

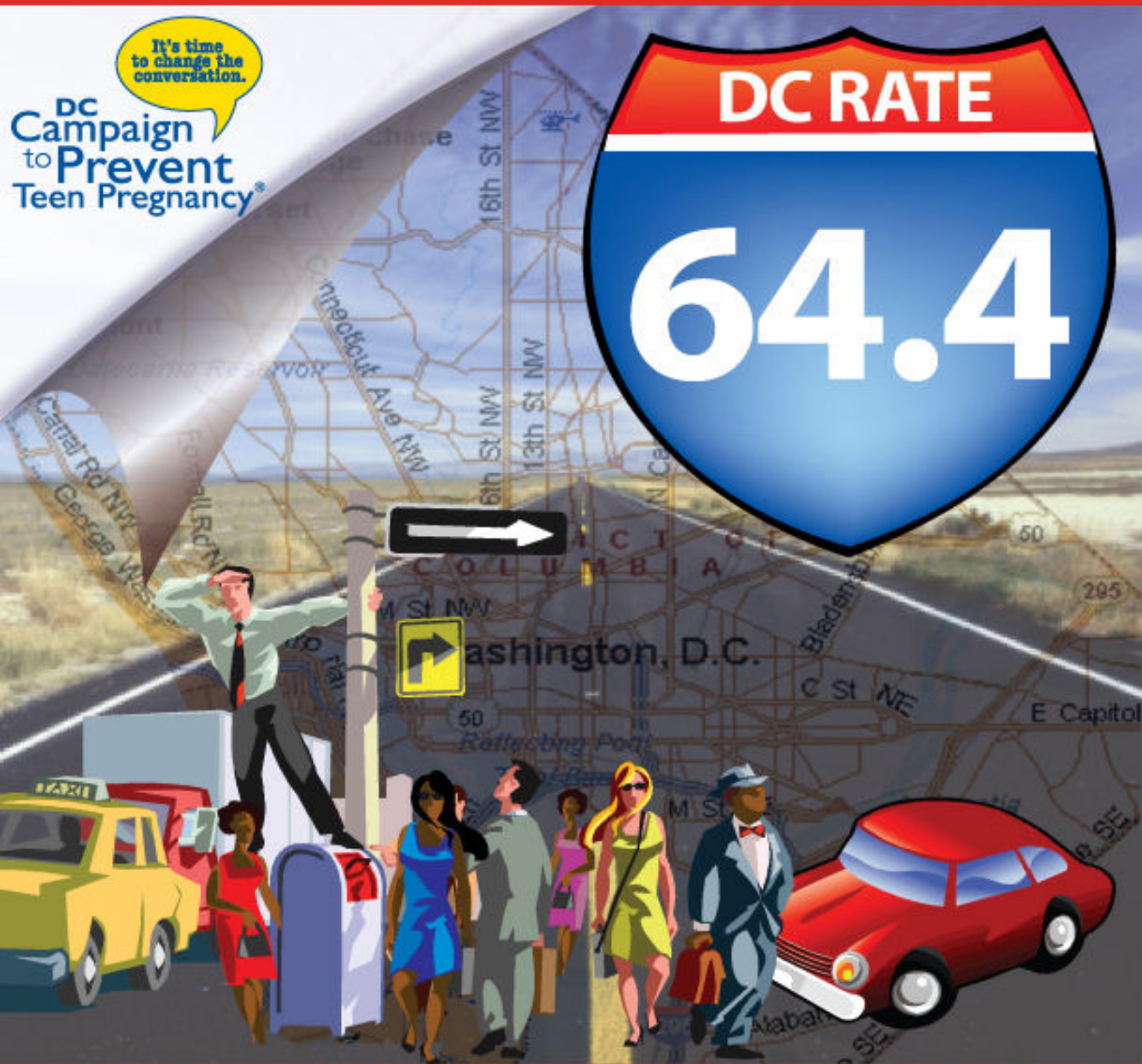
# Are We There Yet?

Fourteen Year Analysis of Teen Pregnancy Data in

Washington, DC - 1992-2005

It's time  
to change the  
conversation.

DC  
Campaign  
to Prevent  
Teen Pregnancy®



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October 2007

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*Are We There Yet?*

*Fourteen Year Analysis of Teen Pregnancy Data in Washington, DC 1992-2005*

Written by Noele P. Nelson, MD, PhD

Published by DC Campaign to Prevent Teen Pregnancy

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## Introduction

According to a new DC Campaign study entitled, *Are we there yet: A fourteen year analysis of teen pregnancy data in Washington DC: 1992 to 2005*, city rates are moving closer to national rates than they've been in decades.

The national birth rate was 51.3 while the local birth rate was 91.0 when DC Campaign got started. We based our work on 1997 data that showed a national teen pregnancy rate of 92.7, and a local rate of 152.1 per 1,000 girls 15 to 19. DC Campaign set out to cut the local rate in half by 2005 and according to the most recent data available we've done just that!

**The 2005 teen pregnancy rate is 64.4 per 1,000 girls 15 to 19, representing a stunning 57.7 percent reduction.**

With a 42.1 teen birth rate, **Washington, DC is only slightly higher than the national rate** of 40.4 per 1,000 girls 15 to 19 years old for the first time in many years.

These dramatic findings are certainly reason enough to celebrate. However, there's a tremendous amount of work still to be done until every **boy and girl** in this city has what research says can **motivate** them to avoid pregnancy.

This is no time for slacking off when it comes to young people.

DC Campaign is stepping up its advocacy for:

- Helping young people build close, caring relationships with trustworthy adults;
- Increasing the number of safe, supervised settings where young people can spend time with their friends, developing competencies and learning skills;
- Adolescents having clear plans for their lives that postpone pregnancy;
- Health care services that welcome teens;
- Schools that foster student success from an early age; and
- A sense of belonging shared by every young person in Washington, DC.

The research is clear: these are the factors that prevent teen pregnancy and they need to be realities for every child in this city.

Communities are improving when it comes to giving teens what they need, but much more can be done.

*Valuing all young people tops the list. Serious investing in research-based programs for teens comes a close second to collecting and sharing good data.* In reality, there is no such thing as good public policy without good data. Data gives context, history, orientation, and direction, serving as the keystone for measuring progress and setting goals.

There is a direct relationship between the social and economic health of our nation's capital and its double-digit teen pregnancy rate. Throughout DC there is remarkable consensus

that high poverty and teen pregnancy severely diminish the workforce, undermine the District's economic strength, and erode its social fiber.

If youth are to build healthy, productive lives, they must see that positive choices are within their reach, and they must have strong support systems that include parents, and other concerned adults in the community. Strong neighborhoods are vital to our society and economy, and we have a special responsibility and role to play in helping all DC communities thrive.

Preventing teen pregnancy is a critical, high leverage intervention that can expand opportunity for every family in Washington, DC. It is far more effective, and far less costly, than after the fact efforts to deal with neighborhood instability, developmental disabilities, child abuse, school failure, violence, and the continuing cycle of poverty that traps all too many young people.

## **About DC Campaign**

It was August 1999, and the newly formed DC Campaign to Prevent Teen Pregnancy moved into basement offices of an apartment building on Eleventh Street NW. Living directly above were many families with teenagers. While DC Campaign was navigating effective strategies and approaches to preventing teen pregnancy, young people all over the city like those living upstairs, were beginning to navigate their futures and DC Campaign was doing all it could to protect their futures.

Over the past eight years, we have seen how eager teens are to achieve their highest goals and wildest dreams when they have the motivation and support from consistent, caring adults. All teens ask for is a chance to be heard, respected and realized that they are at-promise, not at-risk, and through DC Campaign programs an initiatives, teens are given that chance.

DC Campaign's philosophy is that people of good will can accomplish **anything** when they work together. Let's join hands and hearts and give every child in this city a chance for good things to happen in their lives.

# **Are We There Yet?**

## **Fourteen Year Analysis of Teen Pregnancy Data in Washington, DC – 1992-2005**

## **Data and Methods**

The data consists of numbers and rates of pregnancy, live births, abortions, and fetal deaths in Washington, DC for females age less than 15 and females ages 15 to 19. Rates were calculated using Bureau of the Census July 1991 to July 1999 and July 2001 to 2005 population estimates and the April 1, 2000 Census population data. Unknown cases were distributed according to the reported age proportions. Data from 2004 is partially available from the DC Department of Health, Research and Analysis Division, State Center for Health Statistics, Center for Policy, Planning, and Epidemiology.

These health rates were calculated using the Bureau of the Census July 2004 population estimate. Abortion reporting is voluntary in the District of Columbia. Only abortions performed in D.C. and reported to the D.C. Department of Health are included in this report. Fetal deaths include only deaths of at least 20 weeks gestation.

## **Definitions**

Pregnancies are defined as live births plus legally induced abortions plus fetal deaths. Rates are expressed per 1,000 females in the specified age group. For example, the pregnancy rate for females ages 15 to 19 in a given year is the number of pregnancies in this age group for that year, divided by the total female population in this age group for that year, multiplied by 1,000. Rates for females age less than 15 were computed by relating the number of events to women under 15 years to women aged 10-14 years. The same methods apply for live birth, abortion and fetal death rates.

## **Analysis**

Statistics were generated using SPSS version 15.0 and Microsoft Excel 2003. Statistical significance was determined based on 95 percent confidence intervals when comparing rates based on less than 100 events (pregnancies, live births, abortions or fetal deaths). The events in this case are assumed to follow a Poisson probability distribution. Non-overlapping confidence intervals indicate statistical significance. The standard error of the difference between rates was used to determine statistical significance when comparing rates based on 100 or more events. In this case the distribution of events is assumed to follow a normal distribution. Absolute rate differences greater than the standard error of the difference indicate statistical significance.

## **Discussion**

Overall, the pregnancy, live birth and abortion rates have significantly declined from 1992 to 2005 for females age under 15 and for females ages 15 to 19. The population denominator used to calculate the rates was based on population estimates, except for the 2000 census year. Isolated increases in these rates occurred during this period and may reflect differences in the population estimates compared to the census year. The population denominator dramatically dropped after the 2000 census, which is likely reflected in the increased pregnancy rate from 2001 to 2002.

For females age less than 15, the number of pregnancies, live births and abortions are less than 100 for most years. Non-significant differences in rates should be approached cautiously, because the sample size may not be big enough to detect a significant difference. The overall decline in teen pregnancy from 1992 to 2005, however, is highly significant with widely spaced confident intervals.

The pregnancy rates, abortion rates and live birth rates follow similar trends for 15 to 19 year old females. The dramatic decrease in the abortion rate in 2004 is likely overestimated and is followed by a sharp rise in abortions in 2005, though the rate is still below 2003 levels. From 1999 to 2003 the percent rate changes for abortions and live births are very similar and this trend resumed in 2005.

The trends in pregnancy rates are similar for each individual ages 15 to 19. The 15-year-old pregnancy rates are lower than females ages 16 to 19, and the pregnancy rate curve for 15-year-old females does not overlap with the other ages. However, the pregnancy rates for 15-year-old females are still consistently higher than the less than 15-year-old group.

In conclusion, the pregnancy, live birth and abortion rates have significantly declined from 1992 to 2005 for females age under 15 and for females ages 15 to 19 based on the available data and population estimates. Descriptive statistics were utilized to analyze the data. Multivariate analyses including the factors suspected or reported to effect teenage pregnancy rates may provide greater insight into the observed trends in this population.

## **Results**

### Descriptive Statistics for Females Age less than 15

For females age less than 15 and for females ages 15 to 19, data was available from 1992 to 2005. The data during this time period for females age less than 15 reveals an overall decline in the pregnancy rate, live birth rate and abortion rate from 1992 to 2005 of 74.4 percent, 75.4 percent and 73 percent, respectively. During this decline there was a sharp spike in 1994 for the pregnancy and abortion rates only and then a steady decline. The live birth rate and abortion rates overlap multiple times showing similar rates in these groups. The fetal death rate is close to zero throughout. See table 1.1, table 1.2, and figure 1.1.

**Table 1.1: Descriptive Statistics of Pregnancies and Live Births for Females Age Less than 15**

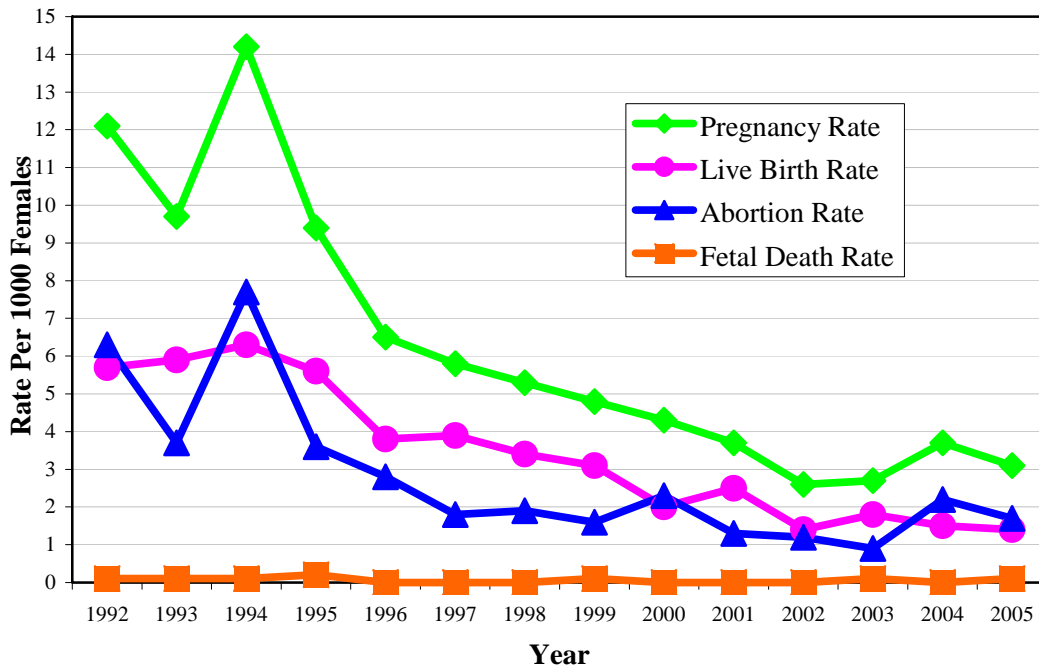
Year	Pregnancies	Pregnancy Rate	Year to Year Pregnancy Rate Percent Change	Live Births	Live Birth Rate	Year to Year Live Birth Rate Change
1992	169	12.1	-----	80	5.7	-----
1993	135	9.7	-19.8	82	5.9	3.5
1994	197	14.2	46.4	88	6.3	6.8
1995	125	9.4	-33.8	74	5.6	-11.1
1996	85	6.5	-30.9	49	3.8	-32.1
1997	73	5.8	-10.8	50	3.9	2.6
1998	66	5.3	-8.6	42	3.4	-12.8
1999	56	4.8	-9.4	36	3.1	-8.8
2000	64	4.3	-10.4	30	2.0	-35.5
2001	56	3.7	-14.0	37	2.5	25.0
2002	40	2.6	-29.7	21	1.4	-44.0
2003	41	2.7	3.8	27	1.8	28.6
2004	56	3.7	37.0	23	1.5	-16.7
2005	51	3.1	-16.2	23	1.4	-6.7

**Table 1.2: Descriptive Statistics of Abortions and Fetal Deaths for Females Age Less than 15**

Year	Abortions	Abortion Rate	Year to Year Abortion Rate Percent Change	Fetal Deaths	Fetal Death Rate*
1992	87	6.3	-----	2	0.1
1993	52	3.7	-41.3	1	0.1
1994	107	7.7	108.1	2	0.1
1995	48	3.6	-53.2	3	0.2
1996	36	2.8	-22.2	0	0.0
1997	23	1.8	-35.7	0	0.0
1998	24	1.9	5.6	0	0.0
1999	19	1.6	-15.8	1	0.1
2000	34	2.3	43.8	0	0.0
2001	19	1.3	-43.5	0	0.0
2002	19	1.2	-7.7	0	0.0
2003	13	0.9	-25.0	1	0.1
2004	33	2.2	144.4	0	0.0
2005	27	1.7	-22.7	1	0.1

\*percent fetal death rate percent change not shown due to the low reported number of fetal deaths

**Figure 1.1: Pregnancy, Live Birth, Abortion, Fetal Death Rates For Females Age Less than 15 Years**



Significance Testing for Females Age less than 15

For females age less than 15, the overall 77.7 percent decrease in the pregnancy rate from 1992 to 2005 is statistically significant. The spike in the pregnancy rate of 46.4 percent from 1993 to 1994 is statistically significant; however, a significant decline to below the 1993 rate occurred from 1994 to 1995. The rate continued to decline with a statistically significant decrease of 43.6 percent from 1995 to 1998 and a borderline significant decline from 1998 to 2005, see table 1.3. The overall decrease in the live birth rate and abortion rate from 1992 to 2005 of 75.4 percent and 73.0 percent, respectively, were also statistically significant (results not shown).

**Table 1.3: Significant Pregnancy Rate Changes for Females Age less than 15**

Years	Pregnancy Rates	Percent Rate Change	95 percent Confidence Intervals of the Rate (lower limit, upper limit)
1992	12.1	-77.7	10.3, 13.9
2005	3.1		2.2, 3.9
1993	9.7	46.4	8.1, 11.3
1994	14.2		12.2, 16.2
1994	14.2	-33.8	12.2, 16.2
1995	9.4		7.8, 11.0
1995	9.4	-43.6	7.8, 11.0
1998	5.3		4.0, 6.6
1998	5.3	-41.5	4.0, 6.6
2005	3.1		2.2, 3.9

Descriptive Statistics for Females Ages 15 to 19

For females ages 15 to 19 there is an overall decline in the pregnancy rate, live birth rate and abortion rate from 1992 to 2005 of 69.9 percent, 76.1 percent and 72.9 percent, respectively. The data reveals an increased pregnancy rate from 1992 to 1993 of 11.4 percent and then a decline in the pregnancy rate from 1993 to 1998 of 48.6 percent. A spike in 1999 of 9.5 percent was observed with a subsequent pregnancy rate decrease of 44.6 percent until 2001. A 36.8 percent increase occurred from 2001 to 2002 followed by a 37 percent decline to 2005. The live birth and abortion rates followed similar trends to the pregnancy rate, except for the lack of a spike in 1999 for live births. The fetal death rate remains low for all years, under 1.5 per 1,000 females ages 15 to 19. See table 1.4, table 1.5, figure 1.2.

**Table 1.4: Descriptive Statistics of Pregnancies and Live Births for Females Ages 15 to 19**

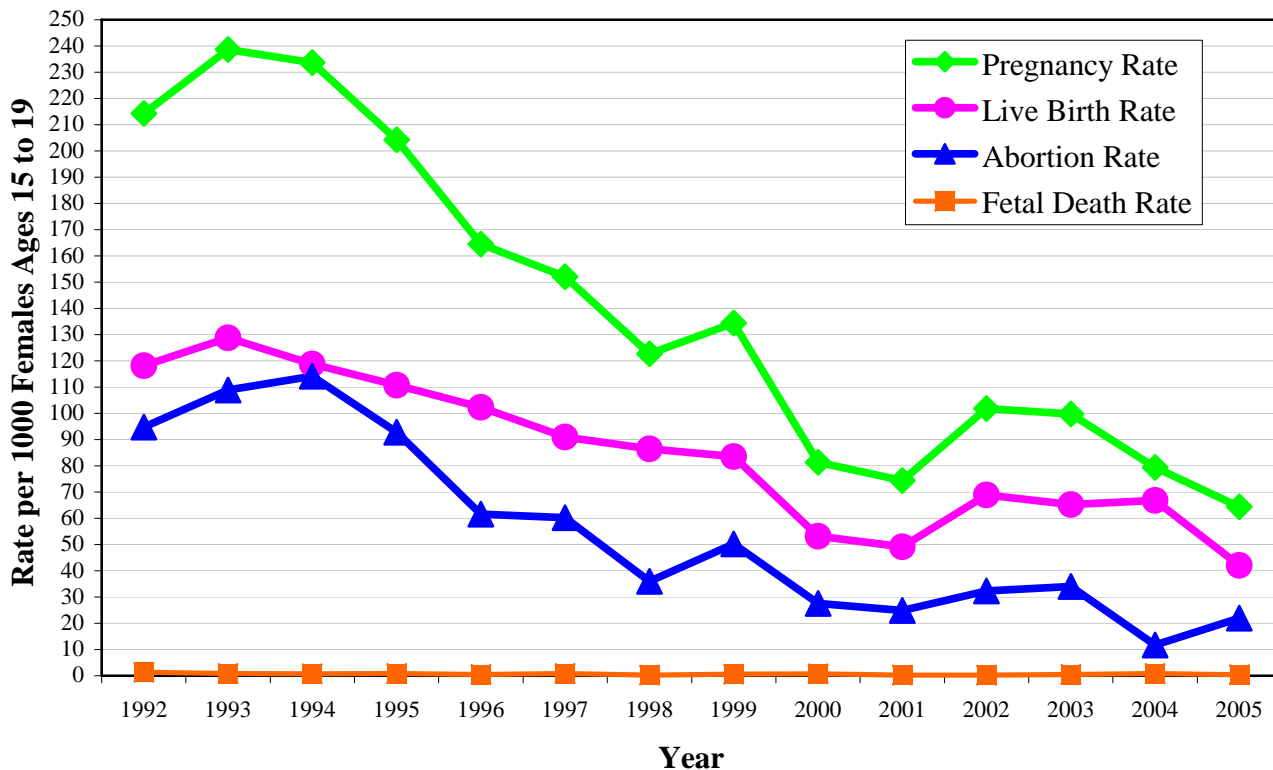
Year	Pregnancies	Pregnancy Rate	Year to Year Pregnancy Percent Rate Change	Live Births	Live Birth Rate	Year to Year Live Birth Percent Rate Change
1992	3,113	214.3	----- --	1,717	118.2	-----
1993	3,272	238.7	11.4	1,766	128.8	9.0
1994	3,149	233.6	-2.1	1,601	118.8	-7.8
1995	2,685	204.3	-12.5	1,454	110.7	-6.8
1996	2,181	164.5	-19.5	1,357	102.3	-7.6
1997	1,978	152.1	-7.5	1,183	91.0	-11.0
1998	1,604	122.7	-19.3	1,130	86.5	-4.9
1999	1,733	134.4	9.5	1,077	83.5	-3.5
2000	1,616	81.4	-39.4	1,056	53.2	-36.3
2001	1,481	74.4	-8.6	980	49.2	-7.5
2002	1,381	101.8	36.8	935	68.9	40.0
2003	1,281	99.7	-2.1	838	65.2	-5.4
2004	1,027	79.4	-20.4	864	66.8	2.5
2005	1,304	64.4	-18.9	852	42.1	-37.0

**Table 1.5: Descriptive Statistics of Abortions and Fetal Deaths for Females Ages 15 to 19**

Year	Abortions	Abortion Rate	Year to Year Abortion Rate Percent Change	Fetal Deaths	Fetal Death Rate*
1992	1,377	94.8	-----	19	1.3
1993	1,493	108.9	14.9	13	0.9
1994	1,538	114.1	4.8	10	0.7
1995	1,220	92.8	-18.7	11	0.8
1996	817	61.6	-33.6	7	0.5
1997	784	60.3	-2.1	11	0.8
1998	471	36.0	-40.3	3	0.2
1999	648	50.3	39.7	8	0.6
2000	547	27.6	-45.1	13	0.7
2001	496	24.9	-9.8	5	0.3
2002	438	32.3	29.7	8	0.3
2003	437	34.0	5.3	6	0.5
2004	151	11.7	-65.6	12	0.9
2005	444	21.9	87.2	8	0.4

\*percent fetal death rate percent change not shown due to the low reported death

**Figure 1.2: Pregnancy, Live Birth, Abortion, Fetal Death Rates For Ages 15 to 19 Years**



Significance Testing for Females Ages 15 to 19

For females age 15 to 19, the overall 69.9 percent decrease in the pregnancy rate from 1992 to 2005 is statistically significant. The overall decrease in the live birth rate and abortion rate from 1992 to 2005 of 76.1 percent and 72.9 percent, respectively, were also statistically significant (table 1.6).

**Table 1.6: Significant Rate Changes 1992 to 2005**

Year	Pregnancy Rate	Rate Difference	Percent Change	Standard Error for Difference
1992	214.3	-149.9	-69.9	6.5
2005	64.4			
Year	Live Birth Rate	Rate Difference	Percent Change	Standard Error
1992	118.2	-76.1	-76.1	6.3
2005	42.1			
Year	Abortion	Rate Difference	Percent Change	Standard Error
1992	94.8	-72.9	-72.9	5.4
2005	21.9			

As shown in table 1.7, there was a statistically significant increase in the pregnancy rate from 1992 to 1993 of 24.4 percent. This was followed by a steady decline in the rate from 1993 to 1998 of 48.6 percent. An increase in the rate occurred from 1998 to 1999 and from 2001 to 2002 of 11.7 percent and 27.4 percent, respectively. Despite these isolated rises in rates, the rate decline of 58.3 percent from 1998 to 2005 as a whole was statistically significant.

**Table 1.7: Significant Pregnancy Rate Changes**

Year	Rate of Pregnancy	Year to Year Rate Difference	Standard Error for Difference
1992	214.3	24.4	8.4
1993	238.7		
1994	233.6	-29.3	8.5
1995	204.3		
1995	204.3	-39.8	7.7
1996	164.5		
1996	164.5	-12.4	7.1
1997	152.1		
1997	152.1	-29.4	7.0
1998	122.7		
1998	122.7	11.7	6.8
1999	134.4		
1999	134.4	-53.0	5.6

2000	81.4		
2000	81.4	-7.0	4.0
2001	74.4		
2001	74.4	27.4	4.8
2002	101.8		
2003	99.7	-20.3	6.2
2004	79.4		
1993	238.7	-116	7.92
1998	122.7		
1998	122.7	-58.3	5.9
2005	64.4		

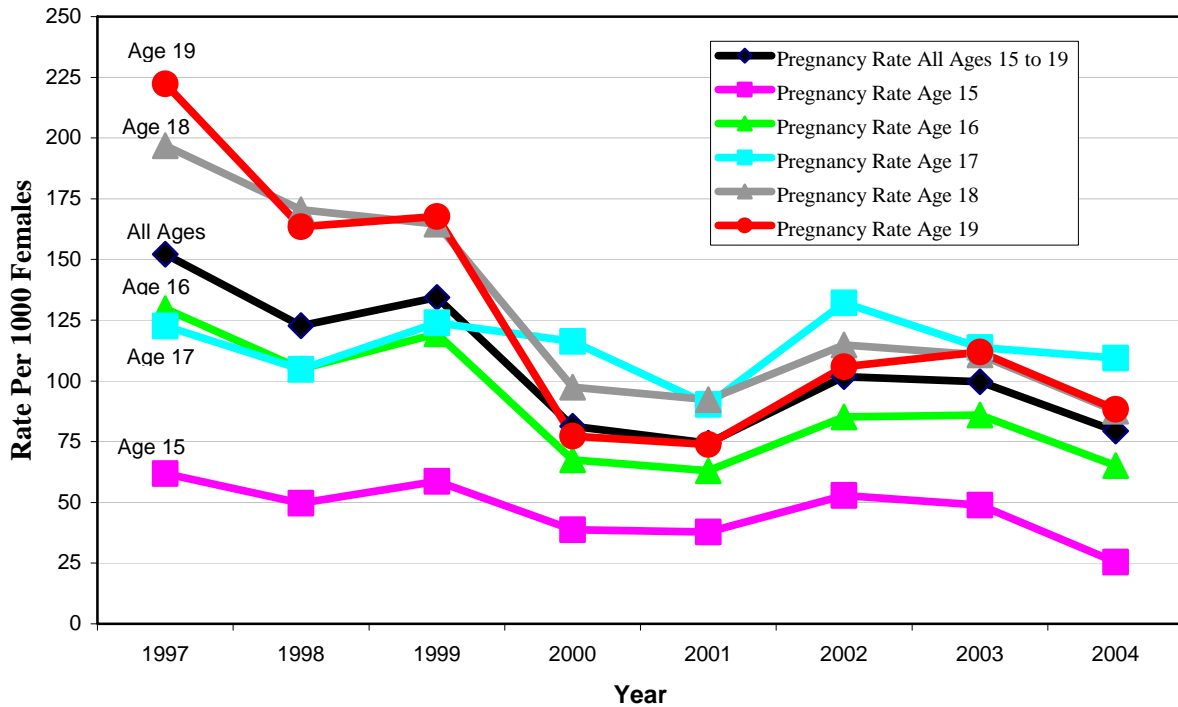
Descriptive Statistics for Females Ages 15 to 19 Individually

A breakdown of pregnancy rates by age for females age 15 to 19 is available from 1997 to 2004. See table 1.8, figure 1.3. The black line (with diamonds) in figure 1.3 depicts the rates for all ages 15 to 19 combined and is similar to the trends for each age individually. Age 19 has the highest initial pregnancy rate in 1997, however since the year 2000 age 17 appears to have equal or higher pregnancy rates than the other ages. Age 15 has consistently the lowest pregnancy rates with rates that do not overlap with the other ages.

**Table 1.8: Pregnancy Rates for Females Ages 15 to 19 by Age**

Year	Ages 15 to 19 Combined	Age 15	Age 16	Age 17	Age 18	Age 19
1997	152.1	61.8	129.7	122.6	196.8	222.3
1998	122.7	49.7	104.9	104.8	170.5	163.5
1999	134.4	58.7	119.5	123.9	164.6	167.7
2000	81.4	38.7	67.5	116.3	97.5	77.3
2001	74.4	37.8	63.0	90.3	92.3	73.8
2002	101.8	52.9	85.2	132.1	114.9	105.9
2003	99.7	48.8	86.0	113.8	110.8	112.0
2004	79.4	25.5	65.2	109.5	87.5	88.4

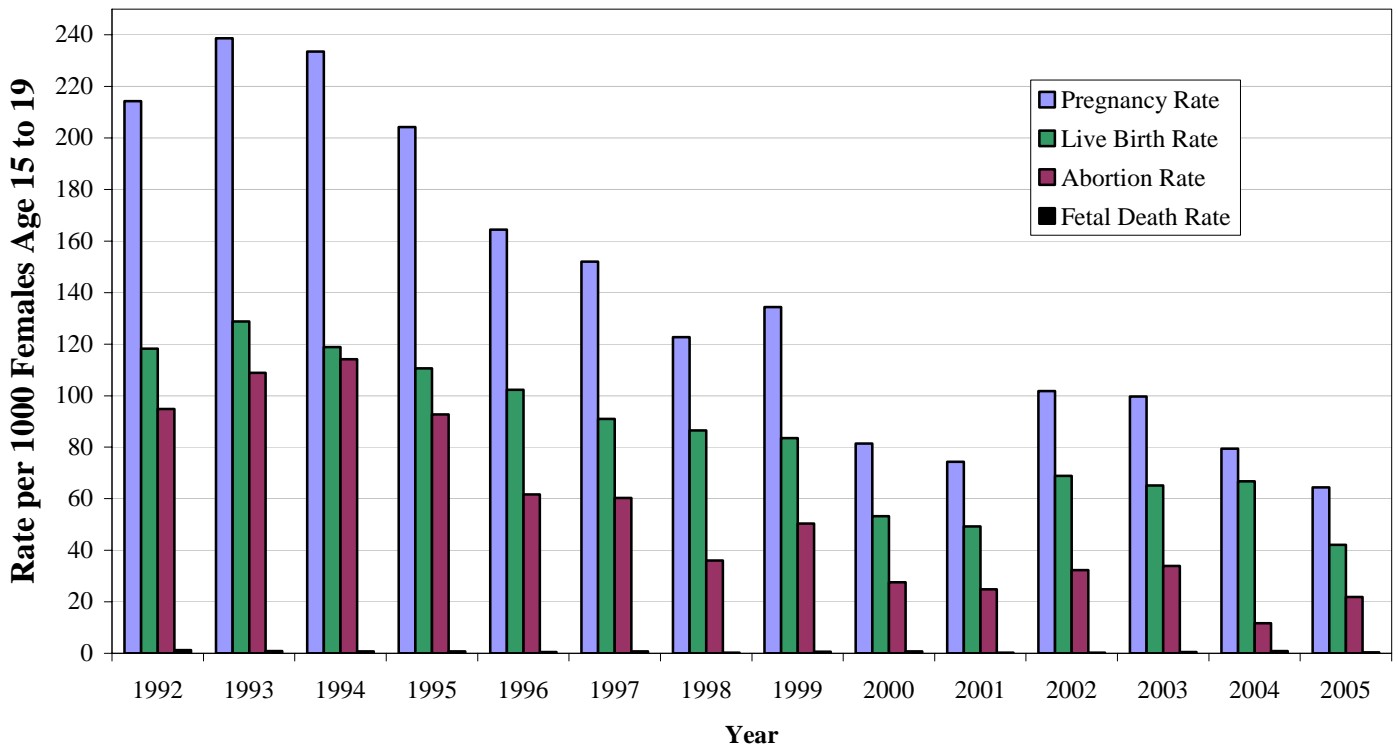
**Figure 1.3: Pregnancy Rates by Age**



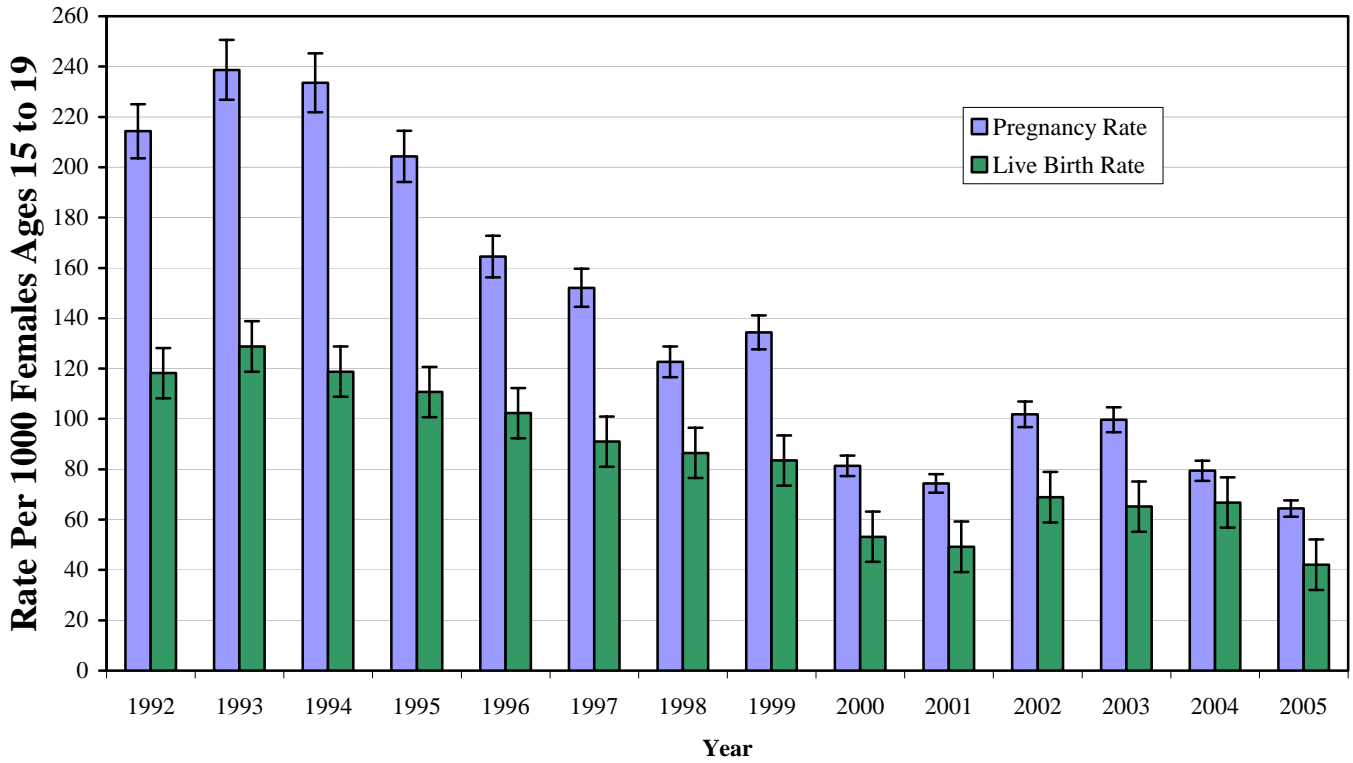
Bar Graphs For Ages 15 to 19

Bar graphs are shown as an alternate format to illustrate the trends in pregnancy, live birth and abortion rates for females ages 15 to 19. See figures 1.4 to 1.6. The data was presented in tables 1.4 and 1.5.

**Figure 1.4: Pregnancy, Live Birth, Abortion and Fetal Death Rates For Ages 15 to 19**



**Figure 1.5: Pregnancy and Live Birth Rates for Ages 15 to 19 Years**



**Figure 1.6: Pregnancy and Abortion Rates for Ages 15 to 19 Years**

