 predicted rates were within two points of the actual rate, and another ten were within 3.5 points. The largest differences between predicted and actual rates were 7.7 points for South Carolina, 4.5 points for California and 4.2 points for Wyoming; for South Carolina and California, the predicted rates were higher than the actual rates, whereas the opposite was true for Wyoming. There was no clear geographic pattern to the size of these residuals. Those states with predicted rates are indicated as such in the tables.

Abortions: Counts and Intention Status

For abortion counts, most but not all states conduct annual surveillance of abortions provided in the state and the number of abortions obtained by residents.[18–21] However, abortions are almost always underreported to state surveillance systems.[22] We, therefore, used counts for 2002, 2004, 2006, 2008 and 2010 from a periodic national census of abortion providers conducted by the Guttmacher Institute.[23,24,25]

Although a majority of abortions result from unintended conceptions, some women do obtain abortions following a conception that was intended. There are currently no state-level data on the intendedness of pregnancies resulting in induced abortion (PRAMS is limited to births). However, we do have national-level estimates of the intendedness of pregnancies ending in induced abortion, from a nationally representative sample interviewed in the Guttmacher Institute's 2008 National Abortion Patient Survey (APS).[26] Data on the intendedness of pregnancies ending in abortion are also available from the National Survey of Family Growth, but abortions are substantially underreported in that survey, which raises questions about the representativeness of the abortions that are reported.[27] Because the proportion of abortions following intended pregnancies in the APS is quite small (approximately 5%), we are comfortable applying the national distribution by intention to the number of abortions that occurred among residents of each state to obtain the number of unintended pregnancies ending in abortion in that state.

*New York state (excluding New York City) and New York City carried out independent surveys. The New York state Department of Health provides tabulations for the state as a whole, as well as the two jurisdictions separately.

†Tabulations of the proportion of births resulting from unintended pregnancies were obtained from the CDC's CPONDER interactive data analysis system (source: Centers for Disease Control and Prevention, CDC's PRAMS online data for epidemiologic research (CPONDER) V2.0, 2014, <http://www.cdc.gov/prams/cponder.htm>, accessed November 11, 2014), through requests made directly to state health departments, or from the states' online reports.

Fetal Losses: Counts and Intention Status

Fetal losses are often included in vital statistics reports, but are even more undercounted than induced abortions because, for most states, only fetal deaths occurring at 20 weeks' gestation or later are required to be reported to the vital statistics system. Also, fetal loss is underreported in surveys of pregnancy histories because many spontaneous abortions occur at very early gestations and are not detected by women. A reasonable approximation of the total number of fetal losses is the sum of 20% of all births and 10% of all induced abortions.*[28] We applied this approximation separately for intended and unintended pregnancies. That is, we calculated unintended pregnancies ending in fetal loss for each state as the sum of 20% of unintended pregnancies ending in births and 10% of unintended pregnancies ending in abortion to obtain the number of unintended pregnancies ending in fetal loss in each state. Similarly, the number of fetal losses from intended pregnancies was calculated as 20% of intended births and 10% of intended abortions.

Numbers of Pregnancies and Percentage Unintended

To obtain the proportion of all pregnancies that were unintended, we simply divided the number of unintended pregnancies by the total number of pregnancies. For those states with unintended pregnancy rates predicted from the regression model, we applied each predicted rate to the state's population count of women aged 15–44 in 2010 to calculate the number of unintended pregnancies and the percentage of pregnancies that were unintended.

For states with data on the proportions of births that were mistimed and unwanted, we were also able to calculate the proportion of all unintended pregnancies that were mistimed or unwanted. Again, the proportion of abortions resulting from a mistimed or unwanted pregnancy was obtained from the 2008 APS, and we assumed the same proportion for every state.

Finally, for states with unintended pregnancy rates predicted from multivariate regression, we calculated the number of unintended pregnancies ending in birth by subtracting unintended pregnancies ending in abortion and fetal loss from the calculated total of unintended pregnancies. Unintended pregnancies ending in fetal loss were estimated for these states by assuming the proportion of all fetal losses that were unintended was the same as the proportion of all pregnancies that were unintended.

Population of Resident Women Aged 15–44

The accuracy of demographic rates depends on having accurate counts of the population. All rates in this report were calculated as events per 1,000 women aged 15–44 residing in the state. These numbers of women for 2002, 2004, 2006 and 2008 were taken from the U.S. Census Bureau's intercensal counts.[29]

Following the decennial census, population counts for women residing in each state in 2010 are produced by the Bureau of the Census in collaboration with NCHS for July 1 of each year and revised periodically (the "vintage"). We used the Vintage 2013 estimates of bridged-race postcensal population estimates for 2010.[30]

Trend Estimates for 2002 and 2004

In our earlier publications, we included estimated unintended pregnancy rates in 2002 and 2004 only for states with PRAMS or similar data for those years. In this update, we have applied the linear regression model to estimate rates for states with data missing in 2002 and 2004 in each case for which no other data were available in nearby years to estimate the proportion of births that had resulted from unintended pregnancy. The rate was estimated using the logistic regression model with the same independent variables for predictors as used in the models for 2006, 2008 and 2010.

We are conservative, however, in our use of the estimates for states and jurisdictions derived from multivariate regression for discussion and presentation of trends. These estimates are not included in the maps or in our overall assessment of trends. The rates for these states are in essence derived from the experience of the other states; therefore, trends over time would reflect the general trend among all states, rather than a trend specific to the state with missing data. This is particularly true for the seven states and jurisdictions without data for any years (Arizona, District of Columbia, Indiana, Kansas, Nevada, New Hampshire and South Dakota). It is possible that factors unique to these states and jurisdictions would have contributed to very different estimates, if data had been available.

*In our analysis, this approximation yields estimates of fetal loss ranging from 12.2% to 16.2% of all pregnancies, which is similar to the ranges previously estimated using national data corrected for abortion underreporting.[27]

Key Findings

Levels of Unintended Pregnancy in the States, 2010 (Table 1)

• In 28 of the 50 states, more than half of pregnancies in 2010 were unintended. The proportion of pregnancies that were unintended ranged from 36% in Utah to 62% in Mississippi and the District of Columbia.

• The median state unintended pregnancy rate was 47 per 1,000 women aged 15–44. Most states fell within a range of 40 to 55.

• The highest unintended pregnancy rates were in Delaware (62), Hawaii and New York (61 each); the lowest rate was in New Hampshire (32).

• The highest intended pregnancy rates were in Utah (71), Idaho (61) and Alaska (58); the lowest rate was in Mississippi (35).

• Unintended pregnancy rates were generally higher in the South (Georgia, Florida, Louisiana, Mississippi, Virginia) and Southwest (Texas, New Mexico), and in densely-populated states (Delaware, Maryland, New Jersey, New York).

• For the 42 states with data available for 2010, more unintended pregnancies were mistimed than unwanted; about one-quarter to one-third of unintended pregnancies were unwanted in each state.

• Unintended pregnancies can end in a birth, abortion or fetal loss (miscarriage or stillbirth). In 40 states, more than half of unintended pregnancies resulted in a birth.

• The abortion ratio—that is, the number of abortions per 100 unintended pregnancies ending in a birth or an abortion—ranged from 13% in South Dakota to 61% in New York. Fifteen states had an abortion ratio of at least 40%; the median abortion ratio was 32%.

Trends in Unintended Pregnancy Rates, 2002–2010 (Table 2)

• Of the 33 states with data available for 2002 and 2006, only Michigan experienced a rate decrease of 5% or more during this period. Sixteen states, by contrast, experienced increases of 5% or more. The remaining 16 states experienced little to no change in unintended pregnancy rate between 2002 and 2006.

• In the latter half of the decade, the trend reversed. Between 2006 and 2010, 28 of the 41 states with data available for both years experienced rate decreases of 5% or more. Only West Virginia experienced an increased rate of 5% or more. The remaining 10 states experienced little to no change in the unintended pregnancy rate over the period.

• Across the decade (2002–2010), unintended pregnancy rates fell 5% or more in 18 states and rose 5% or more in four states. For the remaining 12 states with data available in both 2002 and 2010, unintended pregnancy rates remained mostly unchanged.

TABLE 1. Number of unintended pregnancies; percentage of all pregnancies that were unintended; unintended and intended pregnancy rates; percentage distributions of unintended pregnancies by wantedness and pregnancy outcome; and abortion ratio—all by state, 2010

State	Unintended pregnancies		Pregnancy rate, per 1,000 women 15–44		% distribution of unintended pregnancies					Abortion ratio
	Number	As % of all pregnancies	Unintended	Intended	by wantedness		by outcome			
					Mistimed	Unwanted	Birth	Abortion	Fetal loss	
Alabama	46,000	55	48	39	70	30	64	21	15	24
Alaska	8,000	48	54	58	73	27	60	26	15	30
Arizona*	61,000	51	49	48	na	na	61	23	16	28
Arkansas	29,000	55	50	42	72	28	67	18	15	21
California	393,000	48	50	54	66	34	42	45	13	52
Colorado	43,000	45	42	50	67	33	56	30	14	35
Connecticut	32,000	51	46	44	72	28	41	46	13	53
Delaware	11,000	57	62	47	62	38	42	46	13	52
Dist. of Columbia*	10,000	62	58	36	na	na	45	40	14	47
Florida	207,000	59	58	40	68	32	49	38	14	43
Georgia	119,000	60	57	39	70	30	58	28	14	33
Hawaii	16,000	56	61	48	70	30	54	32	14	38
Idaho	12,000	39	38	61	71	29	66	19	15	23
Illinois	128,000	52	49	44	68	32	55	31	14	36
Indiana*	55,000	49	43	45	na	na	64	20	16	24
Iowa	23,000	43	39	52	81	19	61	24	15	29
Kansas*	24,000	45	43	53	na	na	68	16	16	19
Kentucky	34,000	47	40	46	72	28	68	16	15	19
Louisiana	53,000	60	57	38	69	31	64	21	15	25
Maine	9,000	48	37	40	68	32	57	28	14	33
Maryland	71,000	58	60	43	62	38	46	41	13	47
Massachusetts	54,000	47	40	45	67	33	43	44	13	50
Michigan	93,000	54	49	41	67	33	55	31	14	36
Minnesota	38,000	40	36	54	70	30	58	28	14	32
Mississippi	35,000	62	57	35	67	33	66	19	15	23
Missouri	54,000	51	46	44	69	31	64	21	15	25
Montana*	7,000	45	42	51	na	na	59	25	16	30
Nebraska	14,000	43	41	54	75	25	69	16	15	19
Nevada*	29,000	52	54	50	na	na	45	40	15	47
New Hampshire*	8,000	43	32	42	na	na	51	33	15	39
New Jersey	97,000	53	56	49	64	36	40	48	13	55
New Mexico	22,000	55	56	45	71	29	59	26	14	30
New York	246,000	55	61	50	64	36	34	54	12	61
North Carolina	95,000	54	49	42	69	31	58	27	14	32
North Dakota*	5,000	44	41	52	na	na	67	17	16	21
Ohio	109,000	55	49	40	69	31	60	25	15	30
Oklahoma	36,000	51	49	48	67	33	68	17	15	20
Oregon	31,000	46	41	47	71	29	54	32	14	37
Pennsylvania	115,000	53	47	42	66	34	52	35	14	40
Rhode Island	9,000	52	43	39	66	34	47	40	13	46
South Carolina	42,000	50	46	45	68	32	57	29	14	34
South Dakota*	7,000	46	46	53	na	na	73	11	16	13
Tennessee	62,000	56	49	39	67	33	63	22	15	26
Texas	298,000	54	56	47	74	26	61	25	15	29
Utah	24,000	36	40	71	77	23	71	14	16	16
Vermont	4,000	46	36	42	66	34	51	35	14	41
Virginia	84,000	54	51	44	66	34	52	34	14	40
Washington	61,000	48	45	50	71	29	52	35	14	40
West Virginia	15,000	52	43	40	70	30	63	22	15	26
Wisconsin	42,000	46	38	46	73	27	65	21	15	24
Wyoming	4,000	44	42	54	71	29	64	21	15	25

*State unintended and intended pregnancy rates predicted from multivariate linear regression. *Notes*: The number of unintended pregnancies is obtained as the sum of births, abortions and fetal losses; numbers rounded to the nearest thousand. All estimates are based on the numbers of births and abortions in 2010. na=not available. The abortion ratio is the number of abortions per 100 pregnancies ending in birth or abortion (excluding fetal loss from miscarriage or stillbirth).

TABLE 2. Trends in unintended pregnancy rates: 2002, 2004, 2006, 2008 and 2010

State	2002	2004	2006	2008	2010	% change 2002–2006	% change 2006–2010	% change 2002–2010
Alabama	48	50	51	48	48	5.2	–5.7	–0.8
Alaska	54	55	56	53	54	3.7	–2.7	1.0
Arkansas	51	53	54	55	50	6.1	–7.2	–1.5
California	58	53	56	56	50	–3.3	–10.4	–13.3
Colorado	50	48	48	46	42	–2.6	–14.0	–16.3
Connecticut	47	48*	52*	50	46	na	na	–1.6
Delaware	54**	54**	65	70	62	na	–4.3	na
Florida	63	62	63	62	58	0.2	–7.4	–7.2
Georgia	57	57	60	60	57	5.8	–4.9	0.6
Hawaii	59	59	64	61	61	7.7	–3.9	3.5
Idaho	43	42	43	43	38	–0.2	–10.9	–11.1
Illinois	56	53	54	53	49	–4.3	–9.3	–13.2
Iowa	40	41	44	42	39	11.1	–10.6	–0.6
Kentucky	43**	45**	40	41	40	na	–0.2	na
Louisiana	53	53	54	63	57	1.3	4.6	6.0
Maine	31	35	37	36	37	20.7	–2.0	18.3
Maryland	65	59	62	58	60	–3.4	–4.2	–7.5
Massachusetts	46**	45**	43	43	40	na	–7.6	na
Michigan	55	51	51	51	49	–7.2	–5.1	–12.0
Minnesota	39	41	44	43	36	13.0	–16.4	–5.6
Mississippi	59	60	69	66	57	15.7	–16.6	–3.5
Missouri	45**	46**	52	50	46	na	–11.0	na
Montana	44	46*	48*	49**	42**	na	na	na
Nebraska	46	49	44	46	41	–4.6	–7.7	–11.9
New Jersey	63	63	63	61	56	0.3	–10.9	–10.6
New Mexico	54	55	59	56	56	9.4	–6.2	2.6
New York	67	68	65	62	61	–3.0	–6.7	–9.5
North Carolina	49	53	57	51	49	15.7	–14.0	–0.4
North Dakota	33	35*	36*	47**	41**	na	na	na
Ohio	48	48	51	52	49	6.9	–5.2	1.4
Oklahoma	53	55	54	56	49	2.1	–10.5	–8.6
Oregon	49	46	47	48	41	–4.5	–13.6	–17.4
Pennsylvania	43**	43**	49	49	47	na	–3.4	na
Rhode Island	45	48	45	48	43	0.2	–4.8	–4.6
South Carolina	50	51	57	54	46	15.1	–20.3	–8.2
Tennessee	47**	49**	55	53	49	na	–11.7	na
Texas	60	59	61	58	56	0.7	–8.2	–7.6
Utah	42	42	46	44	40	8.0	–13.5	–6.6
Vermont	34	35	38	37	36	12.9	–5.5	6.7
Virginia	50**	51**	52	53	51	na	–2.0	na
Washington	49	45	48	49	45	–3.0	–6.1	–8.9
West Virginia	37	39	39	43	43	6.3	10.5	17.4
Wisconsin	38**	40**	40	35	38	na	–3.0	na
Wyoming	47	44	53	48	42	13.2	–21.5	–11.1
States without PRAMS or PRAMS-like surveys for any years								
Arizona	57**	58**	60**	56**	49**	na	na	na
Dist. of Columbia	70**	72**	73**	81**	58**	na	na	na
Indiana	43**	43**	45**	44**	43**	na	na	na
Kansas	47**	43**	47**	48**	43**	na	na	na
Nevada	62**	60**	62**	55**	54**	na	na	na
New Hampshire	34**	36**	35**	32**	32**	na	na	na
South Dakota	43**	44**	49**	49**	46**	na	na	na

*Estimates obtained using a 2003 PRATS survey (Connecticut); and a 2002 PRAMS survey (Montana and North Dakota).
**Estimates obtained from multivariate regression because of lack of data on the proportions of births from unintended pregnancies for that or surrounding years. *Note*: na=not applicable.

Discussion

The lack of available data for all states limits our ability to generalize the direction of trends. Many states saw shifts in unintended pregnancy rates between 2002 and 2010; most of those with data available for calculation of estimates in both 2002 and 2010 either experienced no change or a decrease in the unintended pregnancy rate.

Interestingly, trends in the first half of the decade are markedly different than those in the second half. Of those states with data available to track unintended pregnancy, most experienced an increase in the rate from 2002 to 2006, as shown in red in Figure 1 on page 11.

However, those trends reversed in the latter half of the decade, between 2006 and 2010, with most states experiencing a decrease in the unintended pregnancy rate (shown in green in Figure 2); in some cases, by 2010, rates returned to their 2002 levels (see Table 2).

The factors behind these trends are unknown; however, national data on the use of contraceptives indicates that the use of the most effective available methods may have increased, and that that could have played a role. For example, the proportion of women using hormonal contraceptives other than the pill (i.e., the injectable, the implant, the patch, the vaginal ring and the IUD) increased among all U.S. women aged 15–44 from 3.3% in 1995 to 5.4% in 2002, 7.6% in 2006–2008 and 11.6% in 2011–2013.[31,32] In addition, in three states (Colorado, Iowa and Missouri), significant campaigns have been implemented to increase use of long-acting methods, and all have seen double-digit percentage declines in their unintended pregnancy rates.[33,34,35]

Other changes—including shifts in the demographic composition of the population—can contribute to changes in unintended pregnancy rates. Indeed, state-specific factors also affect trends in individual states. According to an analysis of variation in 2006 state unintended pregnancy rates, an increase in the proportion of women without health insurance was associated with elevated unintended pregnancy rates, while an increase in the proportion receiving Medicaid coverage was associated with reduced rates.[36]

Other research suggests that the recession beginning in 2008 also may have affected recent trends in pregnancy rates. In a 2009 analysis of a national, internet-based survey, nearly half of women (44%) reported that, because of the economy, they wanted to reduce or delay their childbearing.[37]

In sum, further research is needed to identify factors contributing to the declines in unintended pregnancy rates across nearly all states. And, the trends we are seeing in declining unintended pregnancy rates at the state level will certainly be reflected in estimates of the national unintended pregnancy rates. However, at the national level, data are available to identify trends over time for population subgroups, and new national trend data through 2011 will be available from the Guttmacher Institute in 2015. Such analyses may shed light on the factors that are driving these welcome declines in unintended pregnancy.

FIGURE 1. Trends in state unintended pregnancy rates, 2002–2006

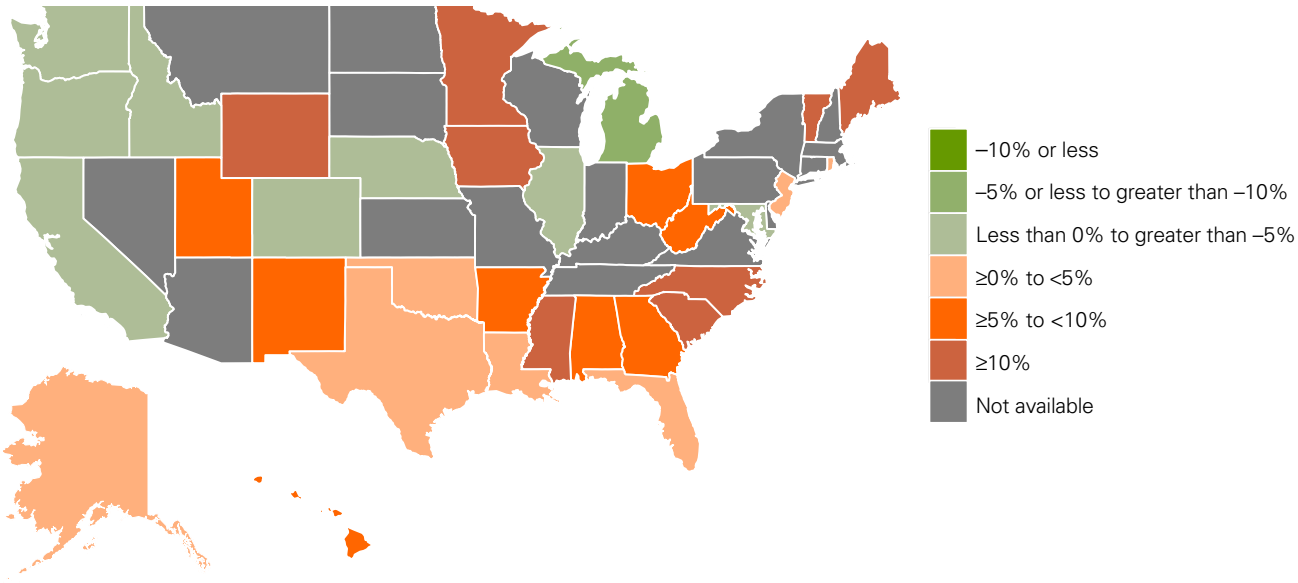
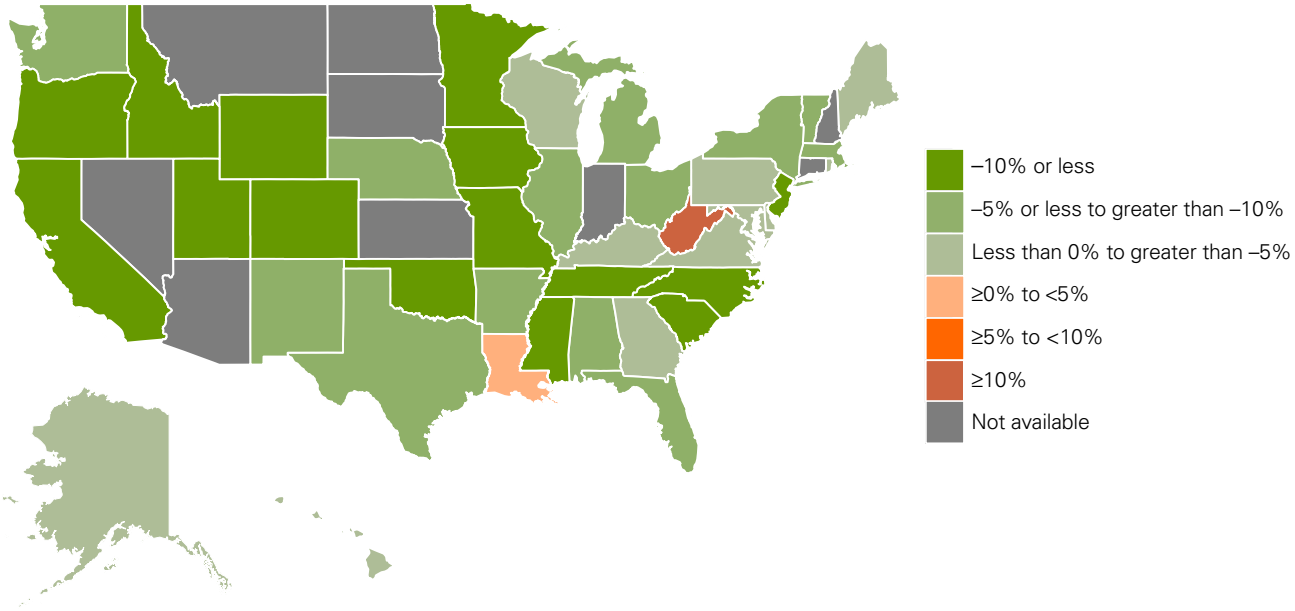


FIGURE 2. Trends in state unintended pregnancy rates, 2006–2010



Appendix: Additional Notes on Data

Issues with Specific State Surveys

The PRATS survey in Idaho is limited to mothers aged 18 and older, so estimates of the proportion of pregnancies that were unintended among women younger than 20 in Idaho could be too low if teenagers younger than 18 were more likely than 18–19-year-olds to have an unplanned birth. For both 2006 and 2008, we compared the distribution of intention status among women in Idaho aged 18 and 19 with that among women younger than 20 in surrounding states (Oregon, Utah, Washington and Wyoming). The proportions were within a comparable range, which indicates that the distribution among 18- and 19-year-olds in Idaho was reasonably accurate for all teenagers younger than 20.* We performed the same comparison using the 2010 data but found a lower proportion unintended among 18–19-year-olds in Idaho than among teenagers younger than 20 in surrounding states.† Thus, the overall unintended pregnancy rate in 2010 for Idaho could be slightly higher than the estimate we provide. However, very few births occur to women ages 17 and younger, especially relative to all other age groups, so it is unlikely that the overall estimate of unintended pregnancy for all women 15–44 would be affected by an underestimate of the proportion of births unintended among this very young age group.

For states without data for the year of the estimate, we obtained tabulations of the proportion of births resulting from unintended pregnancies from surveys in adjacent or recent years. In 2010, only one state—California—fell into this group. A Maternal and Infant Health Assessment (MIHA) survey was carried out in California in 2010, but it did not include a comparable question on pregnancy intention status. We, therefore, applied the proportions of births from intended and unintended pregnancies in the 2011 MIHA to the number of births in 2010. The question on pregnancy intention status in the 2011 MIHA survey included "not sure" as a possible response. Twelve percent of mothers reported being unsure of their pregnancy intention. We combined those births with intended ones in our calculations to obtain a conservative estimate of unintended pregnancy rates for California. If births to women who were unsure of their intentions were excluded from the analyses (i.e., treated as missing), the resulting unintended pregnancy rate for California in 2010 would be 53 per 1,000 women aged 15–44, instead of 50.

Our prior estimates of the proportion of births in California that were unintended relied on published documents from the California Department of Health Web site. In consultation with their staff, we determined that previous analyses had combined births to women who were unsure with unintended births in calculations of births from unintended pregnancy in 2002 and in 2006. Thus, our previous publications of rates followed that convention. To obtain comparable estimates of the unintended pregnancy rate for California for 2002 to 2010, we recalculated the rates for all years prior to 2010, including births to mothers who had been unsure of their pregnancy intentions with intended births. Because we included California in the regression model to estimate states without data, these changes also affected our predicted rates for those states for prior years. Updated estimates for California and for these states are now provided in Table 2 and in the appendix tables.

In the PRAMS surveys, mothers were not offered "not sure how I felt" as a response option to the question about their feelings prior to the pregnancy. Some PRAMS respondents who were not sure how they felt may have simply skipped the question; however, missing values for this question make up fewer than 2% of respondents overall, with values ranging from 0.9% to 3.0% across the states with PRAMS surveys in 2010.

There is no single data source for pregnancy intention for New York State as a whole for 2002, 2004, 2006 or 2008; however, New York City and the rest of the state independently conducted PRAMS surveys. To calculate

*In 2008, the proportion of births from unintended pregnancies among 18–19-year-olds was 69% in Idaho; the proportions among all teenagers younger than 20 in surrounding states were 77% in Oregon, 67% in Utah, 62% in Washington and 81% in Wyoming.

†In 2010, the proportion of births from unintended pregnancies among 18–19-year-olds was 61% in Idaho; the proportions among all teenagers younger than 20 in surrounding states were 70% in Oregon, 73% in Utah, 76% in Washington and 74% in Wyoming.

rates and numbers for the whole state, we added the numbers of unintended pregnancies (and births, abortions and fetal losses) estimated for the two areas. Data from PRAMS in 2002 was not available for New York City, so we used the proportions intended and unintended from the 2004 survey.

For states without data from 2008, we first sought estimates of the proportion of births resulting from unintended pregnancies from surveys in adjacent years. Three states fell into this group: California, Connecticut and Kentucky. A Maternal and Infant Health Assessment (MIHA) survey was carried out in California in 2008, but it did not include a comparable question on pregnancy intention status in that year. We, therefore, applied the proportions of intended and unintended births from the 2007 MIHA to the number of births in 2008.

Connecticut conducted a PRATS survey in 2010–2011, and for our calculation of the state's unintended pregnancy rate, we applied the proportions of births intended and unintended from that survey to the numbers of births in 2008.

Estimates of the pregnancy intention status of births from a 2007 pilot survey in Kentucky were used to calculate the 2008 rates.

For our estimates of the 2006 unintended pregnancy rates, there were several states for which we applied the proportion of births that were unintended in the closest available year to the actual number of births in the state in 2006. We used estimates from a 2002 PRAMS survey in Montana and North Dakota, from a 2005 survey in Florida and from a 2007 survey in Delaware, Kentucky, Louisiana, Massachusetts, Missouri, Pennsylvania, Tennessee, Virginia, Wisconsin and Wyoming. For the 2006 estimate in Connecticut, we used tabulations from a 2003 PRATS survey.

We used this same strategy for rates in 2002 and 2004. We used the proportion of births intended and unintended from the 2003 PRATS survey to calculate the unintended pregnancy rate in Connecticut for 2004. For the 2002 estimate of unintended pregnancy in Wyoming, we used data from the 2003 MOMS survey. In Georgia, we used estimates from a 2004 PRAMS survey to calculate the 2002 rates. Further detail on estimates for 2002, 2004 and 2006 is available in Finer and Kost.[10]

Rates for some states may have changed from prior publications for a number of reasons. First, unintended pregnancy rates for states without data were estimated from multivariate regression and we have slightly changed the model used in prior years to make it consistent with the model used in 2010. In addition, 2002 and 2004 estimates for some states were not included in prior publications (e.g., Georgia and New York in 2002). The inclusion of data for these states in the multivariate models affected the estimation of the rates for states without data. Finally, we have recalculated the 2002, 2004, 2006 and 2008 rates for California in this publication to make it consistent across time and with our 2010 calculation. This, too, affected the estimated rates generated by the multivariate regression for other states in 2008. These changes were made to improve comparability of estimates across years.

Survey Response Rates

Prior to the 2007 round of data collection, the Centers for Disease Control and Prevention (CDC) did not recommend the use of or publish data from PRAMS surveys that did not reach a response rate of 70%; for surveys from 2007 on, they lowered the threshold to 65%. Estimates from surveys with lower-than-optimal response rates can be greatly affected by slight variations in the composition of the sample, and the confidence intervals surrounding estimates from the surveys are often quite large—even in states that did meet the optimal response rate threshold. In some states, the only data available on intention status of births came from a single survey with a response rate below the CDC threshold; in others, annual surveys consistently fell below the threshold; and in others, response rates varied from year to year. We used estimates of the intention status of births from surveys falling below the threshold when there were no other data available. We carefully examined tabulations from surveys with lower-than-optimal response rates and rejected any that appeared to have been affected by skewed samples (this occurred for only one state, South Dakota).

Estimates used in this report from states with weighted survey response rates less than 70% in 2002 were Connecticut (50%), Idaho (55%), Mississippi (61%), Montana (54%), Oregon (69%) and Texas (56%). Surveys with less than a 70% response rate in 2004 were Alabama (64%), Connecticut (44%),* Idaho (56%), Ohio (67%) and Texas (64%). Surveys with less than a 70% response rate in 2006 were Alabama (60%), Idaho (64%), New Mexico (64%), North Carolina (59%), South Carolina (67%) and Texas (54%). For states without data for 2006, we used surveys from 2007. Surveys with less than a 65% response rate in 2007 were Kentucky (62%), Louisiana (56%), Tennessee (63%) and Virginia (57%). Surveys with

*Response rate is for the 2003 survey, which was used for the 2004 and 2006 estimates.

less than a 65% response rate in 2008 were Alabama (60%), Florida (57%), Idaho (56%), Louisiana (52%), Missouri (63%), New Mexico (61%), New York City (62%), South Carolina (59%), Texas (64%) and Virginia (52%). Surveys with less than a 65% response rate in 2010 were Alabama (62%), Florida (61%), Idaho (57%), Louisiana (54%), Mississippi (64%), New Mexico (61%), North Carolina (56%), South Carolina (55%), Tennessee (61%), Virginia (54%) and Wisconsin (61%).

APPENDIX TABLE 1. Number of unintended pregnancies; percentage of all pregnancies that were unintended; unintended and intended pregnancy rates; percentage distributions of unintended pregnancies by wantedness and pregnancy outcome; and abortion ratio—all by state, 2006

State	Unintended pregnancies		Pregnancy rate, per 1,000 women 15–44		% distribution of unintended pregnancies					Abortion ratio
	Number	As % of all pregnancies	Unintended	Intended	by wantedness		by outcome			
					Mistimed	Unwanted	Birth	Abortion	Fetal loss	
Alabama	48,000	55	51	42	na	na	63	22	15	26
Alaska	8,000	51	55	53	67	33	61	25	15	29
Arizona*	73,000	51	60	58	na	na	59	26	16	30
Arkansas	31,000	55	54	43	72	28	68	17	15	20
California	434,000	48	56	61	65	35	41	46	13	53
Colorado	48,000	48	48	52	71	30	58	27	14	32
Connecticut	37,000	51	52	50	64	36	37	51	12	58
Delaware	12,000	60	65	44	66	34	49	38	14	44
Dist. of Columbia*	11,000	63	73	39	na	na	31	55	14	64
Florida	223,000	59	63	44	67	33	49	37	14	43
Georgia	122,000	58	60	45	68	32	61	24	15	28
Hawaii	17,000	57	64	49	63	37	52	34	14	39
Idaho	13,000	40	43	65	74	26	65	20	15	23
Illinois	143,000	53	54	49	70	30	53	34	14	39
Indiana*	58,000	48	45	48	na	na	63	21	16	25
Iowa	26,000	46	44	52	75	20	62	24	15	28
Kansas*	26,000	47	47	53	na	na	63	21	16	25
Kentucky	35,000	46	40	48	64	36	68	17	15	20
Louisiana	49,000	59	54	38	72	28	71	14	16	16
Maine	10,000	47	37	41	71	29	57	29	14	34
Maryland	75,000	57	62	48	66	34	41	46	13	52
Massachusetts	59,000	47	43	48	65	35	41	46	13	53
Michigan	105,000	53	51	45	65	35	50	37	14	42
Minnesota	46,000	45	44	54	72	28	57	29	14	33
Mississippi	42,000	65	69	37	68	32	66	19	15	23
Missouri	61,000	53	52	45	68	32	61	24	15	28
Montana	9,000	50	48	47	68	32	64	22	15	25
Nebraska	16,000	45	44	55	72	28	68	17	15	20
Nevada*	32,000	51	62	59	na	na	44	41	15	48
New Hampshire*	9,000	45	35	43	na	na	52	32	15	38
New Jersey	112,000	55	63	52	63	37	36	51	12	59
New Mexico	24,000	54	59	50	71	29	58	27	14	32
New York	266,000	56	65	50	65	35	33	55	12	63
North Carolina	106,000	56	57	44	68	32	57	28	14	33
North Dakota	5,000	41	36	52	77	24	67	18	15	21
Ohio	118,000	55	51	42	66	34	59	26	14	31
Oklahoma	39,000	54	54	47	73	27	66	18	15	22
Oregon	35,000	48	47	50	71	29	53	33	14	38
Pennsylvania	121,000	54	49	41	70	30	55	31	14	36
Rhode Island	10,000	51	45	42	67	33	46	41	13	47
South Carolina	52,000	58	57	42	71	29	60	25	15	29
South Dakota*	8,000	49	49	51	na	na	72	12	16	14
Tennessee	70,000	58	55	40	69	31	62	23	15	27
Texas	309,000	53	61	53	67	33	58	28	14	32
Utah	26,000	38	46	75	76	23	71	14	16	16
Vermont	5,000	49	38	41	67	33	50	36	14	42
Virginia	85,000	52	52	48	65	35	51	35	14	41
Washington	64,000	49	48	51	68	32	50	36	14	42
West Virginia	14,000	49	39	41	67	33	66	19	15	23
Wisconsin	45,000	45	40	48	70	30	62	23	15	27
Wyoming	5,000	51	53	51	74	26	63	22	15	26

*State unintended and intended pregnancy rates predicted from multivariate linear regression.*Notes*: The number of unintended pregnancies is obtained as the sum of births, abortions and fetal losses; numbers rounded to the nearest thousand. All estimates are based on the numbers of births and abortions in 2006. na=not available. The abortion ratio is the number of abortions per 100 pregnancies ending in birth or abortion (excluding fetal loss from miscarriage or stillbirth).

APPENDIX TABLE 2. Number of unintended pregnancies; percentage of all pregnancies that were unintended; unintended and intended pregnancy rates; percentage distributions of unintended pregnancies by wantedness and pregnancy outcome; and abortion ratio—all by state, 2008

State	Unintended pregnancies		Pregnancy rate, per 1,000 women 15-44		% distribution of unintended pregnancies					Abortion ratio
	Number	As % of all pregnancies	Unintended	Intended	by wantedness		by outcome			
					Mistimed	Unwanted	Birth	Abortion	Fetal loss	
Alabama	46,000	52	48	45	70	30	63	23	15	26
Alaska	7,000	47	53	60	68	32	61	25	15	29
Arizona*	70,000	50	56	56	na	na	58	27	15	32
Arkansas	31,000	57	55	42	69	31	68	17	15	20
California	434,000	44	55	69	65	35	41	46	13	53
Colorado	47,000	46	46	53	72	28	56	30	14	35
Connecticut	35,000	51	50	47	71	29	40	47	13	54
Delaware	13,000	61	70	45	64	36	45	42	13	49
Dist. of Columbia*	12,000	71	81	33	na	na	41	45	14	52
Florida	221,000	59	62	42	68	32	50	37	14	43
Georgia	124,000	57	60	46	68	32	56	30	14	35
Hawaii	16,000	54	61	52	69	31	53	33	14	39
Idaho	13,000	40	43	65	75	25	66	19	15	22
Illinois	141,000	53	53	48	69	31	52	35	14	40
Indiana*	58,000	48	44	48	na	na	64	20	16	24
Iowa	24,000	44	42	53	79	21	61	24	15	28
Kansas*	26,000	47	48	54	na	na	64	20	16	24
Kentucky	35,000	46	41	49	64	36	68	17	15	20
Louisiana	58,000	62	63	38	72	28	62	23	15	27
Maine	9,000	46	36	42	69	31	55	31	14	36
Maryland	69,000	56	58	46	68	32	48	39	13	45
Massachusetts	58,000	48	43	46	67	33	45	42	13	49
Michigan	100,000	54	51	43	66	34	52	34	14	40
Minnesota	45,000	45	43	53	73	27	59	26	14	31
Mississippi	40,000	63	66	38	66	34	66	19	15	23
Missouri	60,000	52	50	46	70	29	61	24	15	28
Montana*	9,000	51	49	47	na	na	62	22	16	26
Nebraska	16,000	46	46	55	75	25	68	17	15	20
Nevada*	30,000	49	55	57	na	na	44	41	15	48
New Hampshire*	8,000	42	32	44	na	na	52	33	15	39
New Jersey	106,000	54	60	51	64	36	39	49	13	56
New Mexico	22,000	51	56	54	71	29	57	28	14	33
New York	252,000	54	62	52	63	37	32	56	12	64
North Carolina	99,000	52	51	46	67	33	58	28	14	32
North Dakota*	6,000	50	47	46	na	na	68	16	16	19
Ohio	119,000	55	52	42	68	32	60	26	15	30
Oklahoma	41,000	55	56	45	74	26	67	17	15	20
Oregon	36,000	50	48	48	73	27	55	31	14	36
Pennsylvania	120,000	52	49	45	68	32	50	37	14	42
Rhode Island	10,000	55	48	40	65	35	48	39	13	45
South Carolina	50,000	56	54	43	71	29	61	25	15	29
South Dakota*	7,000	48	49	53	na	na	72	12	16	15
Tennessee	68,000	56	53	41	68	32	63	23	15	27
Texas	301,000	52	58	53	72	28	60	26	15	30
Utah	26,000	37	44	77	79	21	70	14	15	17
Vermont	4,000	47	37	42	69	31	50	37	14	43
Virginia	87,000	53	53	46	71	29	52	34	14	40
Washington	65,000	48	49	52	69	31	51	36	14	41
West Virginia	15,000	51	43	41	68	32	68	17	15	20
Wisconsin	39,000	40	35	52	70	30	62	23	15	27
Wyoming	5,000	46	48	56	71	29	65	20	15	24

*State unintended and intended pregnancy rates predicted from multivariate linear regression.*Notes*: The number of unintended pregnancies is obtained as the sum of births, abortions and fetal losses; numbers rounded to the nearest thousand. All estimates are based on the numbers of births and abortions in 2008. na=not available. The abortion ratio is the number of abortions per 100 pregnancies ending in birth or abortion (excluding fetal loss from miscarriage or stillbirth).

References

1. U.S. Department of Health and Human Services (DHHS), Healthy People 2020 topics and objectives, Washington, DC: DHHS, 2010, <http://www.healthypeople.gov/2020/topics-objectives/topic/family-planning/objectives>, accessed Dec. 10, 2014.

2. Finer LB and Zolna MR, Shifts in intended and unintended pregnancies in the United States, 2001–2008, *American Journal of Public Health,* 2014, 104(Suppl.):S43–S48.

3. Brown SS and Eisenberg L, eds., *The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families,* Washington, DC: Institute of Medicine, 1995.

4. Sonfield A et al., *The Social and Economic Benefits of Women's Ability to Determine Whether and When to Have Children,* New York: Guttmacher Institute, 2013, <www.guttmacher.org/pubs/social-economic-benefits.pdf>, accessed Nov. 19, 2014.

5. Kavanaugh ML and Anderson RM, *Contraception and Beyond: The Health Benefits of Services Provided at Family Planning Centers,* New York: Guttmacher Institute, 2013, <http://www.guttmacher.org/pubs/health-benefits.pdf>, accessed Nov. 19, 2014.

6. Gipson JD, Koenig MA and Hindin MJ, The effects of unintended pregnancy on infant child and parental health: A review of the literature, *Studies on Family Planning,* 2008, 39(1):18–38.

7. Logan C et al., *The Consequences of Unintended Childbearing: A White Paper,* Washington: Child Trends and The National Campaign to Prevent Teen and Unplanned Pregnancy, 2007, <http://www.childtrends.org/?publications=the-consequences-of-unintended-childbearing-a-white-paper>, accessed May 27, 2014.

8. Kost K and Lindberg L, Pregnancy intentions, maternal behaviors, and infant health: Investigating the relationships with new measures and propensity score analysis. *Demography,* 2015. Advance online publication. doi: 10.1007/s13524-014-0359-9.

9. Sonfield A and Kost K, *Public Costs from Unintended Pregnancies and the Role of Public Insurance Programs in Paying for Pregnancy-Related Care: National and State Estimates for 2010,* New York: Guttmacher Institute, (forthcoming).

10. Finer LB and Kost K, Unintended pregnancy rates at the state level, *Perspectives on Sexual and Reproductive Health,* 2011, 43(2):78–87.

11. Kost K, *Unintended Pregnancy Rates at the State Level: Estimates for 2002, 2004, 2006, and 2008,* New York: Guttmacher Institute, 2013, < http://www.guttmacher.org/pubs/StateUP08.pdf>.

12. Centers for Disease Control and Prevention (CDC), VitalStats—births, <http://www.cdc.gov/nchs/data_access/vitalstats/VitalStats_Births.htm>, accessed Nov. 11, 2014.

13. CDC, PRAMS, 2013, <http://www.cdc.gov/prams>, accessed Nov. 11, 2014.

14. Department of Health and Welfare, Division of Public Health, Bureau of Vital Records and Health Statistics, *Results From the 2008 Pregnancy Risk Assessment Tracking System (PRATS) Annual Report,* 2012, <http://www.healthandwelfare.idaho.gov/Health/VitalRecordsandHealthStatistics/HealthStatistics/PregnancyRiskAssessmentTrackingSystem/tabid/915/Default.aspx>, accessed May 29, 2013.

15. Morin J, Connecticut Department of Public Health, personal communication, Aug. 11, 2009.

16. Finer L and Henshaw SK, Disparities in rates of unintended pregnancy in the United States, 1994 and 2001, *Perspectives on Sexual and Reproductive Health,* 2006, 38(2):90–96.

17. Finer LB and Zolna MR, Unintended pregnancy in the United States: incidence and disparities, 2006, *Contraception,* 2011, 84(5):478–485.

18. Pazol K et al., Abortion surveillance—United States, 2006, *Morbidity and Mortality Weekly Report,* 2009, Vol. 58, No. SS08.

19. Strauss L et al., Abortion surveillance—United States, 2002, *Morbidity and Mortality Weekly Report,* 2005, Vol. 54, No. SS07.

20. Strauss L et al., Abortion surveillance—United States, 2004, *Morbidity and Mortality Weekly Report,* 2007, Vol. 56, No. SS09.

21. Pazol K et al., Abortion surveillance—United States, 2008, *Morbidity and Mortality Weekly Report,* 2009, Vol. 60, No. SS15.

22. Henshaw SK and Kost K, *Trends in the Characteristics of Women Obtaining Abortions, 1974 to 2004,* New York: Guttmacher Institute, 2010, <http://www.guttmacher.org/pubs/2008/09/18/Report_Trends_Women_Obtaining_Abortions.pdf>, accessed June 13, 2010.

23. Jones RK et al., Abortion in the United States: incidence and access to services, 2005, *Perspectives on Sexual and Reproductive Health,* 2008, 40(1):6–16.

24. Jones RK and Kooistra K, Abortion incidence and access to services in the United States, 2008 *Perspectives on Sexual and Reproductive Health,* 2011, 43(1):41–50.

25. Jones RK and Jerman J, Abortion incidence and service availability in the United States, 2011 *Perspectives on Sexual and Reproductive Health,* 2014, 46(1):3–14.

26. Jones RK, Finer LB and Singh S, *Characteristics of U.S. Abortion Patients, 2008,* New York: Guttmacher Institute, 2010, <http://www.guttmacher.org/pubs/US-Abortion-Patients.pdf>, accessed June 13, 2010.

27. Jones RK and Kost K, Underreporting of induced and spontaneous abortion in the United States: an analysis of the 2002 National Survey of Family Growth, *Studies in Family Planning,* 2007, 38(3):187–197.

28. Leridon H, *Human Fertility: The Basic Components,* Chicago: University of Chicago Press, 1977.

29. National Center for Health Statistics (NCHS), Revised bridged-race intercensal population estimates for July 1, 2000–July 1, 2009 by year, county, single-year of age, bridged- race, Hispanic origin, and sex, Oct. 26, 2012, <http://www.cdc.gov/nchs/nvss/bridged_race.htm>, accessed Nov. 11, 2012.

30. NCHS, Vintage 2013, Bridged-race postcensal population estimates for April 1, 2010, July 1, 2010–July 1, 2013, by year, county, single-year of age, bridged-race, Hispanic origin, and sex, June 26, 2014, <http://www.cdc.gov/nchs/nvss/bridged_race.htm>, accessed Oct 22, 2014.

31. Mosher WD and Jones J, Use of contraception in the United States: 1982–2008, *Vital Health Statistics,* 2010, Series 23, No. 29.

32. Daniels K, Daugherty J and Jones J, Current contraceptive status among women aged 15–44: United States, 2011–2013, *NCHS Data Brief,* 2014, No. 173.

33. Ricketts S, Klingler G and Schwalberg R, Game change in Colorado: Widespread use of long-acting reversible contraceptives and rapid decline in births among young, low-income women, *Perspectives on Sexual and Reproductive Health,* 2014, 46(3):125–132.

34. Bixby Center for Global Reproductive Health, *Evaluating the Iowa Initiative to Reduce Unintended Pregnancies,* 2010, <http://bixbycenter.ucsf.edu/publications/files/Brief_1_Iowa(Feb2010).pdf>, accessed Dec. 10, 2014.

35. Secura GM et al., Provision of no-cost, long-acting contraception and teen pregnancy, *The New England Journal of Medicine,* 2014, 37(1):1316–1323.

36. Kost K, Finer LB and Singh S, Variation in state unintended pregnancy rates in the United States, *Perspectives on Sexual and Reproductive Health,* 2012, 44(1):57–64.

37. Guttmacher Institute, A real-time look at the impact of the recession on women's family planning and pregnancy decisions, New York: Guttmacher Institute, 2009, <http://www.guttmacher.org/pubs/RecessionFP.pdf>, accessed Dec. 10, 2014.

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