

Appendix to:
Regulating Abortion: Impact on Patients and Providers in Texas

In this Appendix we describe in more detail four points made in the text. In the first section we explain how we determined the number of counties with abortion services at 16 weeks or more gestation in 2003-2006 and how we computed the average distance to such providers for residents of Texas. In Section II we compare the number of abortions in states near Texas as reported by the state health departments to the number of abortions reported by the Guttmacher Institute. The latter is widely believed to have the most complete surveillance of abortions, however estimates by the Guttmacher Institute are not available annually. In Section III we describe how we estimated abortions 16 weeks or more gestation to residents of Texas obtained in Louisiana. In the final section we detail how we estimated the number of additional abortions that would have been performed in absence of the WRTK Act, which likely resulted in unintended births.

I. Availability of late-term abortion services in Texas and nearby states

We used several sources to identify counties in Texas and nearby states with clinics providing late-term abortion services in 2003-2006. First, induced termination files from the Texas Department of State Health Services (DSHS) identify the county in which each abortion occurred and the type of facility. If in a given year and county at least 10 abortions were performed in a non-hospital facility at 16 weeks gestation or later, then we considered late-term abortion services to be available in that county. Second, we used the internet to identify non-hospital abortion facilities in Texas and nearby states that performed second-trimester abortions. We called each clinic to confirm whether they provided abortions at 16 weeks of gestation or

later in 2003 and 2004-2006. Third, we compared our characterization of abortion services by county based on the Texas induced-termination records and our internet search with the Guttmacher Institute's abortion provider survey in 2001 and 2005. The Guttmacher Institute periodically surveys all abortion providers in the United States.¹ Combining all 3 sources, we identified 9 counties in Texas with late-term abortion services by non-hospital facilities in 2003. The nearest out-of-state providers of late terminations in 2004 for women in Texas were in Albuquerque, New Mexico; Tulsa, Oklahoma; Little Rock, Arkansas; Shreveport, Louisiana; and New Orleans, Louisiana as shown in Figure A1 below.

For each county in Texas, we estimated the straight-line distance to the nearest in-state or out-of-state county with a late-term abortion provider using the longitude and latitude coordinates of each county's population centroid provided by the US Census Bureau (available at <http://www.census.gov/geo/www/cenpop/county/coucntr48.html>). We calculated the average travel distance to the nearest late-term abortion provider for Texas residents by taking the average of the straight-line distances weighted by the county-level female population aged 15 to 44. We assigned a distance of zero for counties that had a late-term abortion provider.

II. Completeness of Abortion Surveillance by State Health Departments

One concern is that we may underreport abortions to residents of Texas obtained in other states if reporting of abortions in the neighboring states is incomplete. Table A1 below shows the number of abortions in Texas and 9 states located near Texas from two sources: those reported by state health departments to the Centers for Disease Control and Prevention (CDC), and the numbers reported by the Guttmacher Institute. Except in the case of Colorado, the two

¹ Jones RK, Lolna MRS, Henshaw SK, Finer LB. Abortion in the United States: incidence and access to services, 2005. *Perspect Sex Reprod Health*. 2008;40(1):6-16.

estimates are relatively close. The number reported to the CDC tends to be lower than Guttmacher’s estimate, however in most cases the difference is less than 5%. Abortions reported in Texas are 9.7% lower. This would be of concern if the apparent underreporting increased with the WRTK Act. However, there is no change in abortions less than 16 weeks as shown in the text, which is inconsistent with a change in the rate of underreporting. Moreover, the Guttmacher Institute reported 14.6% more abortions than the Texas Department of State Health Services in 2000. Thus, it seems reporting may have improved in Texas which would lead to an underestimate of the change associated with the WRTK Act, if reporting was improving overtime. The abortions reported to the CDC from Tennessee and Colorado are 11% and 28% lower than the numbers reported by the Guttmacher Institute, respectively. However, the reported number of abortions 16 weeks gestation or later in these two states obtained by Texas residents is very small (9 in Colorado and 0 in Tennessee). Therefore, adjusting for the relatively less complete reporting in these two states would increase our count of abortion 16 weeks or more gestation by less than a handful and would have no appreciable effect on our estimates.

Table A1. Number of Abortions in 9 States Located Near Texas, as Reported By the State Health Departments and by the Guttmacher Institute, 2005

State	CDC	AGI	% difference
Arkansas	4,695	4,710	0.3%
Colorado	11,682	16,120	27.5%
Kansas	10,462	10,410	-0.5%
Louisiana*	11,224	11,400	1.5%
Mississippi	3,041	3,090	1.6%
Missouri	7,977	8,400	5.0%
New Mexico	5,934	6,220	4.6%
Oklahoma	6,641	6,950	4.4%
Tennessee	16,178	18,140	10.8%
Texas	77,374	85,765	9.7%

*The number reported by the CDC in Louisiana refers to 2004.
Sources: Centers for Disease Control and Prevention. Abortion Surveillance-United States, 2005. Surveillance Summaries, November 28, 2008. *MMWR Morb Mortal Wkly Rep.* 2008;57(SS-13). Jones RK, Lolna MRS, Henshaw SK, Finer LB. Abortion in the United States: incidence and access to services, 2005. *Perspect Sex Reprod Health.* 2008;40(1):6-16.

III. Abortions to Texas Residents Obtained in Other States

We collected information on the number of abortions to residents of Texas recorded by the state health departments in neighboring and nearby states. We obtained information by age of patient (<20 and \geq 20) and gestational age of the fetus (<16 weeks and \geq 16 weeks) on abortions undergone by residents of Texas in Arkansas, Kansas, New Mexico, and Oklahoma from 2001 to 2006, and by gestational age (<16 weeks and \geq 16 weeks) on abortions undergone by Texas residents in Colorado, Mississippi, Missouri, and Tennessee from 2002 to 2006. We used the 2002 figure as an estimate for 2001. In 2002, there were 3 abortions to residents of Texas 16 weeks or more gestation performed in Colorado and none in Mississippi, Missouri and Tennessee.

Abortion records from Louisiana were more limited than in other states. Data for 2006 are unavailable because of Hurricane Katrina, and the state did not collect information on its abortion certificates about state of residence until 2004. Even then, abortion certificates reported only whether or not a patient was a resident of Louisiana, and the state of residence of a non-Louisiana resident was not provided. Thus, we had to estimate the number of abortions to residents of Texas obtained in Louisiana. Based on data from the Louisiana Department of Health there were 879 abortions at 16 weeks or more gestation to both residents and non-residents obtained in the state in 2003. In 2004 this figure was 1073, an increase of 194. We assumed this entire increase was to women from Texas. Because non-residency status was

reported in 2004, we knew that 334 of 1073 late abortions in Louisiana in 2004 were to non-residents. We again assumed all non-residents were from Texas. Thus, we subtracted the 194 abortions—the estimated increase in late abortions to residents of Texas obtained in Louisiana between 2003-2004—from 334, the known number of late-term abortions to nonresidents in 2004, and used this difference, 140, as an estimate of the number of abortions to women from Texas at 16 weeks or more gestation that were obtained in Louisiana in 2003. We also used this figure for 2001-2002. To estimate abortions 16 weeks or more gestation in 2005 we again assumed that all 262 abortions after 15 weeks to non-residents of Louisiana were to residents of Texas. This represented a decline of 22 percent from the level in 2004. There were no data on induced terminations in Louisiana for 2006 and so we assumed that the 2006 figure was also 22 percent less than the 2005 estimate.

Our assumption that all abortions to non-residents of Louisiana were to women from Texas is likely conservative. First, several abortion providers in the New Orleans metropolitan area perform terminations after 15 weeks. The city is readily accessible to women from southern Mississippi, a state that in 2005 did not have any abortion services after 16 weeks gestation.¹³ Second, Louisiana requires that state-mandated information be given *in person* 24 hours before the procedure begins. This adds at least one additional day to the procedure, which at gestations of 16 weeks or later can take two to three days to complete. Neither Arkansas, Kansas or Oklahoma have such a requirement which may encourage women from Texas who live closer to Louisiana to travel to those states instead. Third, hurricane Katrina occurred in late August of 2005. This would not affect our estimate for 2004, but it most likely means that fewer women from Texas accessed providers in the New Orleans area after the hurricane. The likely result is that we overestimated the number of Texas residents who obtained a late-term abortion in

Louisiana in 2005, and thus, underestimated the fall in late-term abortions associated with WRTK Act.

IV. Estimated number of unaccounted for abortions associated with the WRTK Act

In the paper, we estimate that there were conservatively 4,176 fewer abortions to residents of Texas associated with the WRTK Act from 2004-2006. We contend that most of these pregnancies likely resulted in unintended births. To arrive at this figure, we first estimated the abortion at 13, 14, and 15 weeks gestation defined as the number of abortions at 13, 14, and 15 weeks gestation per 1000 females aged 15 to 44, respectively. We used these outcomes to evaluate whether there was an increase in abortions at just less than 16 weeks gestation associated with the loss of late-term abortion services in 2004. We were concerned that one response to the WRTK Act would be an increase in abortions at abortion clinics just prior to the 16-week cutoff. If some women did obtain abortion earlier in pregnancy than they would have in absence of the law, then we would overestimate the number of pregnancies that were carried to term in response to the law if we only counted the decline in abortions greater than or equal to 16 weeks gestation. In a regression analysis not shown in the text, we found that the abortion rate at 15 weeks gestation increased 39 percent in the three years after the law. There was no increase in the abortion rate at 14 or 13 weeks gestation associated with the WRTK Act. We took this increase into account when estimating the number of pregnancies that likely resulted in an unintended birth as shown in Table A2 below. We computed two estimates. The more conservative is based on the decline in abortions 16 weeks of more gestation using the three neighboring states as the counterfactual.

Table A2: Calculations Used to Estimate the Number of Abortions that likely resulted in Unintended Births Following the WRTK Act in Texas.

		3	32
Row	16 Weeks or Greater:	states	states
1	all women, average rate 2001-2003	0.791	0.791
2	% decline based on regression estimate	50.00%	60%
3	calculated average rate 2004-2006 given the 76% decline:	0.396	0.316
4	calculated average number of abortions 2001-2003:	3833	3833
5	calculated average number of abortions 2004-2006:	1964	1571
6	row 5 - row 4:	-1869	-2262
15 weeks:			
7	all women, average rate 2001-2003:	0.232	0.232
8	% increase based on regression estimate	39%	39%
9	calculated average rate 2004-2006 given the 37% increase:	0.323	0.323
10	calculated average number of abortions 2001-2003:	1125	1125
11	calculated average number of abortions 2004-2006:	1602	1602
12	row 11 - row 10:	477	477
13	ABORTIONS THAT WOULD HAVE OCCURRED IN ABSENCE OF THE LAW (YEARLY AVERAGE):	1392	1785
14	Three-year total (row 13*3)	4176	5354