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## Maternal and Infant Health and the Benefits of Birth Control in America

Pregnancy planning in general, and the use of birth control in particular, are directly linked to a wide array of benefits to women, men, children, and society, including fewer unplanned pregnancies and abortions, more educational and economic opportunities for young women, improved maternal and infant health, greater family wellbeing, and reduced public spending.

Given that the large majority of both men and women are sexually active (for example, more than three-quarters of young adults age 18 to 24 have had sex in the past 12 months<sup>1</sup>), birth control is central to realizing these benefits. In fact, the Centers for Disease Control and Prevention (CDC) recognizes the development of modern contraception as one of the 10 greatest public health achievements of the 20<sup>th</sup> century.<sup>2</sup>

Nonetheless, the United States has long reported high levels of unplanned pregnancy<sup>3</sup> and very uneven use of contraception. For example, even though most unmarried women in their 20s say they don't want to get pregnant and despite the availability of many forms of birth control—including some that are highly effective—only half of those who are sexually active report using reliable contraception consistently.<sup>3</sup> Unplanned pregnancy is nearly 100 percent preventable, yet...

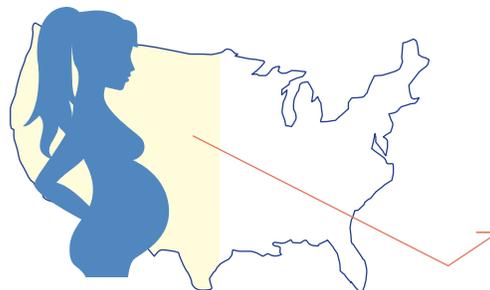
- Roughly half of all pregnancies in the United States are reported by women to be unplanned—that is, a pregnancy that a woman herself said she was not intending or actively trying to achieve.<sup>4</sup>
- Among unmarried young women age 20 to 29, the percentage of pregnancies that they report as being unplanned is nearly 70%. This totaled roughly 1.3 million unplanned pregnancies in 2008 alone, and unplanned pregnancy among young adults has been trending up for the past few years, not down.
- Nearly half (44%) of unplanned pregnancies among unmarried young women result in an abortion, leading to nearly 600,000 abortions each year.
- In addition, unplanned pregnancy is responsible for more than half of all births to unmarried women in their twenties, or more than 500,000 births each year<sup>5</sup>
- Women using birth control carefully and consistently account for only 5% of all unplanned pregnancies.<sup>6</sup>

### Planning for a Healthy Pregnancy

Extensive evidence shows that maternal and infant health are greatly improved through adequate birth spacing, timely and high quality preconception and prenatal care, and avoiding known health risks like smoking. For example:

- Very short intervals between pregnancies raise the risk of preterm birth, low birthweight, slow neonatal growth, and infant death.<sup>7</sup> In fact, the risk of infant mortality is 67% higher for births occurring less than 12 months after a previous birth, compared to births spaced at least 18 months apart, even after controlling for other infant risk factors.<sup>8</sup>
- Prenatal and preconception care can help identify maternal health risks early on, improve the mother's nutritional status, and encourage other healthy behavior (such as quitting smoking).<sup>9</sup> The benefits of prenatal care, in particular, have been studied extensively, and although the results vary by study, the weight of evidence indicates that prenatal care can improve maternal and infant health.<sup>10</sup> One recent study found that receiving prenatal care significantly cut the risk of premature birth, still birth, neonatal death, and infant death, net of other factors.<sup>11</sup>
- Conversely, certain risky behaviors during pregnancy—behaviors that are a major focus of both preconception and prenatal care—reduce the odds of a healthy birth. For example, smoking during pregnancy is widely linked to preterm birth, infant death, and birth defects such as missing/deformed limbs and gastrointestinal disorders.<sup>12</sup> Smoking is also linked to complications during pregnancy that can be dangerous for both the fetus and the woman, including ectopic pregnancy, vaginal bleeding, placental abruption, and placenta previa.

Women having a birth following an unplanned pregnancy are less likely to have benefitted from preconception care, to have optimal spacing between births, and to have been aware of their pregnancy early on, which in turn makes it less likely that they will have engaged in healthy prenatal behavior and/or enrolled in prenatal care early in pregnancy.



**Roughly half of all pregnancies in the US are reported by women themselves as unplanned.**

Unplanned pregnancy is associated with significantly higher rates of preterm birth and low birthweight and subsequent serious health problems.

Because women having a planned pregnancy tend to fair better on all the dimensions mentioned above (and others as well), and because contraception helps women plan their pregnancies, it clearly plays a significant role in supporting maternal and infant health. To be sure, the evidence is imperfect—we do not have randomized trials of women with and without access to contraception or even recent examples of large comparison groups who have little or no access, especially here in the United States. Even so, the weight of the evidence across numerous studies—even studies netting out the influence of other characteristics—is that both women and infants fare significantly better when women are able to plan and control when they become pregnant.

Put another way, women who have an unplanned pregnancy are less likely, and in many cases less able, to do the things that best support their health and that of their baby. They are also less

likely to enjoy the types of supportive environments and relationships that promote healthy families.<sup>13</sup>

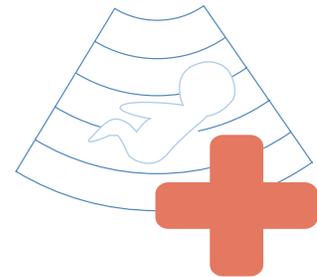
## Preconception and Prenatal Care

Women who chose to become pregnant are, by definition, better positioned to take advantage of preconception care and also are more likely to start prenatal care early in pregnancy. This is especially true during the first trimester, because they are aware of their pregnancy earlier.<sup>14</sup> We know that:

- According to the CDC, only 8% of women lacked prenatal care during their first trimester if their pregnancy was planned. This more than doubles among women whose pregnancy was unplanned (19%) and rises to 21% among women whose pregnancy was *unwanted* (as opposed to mistimed pregnancies or unplanned pregnancy overall).<sup>15</sup>
- A recent review summarizing more than two decades of research concludes that pregnancy intentions play a significant role in whether women get prenatal care, especially early in their pregnancy, even after controlling for demographic and background characteristics—that is, receipt of prenatal care is likely a direct function of whether the pregnancy was planned or unplanned rather than simply due to other disadvantages that tend to be correlated with planning status. Results were most striking among women whose pregnancy was unwanted.<sup>16</sup>
- In fact, one recent study found that women with unwanted pregnancies are twice as likely to underutilize

prenatal care compared to women whose pregnancies were planned, even net of other factors.<sup>17</sup>

- Other studies suggest that intentions among *both* parents matter, with prenatal care less likely if *either* the mother or the father reported the pregnancy was unplanned, compared to pregnancies they both reported were planned.<sup>18</sup>

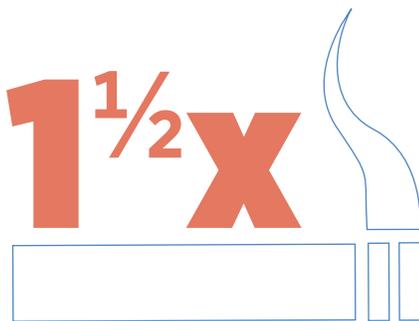


**Women who have an unplanned pregnancy are twice as likely to lack prenatal care as those with a planned pregnancy.**

## Maternal Behavior

Preconception and prenatal care typically include a focus on the value of a healthy lifestyle leading into and during pregnancy. Given that women whose pregnancies are unplanned are less likely to receive these services, and given that they are less likely to know that they are pregnant early on, it is not surprising that they are also less likely to be in optimal health in the months prior to and during pregnancy. For example, the CDC reports that prior to pregnancy (generally in the three months leading up to pregnancy), women whose pregnancies are unplanned are:<sup>19</sup>

- Less likely to be physically active and more likely to be either underweight or obese,
- Less likely to take daily vitamins and more likely to be anemic, and
- More likely to smoke, consume alcohol, binge drink, and experience high levels of stress.



**Women are about one and a half times more likely to smoke during pregnancy if their pregnancy was unplanned.**



Many of these differences, including higher risks of anemia, smoking, and alcohol consumption, are significant even after controlling for other factors.<sup>20</sup>

Women whose pregnancies are unplanned are also more likely to do things *during* pregnancy—such as smoking—that may compromise their health and the health of their child:

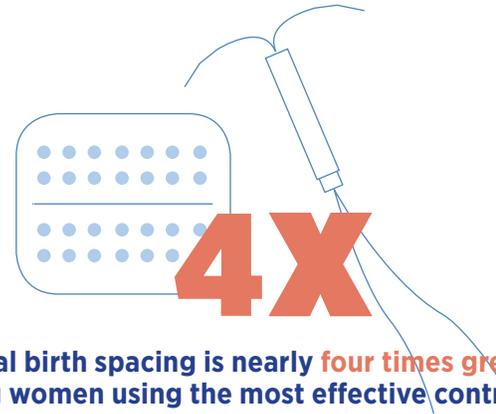
- The CDC reports that, among women reporting that their pregnancies were unplanned, 16% smoked during pregnancy, compared to 10% of women whose pregnancies were planned.<sup>21</sup> The CDC also finds that women who smoked before pregnancy, who continued to smoke during pregnancy, or who relapsed during pregnancy if they had quit, were disproportionately more likely to report that their pregnancies were unplanned.<sup>22</sup>
- Other studies report higher exposure to alcohol, illicit drugs, and secondhand smoke during pregnancy among women whose pregnancies were unplanned.<sup>23</sup>
- One recent study further suggests that the increased risk of adverse behavior associated with unplanned pregnancy is particularly great in the period before the pregnancy is known.<sup>24</sup>
- Although the evidence is somewhat varied as to whether this higher risk is a direct function of pregnancy intentions or of other characteristics such as socioeconomic status, the balance of the literature and the most recent studies suggest that pregnancy intentions significantly and directly affect risk, even net of these factors.

Maternal behavior following delivery continues to be more positive among women whose pregnancies were planned, particularly in terms of breastfeeding:

- According to the latest data from the CDC, 74% of babies born following planned pregnancies were breastfed, compared to 61% of births following unplanned pregnancies overall and only 56% of births following unwanted pregnancies.<sup>25</sup>
- Numerous studies find that such differences persist even after controlling for both observable and unobservable differences in background and demographic characteristics of the mothers.<sup>26</sup>
- One study found that women whose pregnancies were unwanted were both less likely to begin breastfeeding and, if they did, more likely to discontinue within a short period of time.<sup>27</sup>

## Birth Spacing

Preventing unplanned pregnancy and better timing of pregnancy can contribute to maternal and infant health not only by supporting healthier maternal behavior, but also by increasing intervals between births. Pregnancies spaced closer than 18 months apart



**Optimal birth spacing is nearly four times greater among women using the most effective contraception.**

are considered to be risky, and one goal of Healthy People 2020—the Federal Government’s 10 year national objectives for improving the health of Americans—is reducing the percentage of these pregnancies that are too closely spaced from 33% to 30%.<sup>28</sup>

While there is extensive research on the benefits of adequate pregnancy spacing, research is limited regarding what factors promote or hinder pregnancy spacing. Even so, it stands to reason that being able to plan pregnancy can help promote adequate pregnancy spacing, and one recent study found strong evidence to this effect:<sup>29</sup>

- The study found, not surprisingly, that unplanned pregnancy accounted for more than half (55%) of all births occurring within 18 months or less of a prior birth.
- A birth was significantly more likely to fall within 18 months or less of a previous birth if it resulted from an unplanned pregnancy, even after netting out the influence of mothers’ other characteristics.
- In fact, compared to a birth resulting from a planned pregnancy, the odds of short birth interval were nearly five times greater for births resulting from mistimed pregnancies and roughly two times greater for births following unwanted pregnancies, net of other factors.

Given that contraception can help women plan their pregnancies, it is not surprising that another recent study found a strong link between using effective birth control methods and healthier spacing of pregnancies. Specifically, the odds of achieving optimal birth spacing were nearly four times greater among women using the most effective methods (either the IUD or the implant) after their most recent birth and nearly two times greater among women using other hormonal methods, compared to women using barrier methods such as the condom, net of other factors.<sup>30</sup>

Maternal and child health are greatly improved through adequate birth spacing and good preconception and prenatal care.

## Infant Health

Each year, 12% of infants are born preterm and 8% of infants are born with low birthweight.<sup>31</sup> Although the preterm birth rate has declined steadily since 2006, it still remains higher than in 1990. In addition to increasing the infant's risk of death in its first few days of life, infants born preterm and/or with low birthweight are at risk of serious health problems—primary among these are visual and hearing impairments, developmental delays, and behavioral and emotional problems that range from mild to severe.<sup>32</sup> And while infant mortality remains a relatively rare event, it is nonetheless nearly twice as prevalent in the United States as compared to Western Europe.<sup>33</sup>

Unplanned pregnancy overall is associated with significantly higher rates of preterm birth and low birthweight,<sup>34</sup> and the risk of low birthweight is particularly great following an unwanted pregnancy.<sup>35</sup> In fact, babies were two-thirds more likely to be born with low birthweight if they followed an unwanted pregnancy as compared to a planned pregnancy.

There is some evidence that the risk of preterm birth and low birthweight is higher following an unplanned pregnancy even after controlling for background and demographic characteristics, though this varies depending on the sample of women observed, the measure of pregnancy intention, and the statistical methods used. One recent meta-analysis of available studies concluded that unplanned pregnancy is associated with greater risk of low birthweight and preterm birth net of other risk factors, while another recent review summarized the results as “inconclusive.”<sup>36</sup> However, some of these studies controlled for the very reasons why pregnancy intention may matter, such as receipt of prenatal care. What remains clear is that unwanted pregnancy, and to some extent all unplanned pregnancy, is a strong risk factor for preterm birth and low birthweight, in part because they are significantly linked to maternal behaviors that contribute to these outcomes.

## Mother's Health

Women's health, including maternal health, matters in its own right, quite apart from the health of infants. Pregnancy—all pregnancy—has health implications for women. Fully one-third of pregnant women in the United States experience complications during delivery, ranging from depression to

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Women who have an unplanned pregnancy are less likely, and often less able, to do the things that best support their health and the health of their baby.



### Postpartum depression is nearly twice as high among women whose pregnancy was unplanned as those with a planned pregnancy.

cesarean delivery.<sup>37</sup> Even excluding the incidence of cesarean delivery, one in four deliveries is associated with serious health concerns including laceration, infection, hemorrhage, gestational diabetes, and preeclampsia. Obviously, contraception can help those women not seeking pregnancy to avoid these risks. What's more, the risk of many adverse health outcomes is even greater for women whose pregnancy is unplanned. For example:

- The CDC reports that postpartum depression is nearly twice as high among women whose pregnancy was unplanned (21% compared to 12%).<sup>38</sup>
- The link between pregnancy intention and maternal mental health has been widely studied. The majority of studies and literature reviews conclude that unplanned pregnancy significantly elevates the risk of postpartum depression or other mental health problems, even net of other factors.<sup>39</sup>
- Another study found that women whose pregnancies were unplanned were significantly more likely to be hospitalized during pregnancy for conditions including kidney infections, vaginal bleeding, high blood pressure, premature labor, and premature rupture of membranes.<sup>40</sup>
- This same study found that most differences were greatly diminished after controlling for other factors such as getting prenatal care and risky behavior such as smoking, suggesting that it may be the link between pregnancy planning and prenatal behavior rather than pregnancy planning itself that has the greatest impact on maternal health.

## What It All Means

**Bottom line: The capacity to plan and space pregnancies—which is typically achieved through the use of birth control—has significant and meaningful benefits for women, children, families, taxpayers, and more.**<sup>41</sup> Pregnancy planning increases the overall educational status of women and communities; it advances the health and wellbeing of children and families; it saves money; and it reduces abortion. As such, birth control deserves widespread support, expressed in a number of ways including minimal cost and access barriers, a prominent place in public health priorities and health care services, and broad political support.



But it is also true that for the most disadvantaged women and communities, the widespread use of birth control alone is not a panacea. For these women and communities, realizing the full benefit of pregnancy planning, spacing, and prevention also requires additional efforts to promote educational attainment, better schools, stronger families, economic opportunities, job readiness, and more. Put another way, birth control alone cannot solve crushing poverty, but it can open the door to increased opportunity.

## Notes

<sup>a</sup> Unplanned pregnancy (also known as unintended pregnancy) refers to a pregnancy that a woman herself reported was not intended at the time of conception. Unplanned pregnancy includes both mistimed pregnancies (that is, the woman reported she did not want to become pregnant at the time the pregnancy occurred but did want to become pregnant at some point in the future) as well as unwanted pregnancies (that is, the woman reported at time of conception that she did not want to become pregnant then or at any time in the future). Many studies summarized here report the effects of unplanned pregnancy overall, while some focus specifically on either unwanted or mistimed pregnancies, as noted previously

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