



Pregnancy Intention

Pennsylvania Pregnancy Risk Assessment Monitoring System (PA PRAMS)

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Introduction

Although causal relationships with pregnancy intention are difficult to establish, it has become generally acknowledged and accepted that unintended pregnancies lead to increased risk of problems for mothers and their children. Studies indicate that unintended pregnancies are associated with an array of negative health, economic, social, and psychological outcomes for women and children.¹ Unintended pregnancy has a public health impact. Births resulting from unintended or closely spaced pregnancies are associated with adverse maternal and child health outcomes, such as delayed prenatal care, premature birth, and negative physical and mental health effects for children.²⁻⁴ Having the means to monitor incidence of unintended pregnancy is very important. Doing so can reveal the need for, and impact of, family planning programs.

Since 2007, Pennsylvania has had the means to monitor pregnancy intention. Pennsylvania's Pregnancy Risk Assessment Monitoring System (PA PRAMS) is an ongoing, population-based surveillance system designed to identify and monitor selected maternal experiences and behaviors that occur before and during pregnancy and during the child's early infancy. The primary objective of PA PRAMS is to conduct data analyses in order to increase understanding of maternal behaviors and experiences during pregnancy and early infancy, and their relationship to health outcomes. The population of interest is all mothers who are residents of Pennsylvania who delivered within Pennsylvania a live-born infant during the surveillance period. The PRAMS project design is highly specialized in that it calls for a series of mail and telephone follow-up attempts with intensive tracking of individual subjects in order to reach the required response rate threshold (65 percent) necessary to ensure response data of high scientific quality.

Nationally, 41 sites (40 states and New York City) participate in PRAMS. Collectively, they sample and collect data that represent 78 percent of all U.S. live births. This wide surveillance scope facilitates nationwide analysis, and it allows participating states to compare and contrast maternal findings across state borders.

This report contains PRAMS findings based on variables analyzed and compared across participating states, as well as those that are PA-specific. This approach serves to establish a broad profile of Pennsylvania's pregnancy intention as captured within the PA PRAMS survey questionnaire for the period 2007 through 2011.

Pregnancy Intention within the PA PRAMS Questionnaire

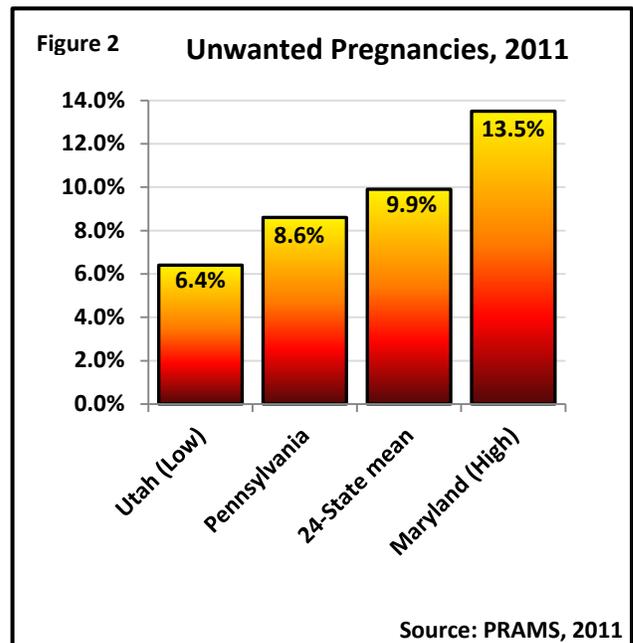
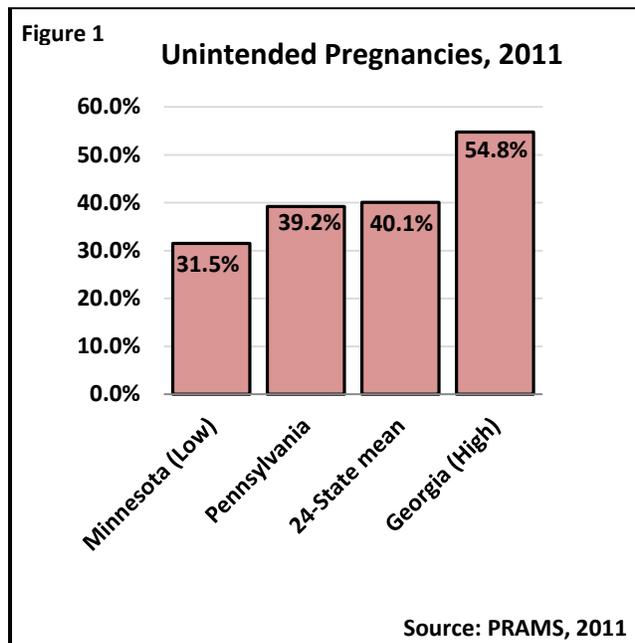
Within the questionnaire, mothers are asked a question that serves to delineate possible pregnancy intentions. From the responses to this question, statewide incidence of unintended and unwanted pregnancy can be easily gleaned. The question presented to participants is to think back to just before becoming pregnant and choose from a list of response options that best describes how they felt about becoming pregnant. Possible responses include:

- (1) I wanted to become pregnant sooner.
- (2) I wanted to be pregnant later.
- (3) I wanted to be pregnant then.
- (4) I didn't want to be pregnant then or at any time in the future.
- (5) I don't know.

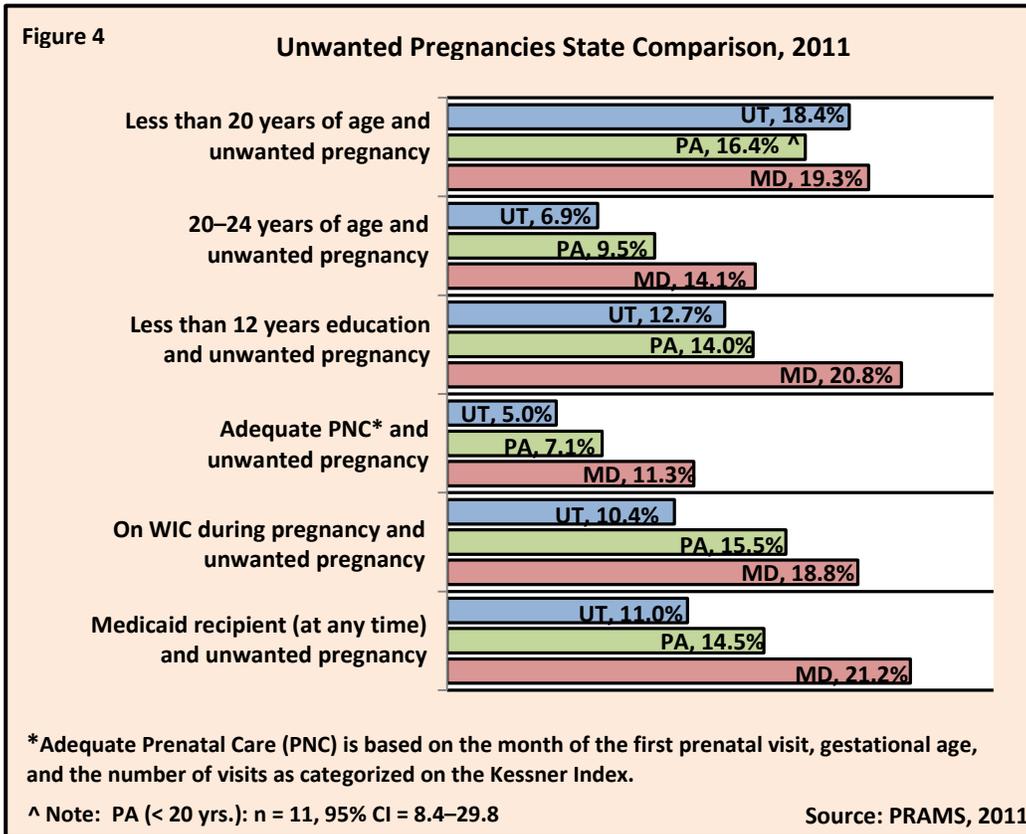
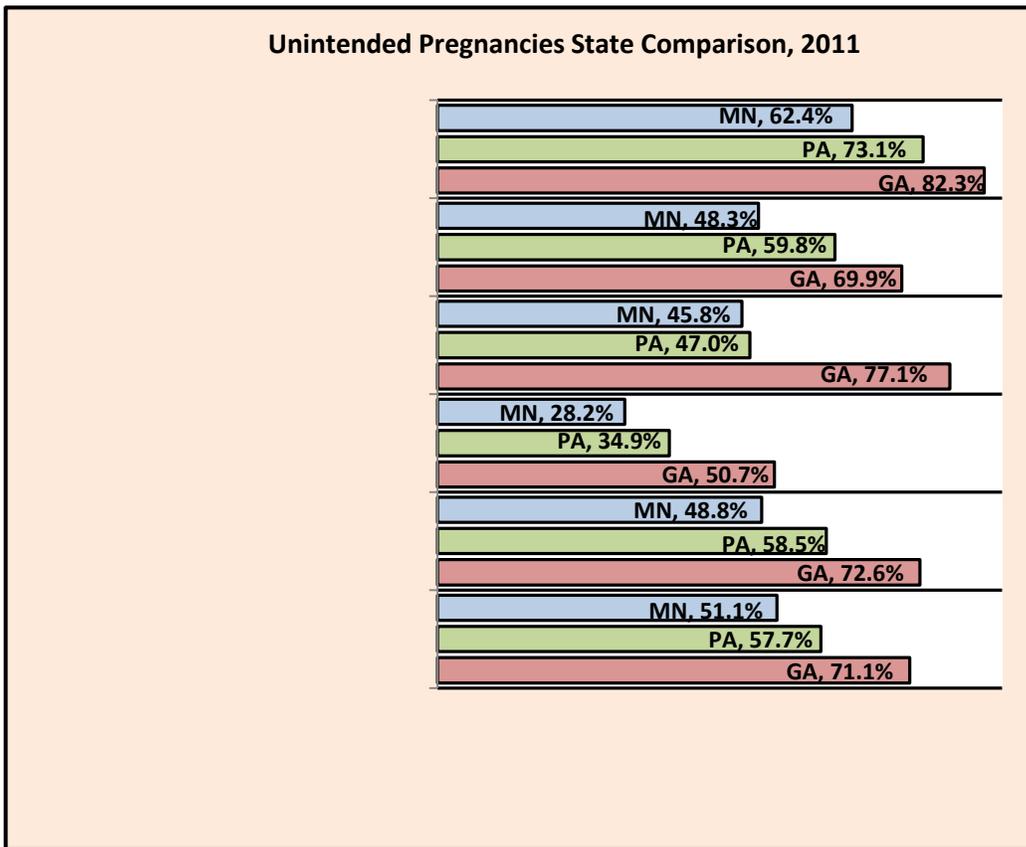
To arrive at two dichotomous pregnancy intention indicators, intended and unintended, the responses "sooner" and "then" are collapsed into intended, and the responses "later" and "did not want" are collapsed into unintended. To identify unwanted pregnancies, the response "sooner," "later," and "then" are collapsed into "wanted," and "did not want" is directly coded to "unwanted."

PRAMS State Comparison

Analysis of 2011 PRAMS data across all participating PRAMS states revealed a 24-state mean of 40.1 percent of mothers indicating an unintended pregnancy. Pennsylvania’s 2011 result, 39.2 percent, was not significantly different from the mean. Results within CDC’s PRAMS Online Data for Epidemiologic Research (CPONDER) system for participating states ranged from a high of 54.8 percent in Georgia to a low of 31.5 percent in Minnesota (Figure 1). An examination of the responses reflecting unwanted pregnancies revealed a 24-state mean of 9.9 percent, with Pennsylvania realizing 8.6 percent (Figure 2).

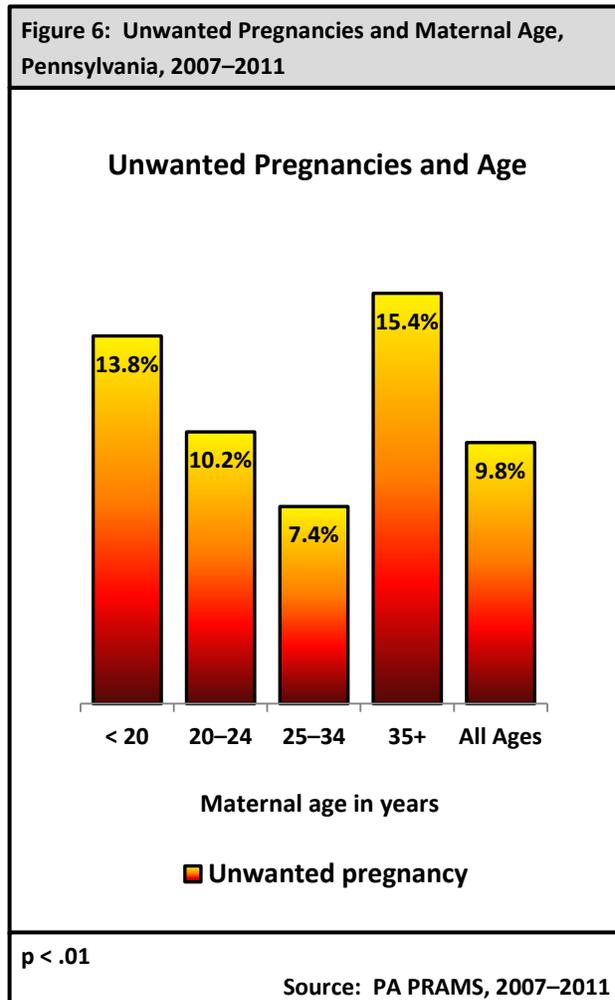
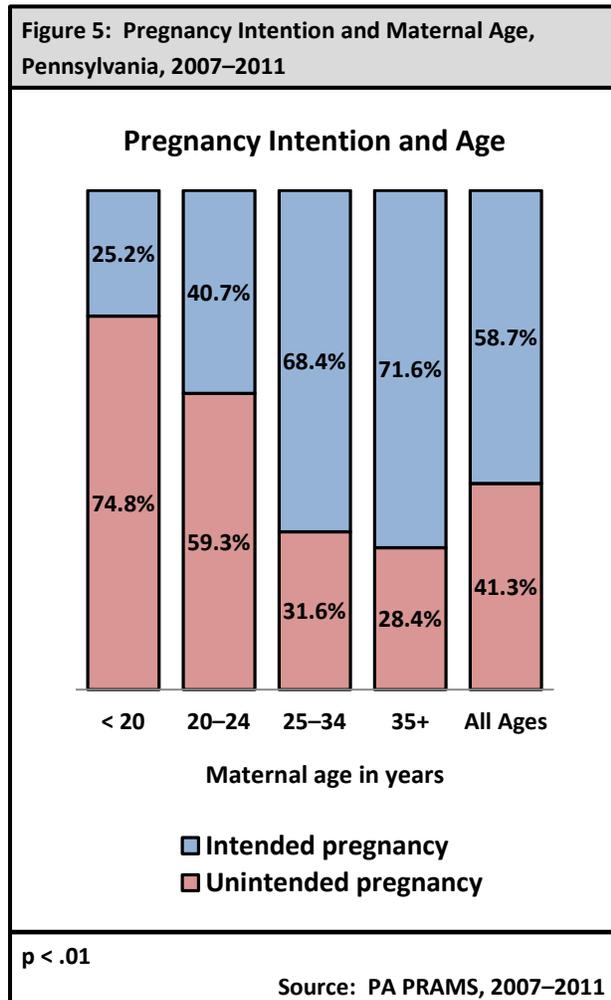


A comparison of these states within breakouts for various demographics and factors revealed relative rank positioning that remained unchanged. Mothers of a young age, with less education and on Women, Infants and Children (WIC) subsistence and Medicaid were all factors associated with higher percentages of unintended and unwanted pregnancies. Pennsylvania had a lower proportion of unintended pregnancies than Georgia and more than Minnesota (Figure 3). Among the states representing the range of incidence of unwanted pregnancies, the highest percentage of unwanted pregnancies was among Maryland’s Medicaid recipients (Figure 4).



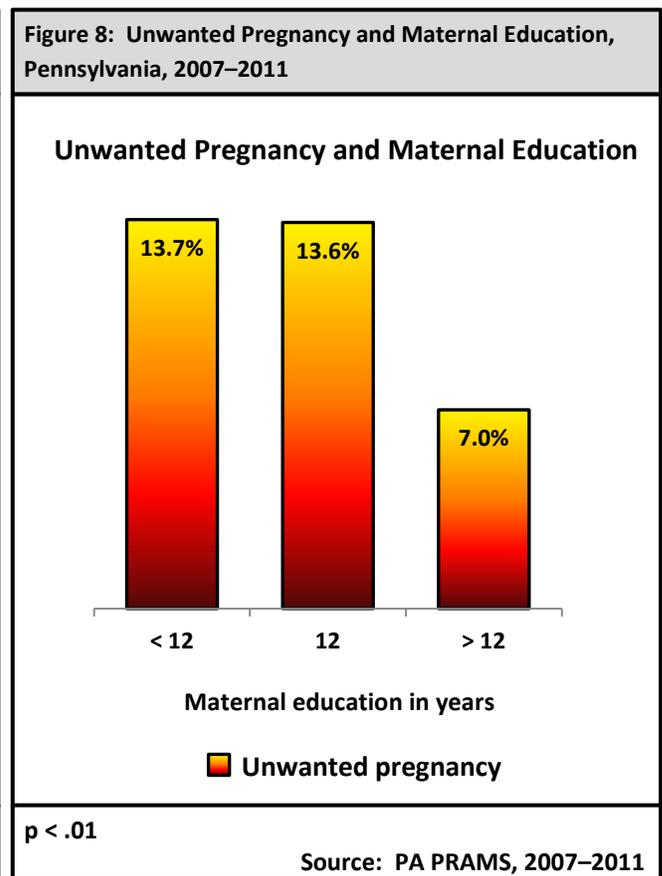
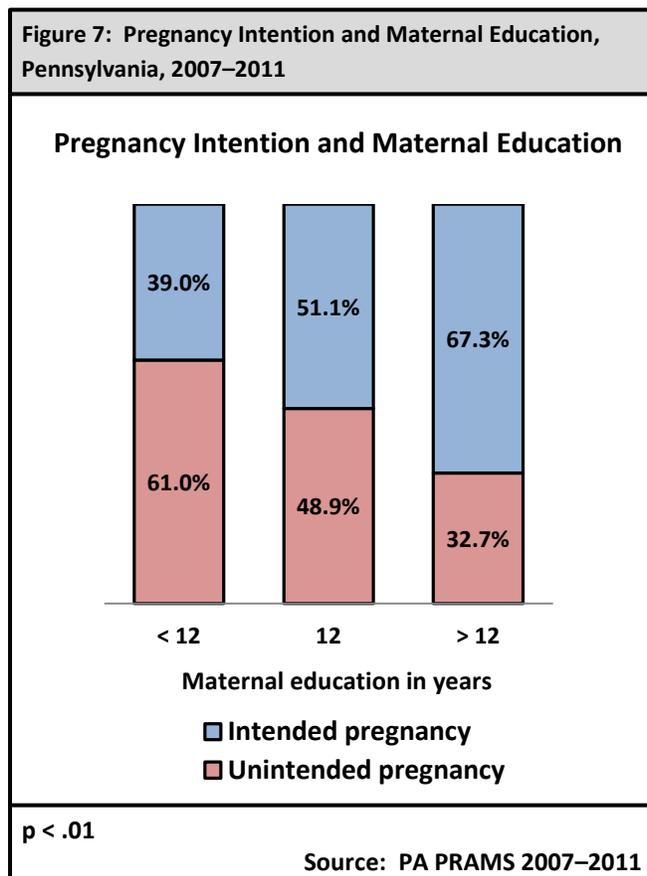
Pregnancy Intention and Maternal Age

Analysis of the available data on maternal age and pregnancy intention revealed significant differences among the four age cohorts examined. For the period 2007 – 2011, 41.3 percent of Pennsylvania’s mothers (all ages) indicated an unintended pregnancy. However, almost three quarters (74.8 percent) of the state’s teen mothers indicated an unintended pregnancy. Clearly, based on relative risk, younger mothers are significantly more likely to indicate an unintended pregnancy than older mothers. Teen mothers are 1.3 times more likely to indicate an unintended pregnancy than mothers aged 20 – 24 years, 2.4 times more likely to do so than mothers 25 – 34 years, and 2.6 times more likely to do so than mothers 35 years of age and older (Figure 5). However, while younger mothers are more likely to experience and report unintended pregnancies, a higher percentage of those mothers aged 35 years and older report unwanted pregnancies (a subset of unintended pregnancies) [Figure 6].



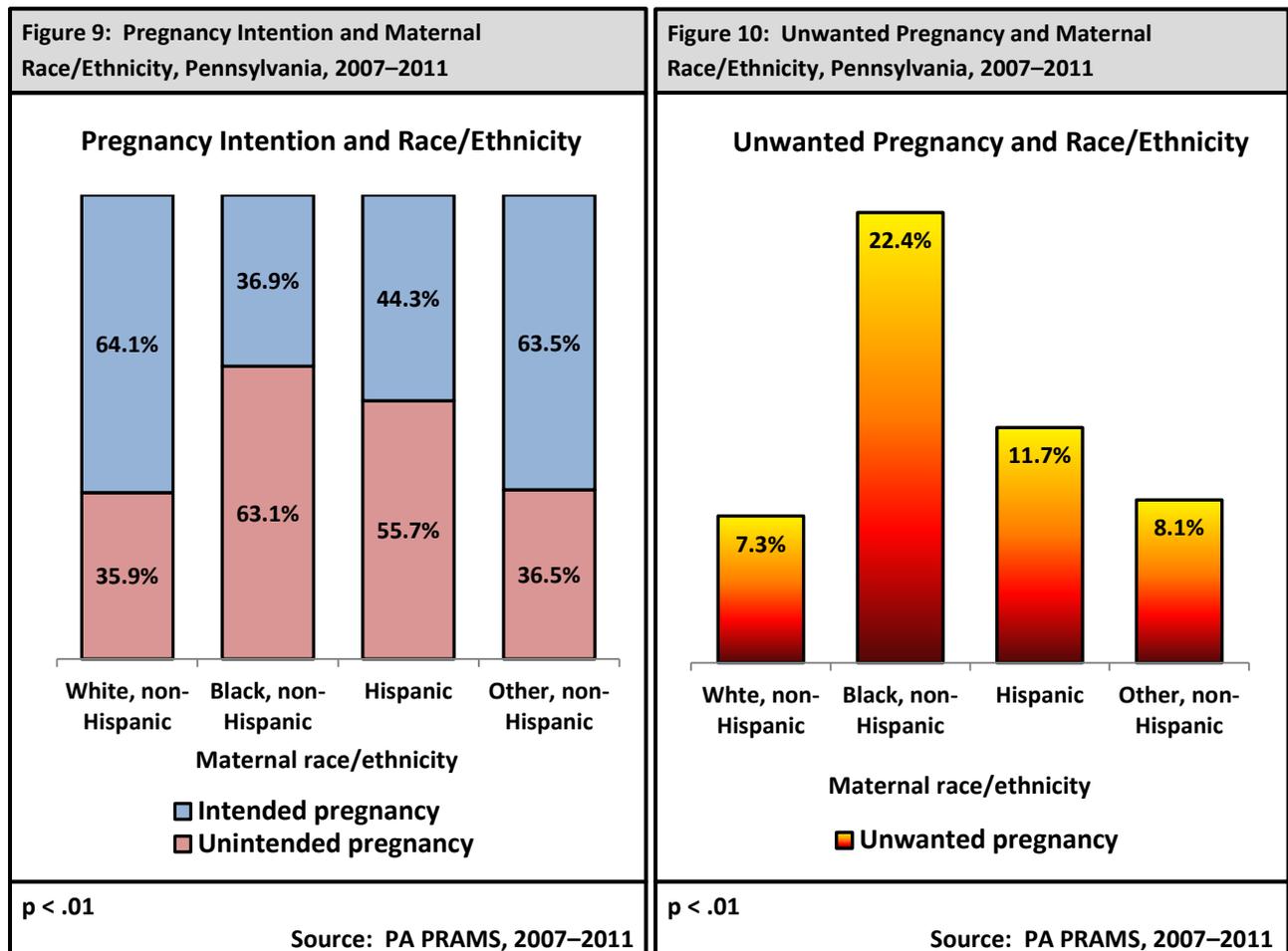
Pregnancy Intention and Maternal Education

Examining responses to this question across three education levels obtained from birth certificate data revealed that sampled mothers with fewer than 12 years education were 1.2 times more likely to indicate an unintended pregnancy than mothers with 12 years education and were 1.9 times more likely to do so than mothers with more than 12 years education (Figure 7). Mothers with 12 or fewer years of education were almost two times as likely to report an unwanted pregnancy than those mothers with more than 12 years education (Figure 8).



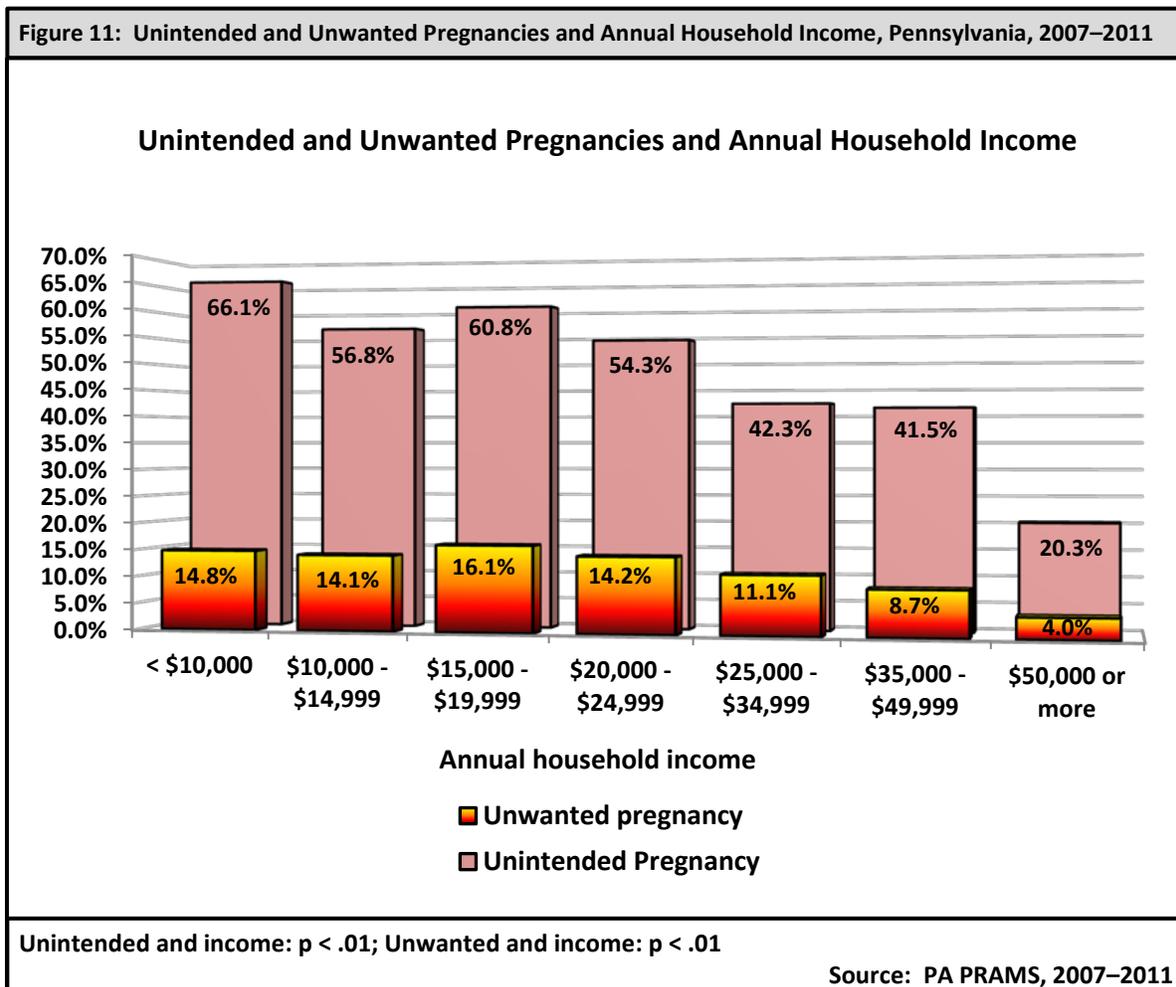
Pregnancy Intention and Maternal Race/Ethnicity

An examination of the data by maternal race/ethnicity revealed that non-Hispanic, white mothers were those least likely to indicate an unintended pregnancy. Non-Hispanic, black mothers were 1.8 times more likely to indicate an unintended pregnancy than non-Hispanic, white mothers and 1.1 times more likely to do so than Hispanic mothers (Figure 9). Non-Hispanic, black mothers were also 3.1 times more likely to report an unwanted pregnancy than non-Hispanic, white mothers (Figure 10).



Pregnancy Intention and Income

Mothers were asked about their total household income during the 12 months before their babies were born. They were asked to identify their total before tax income, including their own, that of their husband or partner, and any other household income received. An analysis of these data across seven income groups with responses on pregnancy intention revealed that those mothers reporting lower household incomes were those also more likely to report unintended pregnancies. Those reporting household incomes less than \$10,000 per year were 3.3 times more likely to report an unintended pregnancy than mothers reporting incomes of \$50,000 or more per year (Figure 11). Mothers within income groups below \$25,000 per year were those more likely to report unwanted pregnancies. Mothers reporting annual household incomes of less than \$10,000 per year were 3.7 times more likely to report an unwanted pregnancy than those reporting annual household incomes of \$50,000 or more (Figure 11).



Pregnancy Intention and Pregnancy Recognition

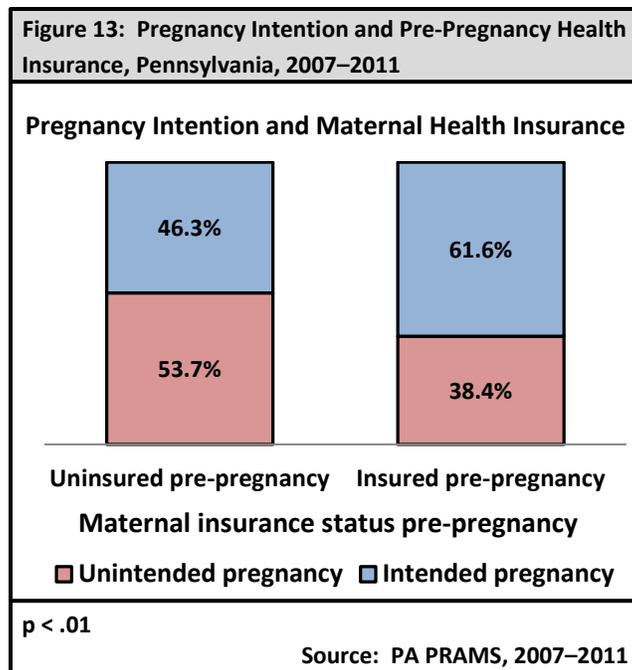
Mothers were asked how many weeks or months pregnant they were when they became sure they were pregnant (for example, having a pregnancy test or a doctor or nurse state they were pregnant). The data for the period 2007 – 2011 reveal a statistically significant difference in the mean number of weeks when mothers were sure. For those mothers having indicated an unintended pregnancy, the mean number of weeks was 7.1, whereas for those mothers having indicated an intended pregnancy, it was 5.0 (Figure 12).

Figure 12: Pregnancy Intention and Pregnancy Recognition, Pennsylvania, 2007–2011				
Pregnancy Intention	Sample Size	Mean Weeks When Sure	95% Confidence Interval	Weighted Size
Unintended	1,806	7.14	6.874–7.399	244,261
Intended	2,755	5.04	4.911–5.171	348,572
Total	4,561	5.91	5.768–6.041	592,834

Source: PA PRAMS, 2007–2011

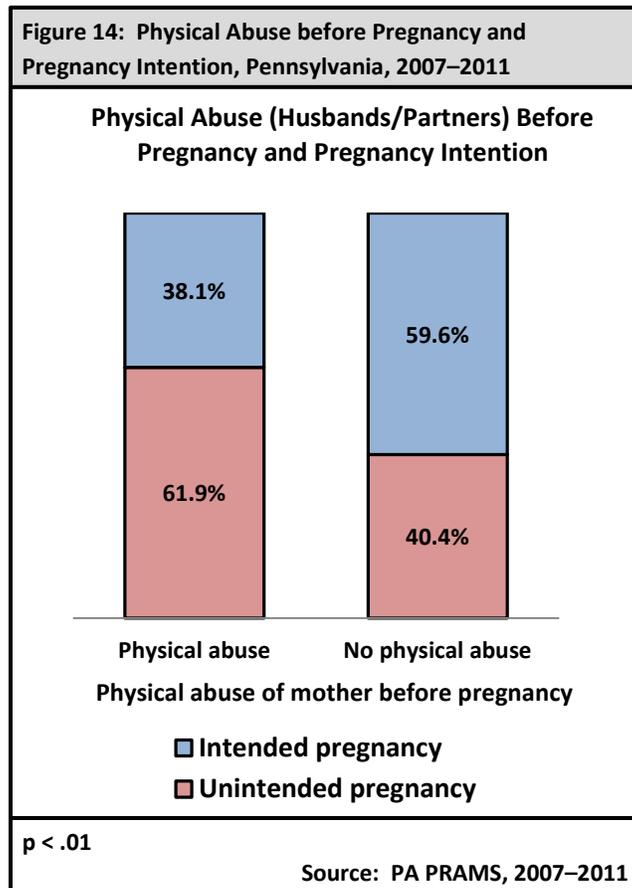
Pregnancy Intention and Pre-Pregnancy Health Insurance

Mothers were asked if they had health insurance just before becoming pregnant. Mothers who indicated they had no insurance were 1.4 times more likely to also report an unintended pregnancy. Over half of the mothers who reported being uninsured prior to pregnancy also reported unintended pregnancies (Figure 13).



Pregnancy Intention and Physical Abuse before Pregnancy

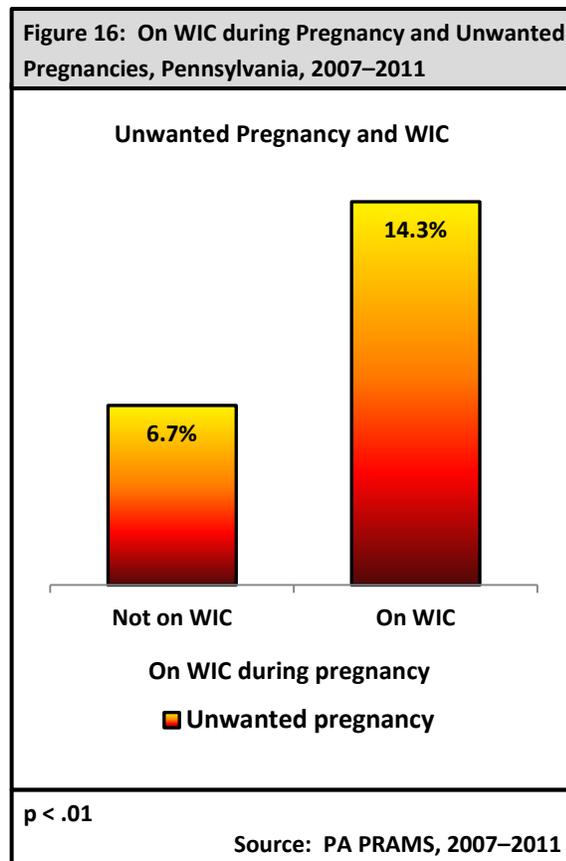
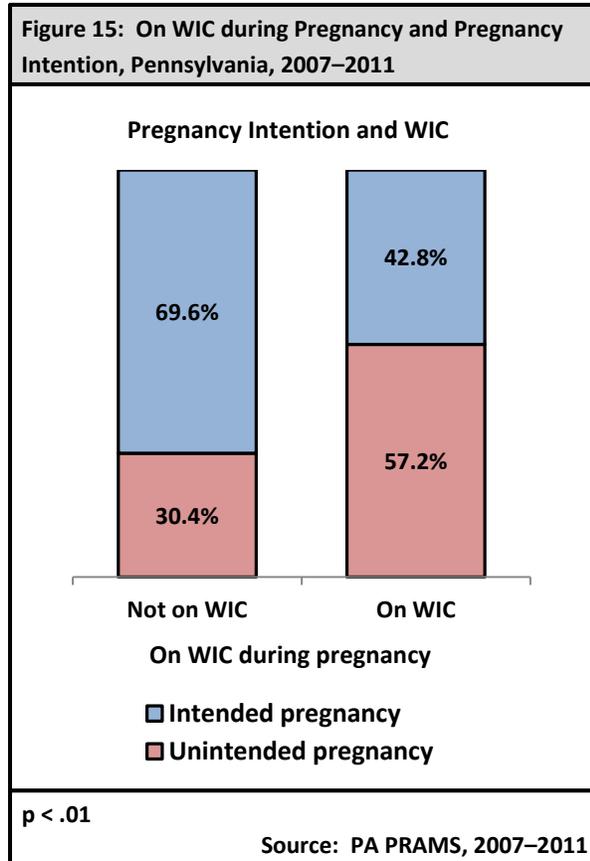
Mothers were asked if, during the 12 months before becoming pregnant, their husband or partner pushed, hit, slapped, kicked, choked, or physically hurt them in any way. Those mothers having responded yes to that question were 1.5 times more likely to also report having had an unintended pregnancy (Figure 14).



Pregnancy Intention and WIC (Women, Infants and Children) during Pregnancy

Mothers who indicated they were on WIC during their pregnancy were 1.9 times more likely to have reported unintended pregnancies than mothers not on WIC. Well over half (57.2 percent) of the mothers on WIC reported unintended pregnancies, whereas less than one-third (30.4 percent) of the mothers not on WIC reported unintended pregnancies (Figure 15). Mothers on WIC during their

pregnancy were 2.1 times more likely to have reported an unwanted pregnancy than mothers not on WIC (Figure 16).



Marriage among Pennsylvanians

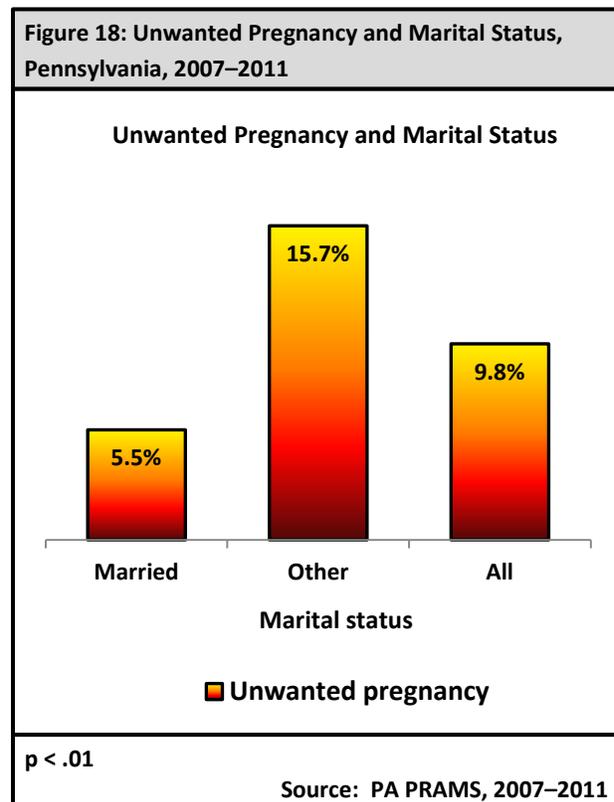
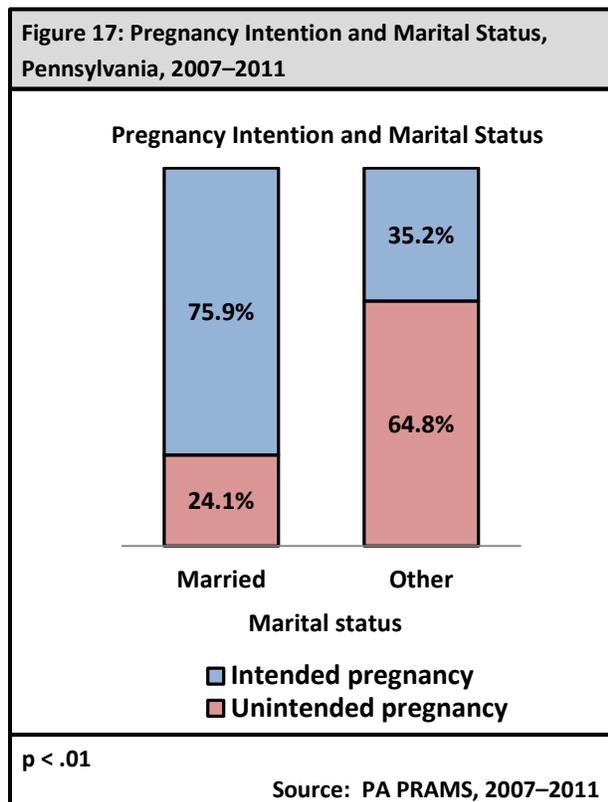
Like all Americans, in recent decades, Pennsylvanians are more likely to cohabit, divorce, marry late or never marry. Based on findings from the Pennsylvania State Data Center, the number of Pennsylvanians aged 15 years and over that have never married increased by 58.9 percent, from 2.2 million people in 1970 to 3.5 million in 2013. In 1970, 26.0 percent of the population was never married. That rose to more than a third (33.6 percent) in 2013. All age groups have reported a lower percentage of people reporting ever being married since 1970. However, it is within the age cohort of 25 – 34 years that the most rapid decline was realized. Within that cohort, a 41.1 percent decline was realized over that period of time.⁵

Marriage and Child Poverty

Based on U.S. Census Bureau data, there is a strong association between child poverty and households headed by single females. For related children under 18 years of age in families with a female head of household, 45.8 percent were in poverty in 2013. In contrast, 9.5 percent of related children under 18 years of age in families headed by married couples were in poverty in 2013.⁶

Pregnancy Intention and Marital Status

An examination of the PA PRAMS data for the period 2007 – 2011 revealed a statistically significant difference in pregnancy intention between married mothers and unmarried mothers. Mothers reporting “other” for marital status were 2.7 times more likely to report an unintended pregnancy than married mothers (Figure 17). They were 2.9 times more likely to report an unwanted pregnancy (Figure 18).

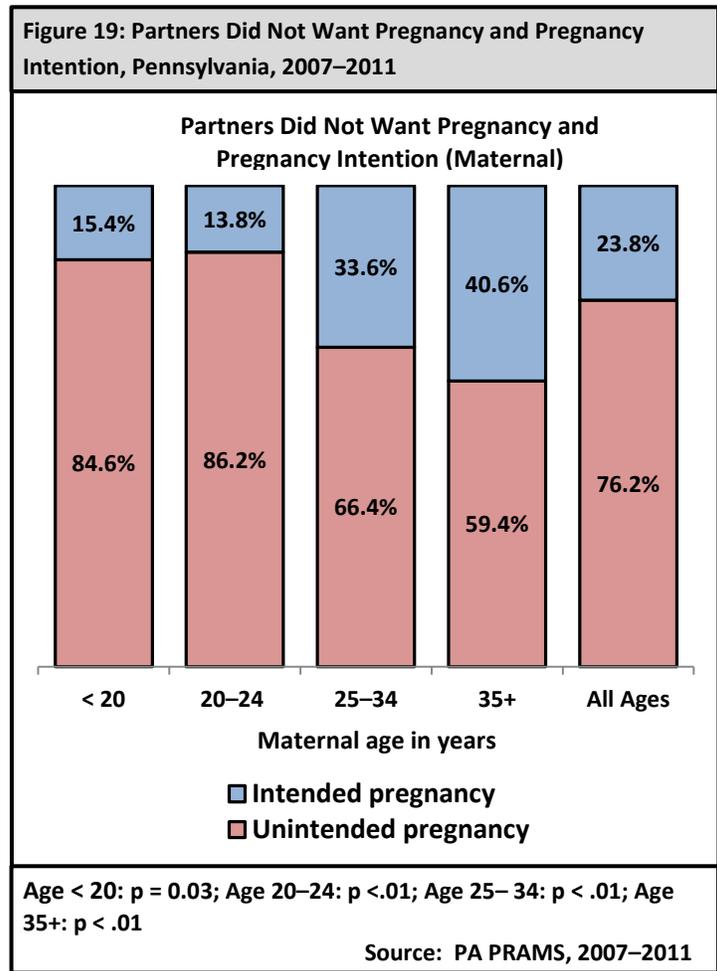


Pregnancy Intention and Maternal Stress

One of the PA PRAMS questions serves to identify the causes of and the extent to which stress was experienced by Pennsylvania's mothers during the 12 months before their new babies were born. Mothers were asked about things that may have happened during that period. They were asked to mark as many of the following stressors as apply:

1. A close family member was very sick and had to go into the hospital.
2. You got separated or divorced from your husband or partner.
3. You moved to a new address.
4. You were homeless.
5. Your husband or partner lost his job.
6. You lost your job even though you wanted to go on working.
7. You argued with your husband or partner more than usual.
8. Your husband or partner said he did not want you to be pregnant.
9. You had a lot of bills you could not pay.
10. You were in a physical fight.
11. You or your husband or partner went to jail.
12. Someone very close to you had a bad problem with drinking or drugs.
13. Someone very close to you died.

An examination of these response data related to No. 8 (Your husband or partner said he did not want you to be pregnant) revealed that over three quarters (76.2 percent) of all mothers who reported this particular stressor also reported an unintended pregnancy. An examination by maternal age revealed that younger mothers were significantly more likely than older mothers to report unintended pregnancies associated with this particular stressor, having husbands or partners not wanting them to be pregnant. Mothers aged 20 – 24 years reporting stress associated with partners not wanting their pregnancy were 1.3 times more likely to report an unintended pregnancy than mothers 25 – 34 years, and they were 1.5 times more likely to do so than mothers 35 years of age and older (Figure 19).



Pregnancy Intention by Categories of Stressors

An examination of mothers’ response data related to these stressors grouped by category revealed strong associations with unintended pregnancy. Across all stress groups examined, mothers reporting these are more likely to also report unintended pregnancies. Four stress groups were examined: (1) trauma-related, (2) partner-related, (3) emotional-related, and (4) financial-related. The following list summarizes mothers’ reported stressors mapped to these four groups.

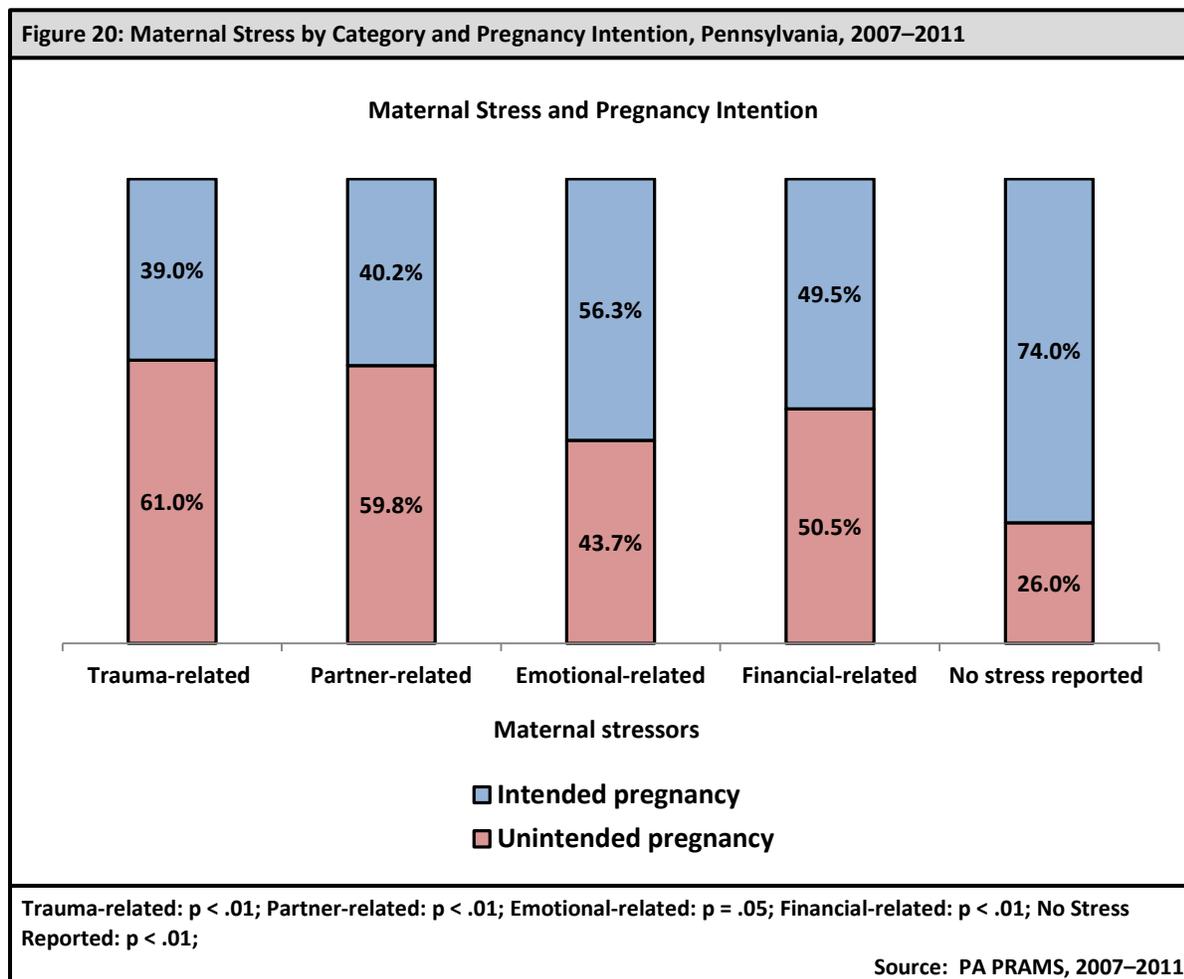
(1) Trauma-related: mothers who reported experiencing stress related to being homeless, and/or being in a physical fight, and/or having a husband or partner going to jail, and/or having someone close with a significant problem with drinking or drugs

(2) Partner-related: mothers who reported experiencing stress related to getting separated or divorced, and/or arguing with their husband or partner more than usual, and/or having a husband or partner telling them they did not want them to be pregnant

(3) Emotional-related: mothers who reported experiencing stress related to a close family member becoming very sick and/or someone very close dying

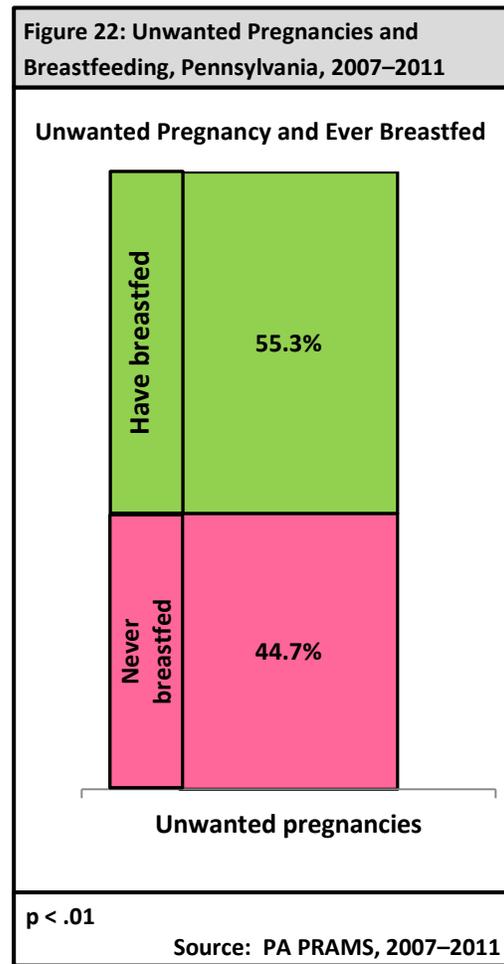
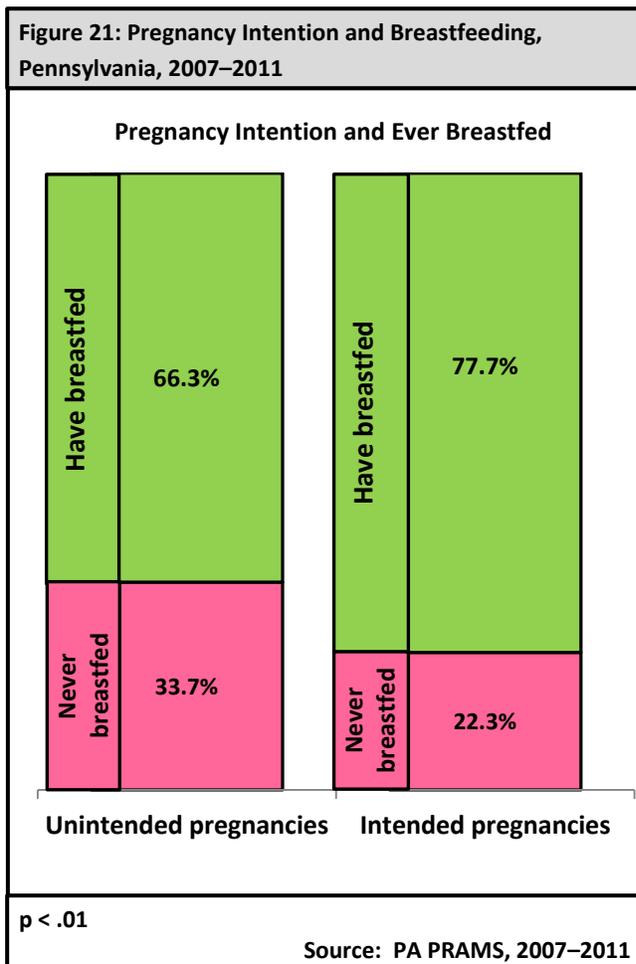
(4) Financial-related: mothers who reported experiencing stress related to finances, including moving to a new address, and/or a husband or partner losing his job, and/or losing one’s own job despite wanting to continue with it, and/or having a lot of bills that could not be paid

Across all categories, mothers who reported experiencing stress were significantly more likely to have reported having unintended pregnancies than those having reported experiencing no stress. Stresses related to trauma and partners were associated with the highest proportion of unintended pregnancies (Figure 20).



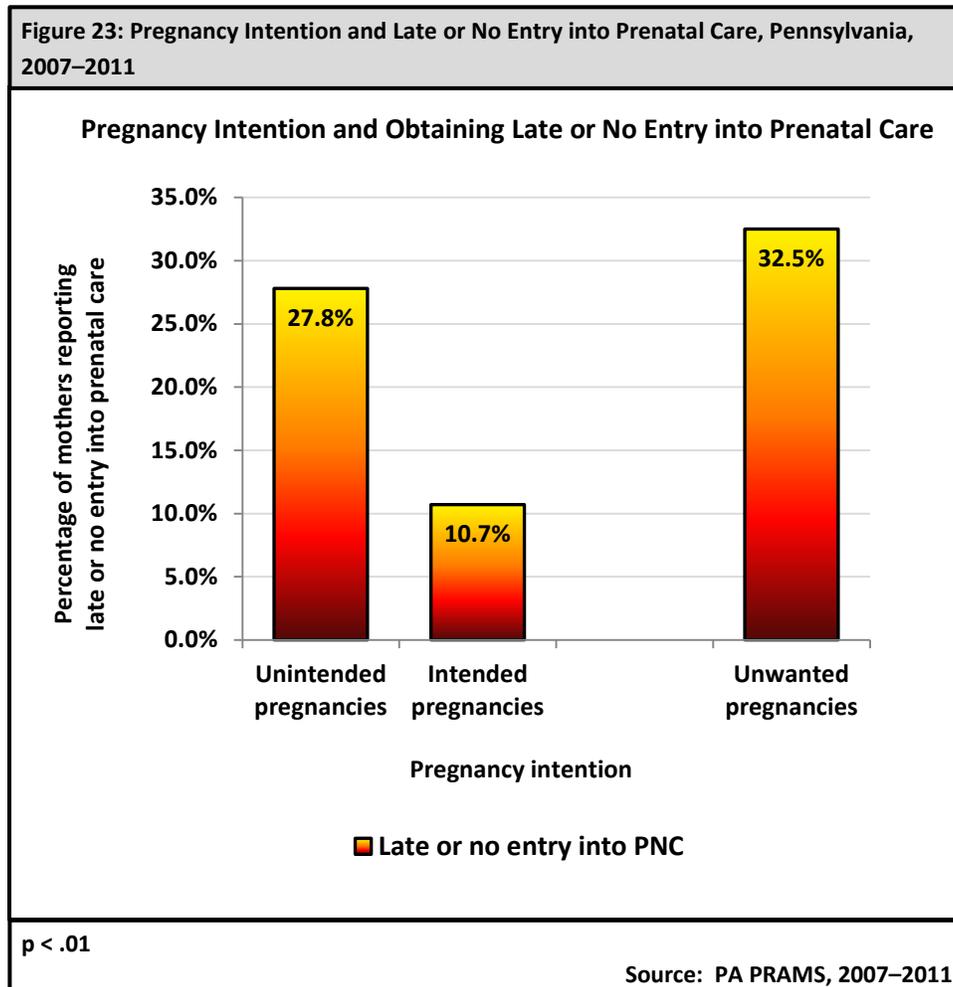
Pregnancy Intention and Breastfeeding

Relative to mothers reporting intended pregnancies, those mothers reporting unintended pregnancies were 1.5 times more likely to have also reported never breastfeeding their baby (Figure 21). Across the pregnancy intention continuum, the highest proportion of mothers who never breastfed was realized within the category of those reporting unwanted pregnancies. With 44.7 percent of them reporting they never breastfed their baby, they were 2.0 times more likely to have never breastfed than mothers reporting intended pregnancies (Figure 22).



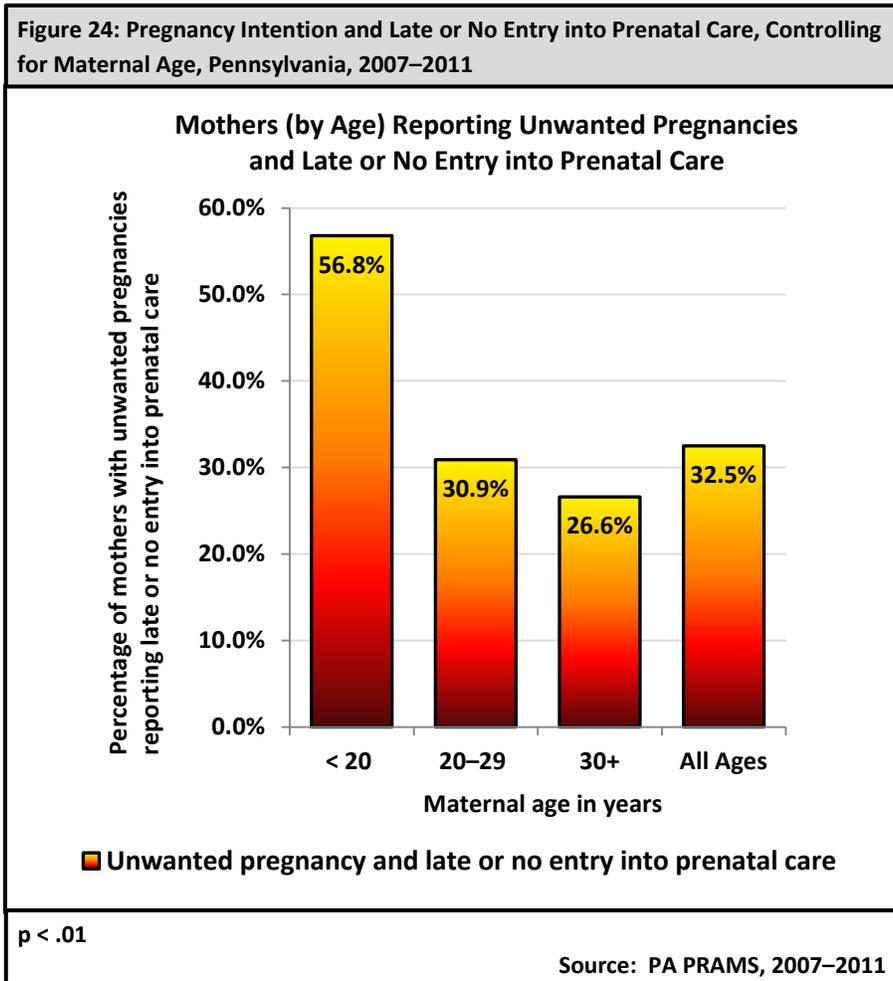
Pregnancy Intention and Prenatal Care (PNC)

Mothers with intended pregnancies are significantly more likely to obtain prenatal care early and to obtain an adequate level (frequency) of care. Mothers reporting unintended pregnancies were 2.6 times more likely to also report late or no entry into prenatal care. Mothers reporting unwanted pregnancies were three times as likely to also report late or no entry into prenatal care as mothers reporting intended pregnancies (Figure 23).



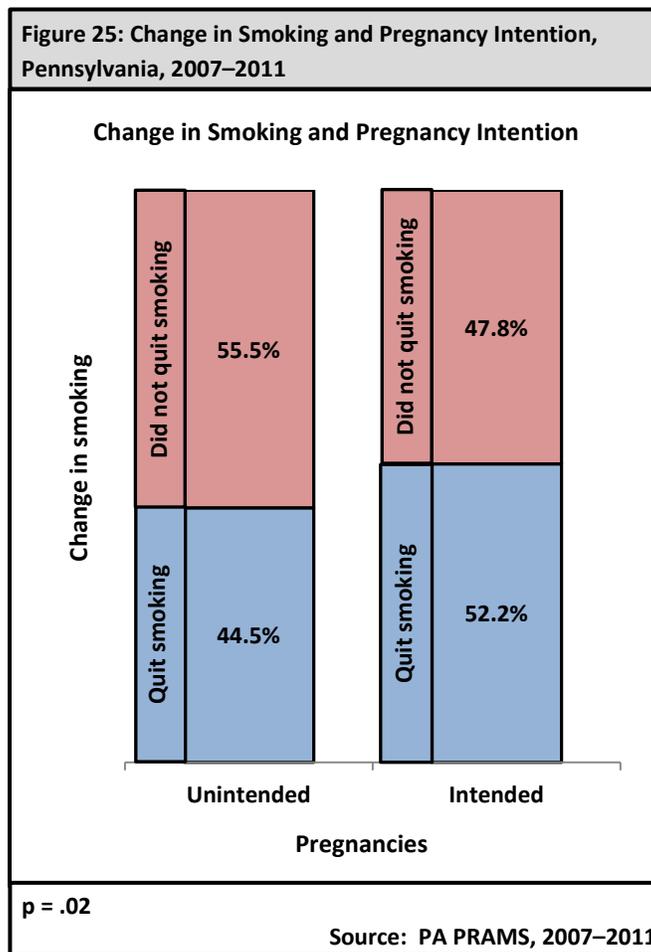
Mothers, of all ages, with unwanted pregnancies are more likely to report obtaining late or no entry into prenatal care. However, when examining prenatal care initiation by pregnancy intention while controlling for maternal age, the data reveal that younger mothers with unwanted pregnancies are significantly more likely than older mothers with unwanted pregnancies to report obtaining late or no prenatal care. Well over half (56.8 percent) of Pennsylvania’s teen mothers with unwanted

pregnancies reported late or no prenatal care. Based on this data, they are 1.8 times more likely to report late or no prenatal care than mothers aged 20 – 29 years with unwanted pregnancies and 2.1 times more likely to do so than mothers 30 years of age and older with unwanted pregnancies (Figure 24).



Pregnancy Intention and Tobacco Use

Mothers were asked how many cigarettes they smoked on an average day in the three months before becoming pregnant and how many they smoked on an average day during the last three months of their pregnancy. If smoking was reported pre-pregnancy but not during the last three months of pregnancy, then that mother was identified as someone who quit smoking. Examining pregnancy intention with this indicator revealed that those mothers who reported an unintended pregnancy were less likely to quit smoking than mothers who reported an intended pregnancy. Based on these data, mothers with intended pregnancies are 1.2 times more likely to quit smoking (Figure 25).

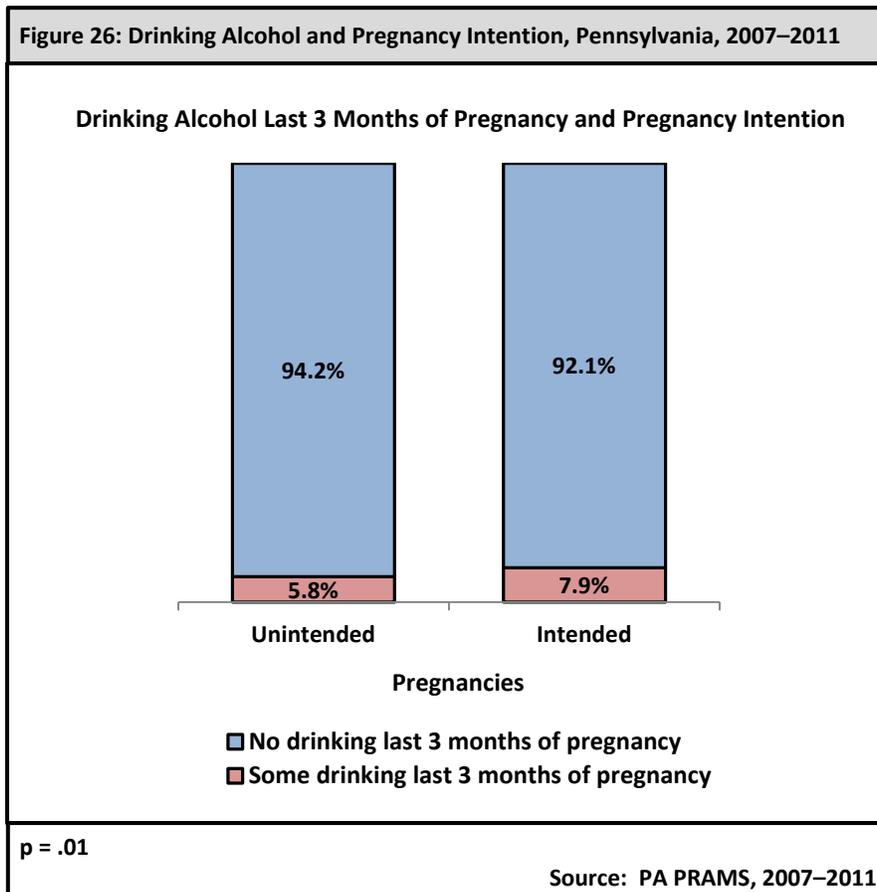


Pregnancy and Alcohol Use

For decades, researchers have known that heavy drinking during pregnancy can cause birth defects. However, the potential effects of small amounts of alcohol on a developing baby are not well understood.⁷ In the PRAMS survey, mothers were asked if they had any alcohol to drink during the three months before becoming pregnant. Data for the period 2007 – 2011 revealed that well over half (58.8 percent) of mothers reported having some amount of alcohol during the three months before their pregnancies. Mothers were also asked if they had consumed any alcohol during the last three months of their pregnancies. Most (93.0 percent) reported consuming no alcohol during the last three months of their pregnancies.

Pregnancy Intention and Alcohol Use

According to the findings from a nationwide PRAMS study examining pregnancy intention and any changes in perinatal alcohol use between three months prior to pregnancy and the last three months of pregnancy (PRAMS 2004–2008) revealed there is no relationship. According to the nationwide PRAMS data in that study, there is no association. However, according to that study, mothers whose pregnancies were reported to be unwanted were significantly more likely to report binge drinking during pregnancy compared to women with intended/mistimed pregnancies.⁸ An examination of PA PRAMS data related to alcohol use and pregnancy intention for the period 2007 – 2011 revealed that 7.9 percent (95% CI = 6.8 percent – 9.0 percent) of mothers who intended their pregnancies also reported having some amount of alcohol to drink during the last three months of their pregnancy; 5.8 percent (95% CI = 4.7 percent – 7.1 percent) of mothers who reported unintended pregnancies reported drinking some alcohol during the last three months (Figure 26).



Summary

Over the 5-year period 2007 – 2011, the PA PRAMS response data revealed that 41.3 percent of Pennsylvania’s mothers did not intend their pregnancies, and 9.8 percent did not want their pregnancies. Within this report, a comprehensive catalog of maternal demographics and factors were examined in the context of pregnancy intention. Maternal age was found to be a significant factor. Almost three quarters (74.8 percent) of teen mothers experienced unintended pregnancies, and they were almost twice (1.9 times) as likely to report an unwanted pregnancy compared to mothers 25 – 34 years of age.

Other strong relationships were established, and the table below summarizes the relative risk associated with unintended and unwanted pregnancies for many of the factors examined (Figure 27).

Figure 27: Pregnancy Intention Report Summary Table				
Maternal Demographic or Factor		Relative Risk	Associated with	Compared to
1.	Teen mothers (< 20 years of age)	2.4 times more likely	Unintended Pregnancy	Mothers 25–34 years of age
2.	Teen mothers (< 20 years of age)	1.9 times more likely	Unwanted Pregnancy	Mothers 25–34 years of age
3.	Mothers with < 12 yrs. education	1.9 times more likely	Unintended Pregnancy	Mothers with > 12 years education
4.	Household incomes < \$10,000/yr.	3.3 times more likely	Unintended Pregnancy	Household incomes \$50,000+
5.	Household incomes < \$10,000/yr.	3.7 times more likely	Unwanted Pregnancy	Household incomes \$50,000+
6.	Mothers w/no health insurance	1.4 times more likely	Unintended Pregnancy	Mothers having health insurance
7.	Physical abuse pre-pregnancy	1.5 times more likely	Unintended Pregnancy	No physical abuse pre-pregnancy
8.	Mothers not married	2.7 times more likely	Unintended Pregnancy	Mothers married
9.	Mothers not married	2.9 times more likely	Unwanted Pregnancy	Mothers married
10.	Maternal stress 12 months before baby was born			
	a. 1–2 stressors reported	1.5 times more likely	Unintended Pregnancy	Mothers reporting no stressors
	b. 3–5 stressors reported	2.3 times more likely	Unintended Pregnancy	Mothers reporting no stressors
	c. 6–13 stressors reported	2.6 times more likely	Unintended Pregnancy	Mothers reporting no stressors
11.	Mothers w/unintended pregnancy	1.5 times more likely	Never breastfeeding	Mothers w/intended pregnancy
12.	Mothers w/unwanted pregnancy	2.0 times more likely	Never breastfeeding	Mothers w/wanted pregnancy
13.	Mothers w/unintended pregnancy	2.6 times more likely	Late or no prenatal care	Mothers w/intended pregnancy
14.	Mothers w/unwanted pregnancy	3.0 times more likely	Late or no prenatal care	Mothers w/wanted pregnancy
15.	Mothers w/intended pregnancy	1.2 times more likely	Quitting smoking	Mothers/unintended pregnancy
Data source: PA PRAMS				

Endnotes

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