

Proposal 3: Reducing Unintended Pregnancies for Low-Income Women

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Introduction

Children born to young, unmarried mothers in the United States face an elevated risk of poverty. More than half of births last year to women under the age of thirty were outside of marriage. In 2012, single mothers headed nearly 25 percent of families, compared to 13 percent in 1970 (U.S. Census Bureau 2012). In that same year, 47 percent of children living in single-mother families lived below the federal poverty level, more than four times the 11 percent poverty rate for children living with their married parents (U.S. Census Bureau 2013). Children of single mothers fare less well in school and in life than children of married parents (see McLanahan and Sandefur 1994; Waldfogel, Craigie, and Brooks-Gunn 2010). For these reasons, addressing the situation into which children are born needs to be a key component in our nation's fight against poverty.

Most single mothers claim that their pregnancy was unwanted or mistimed. Because births to unmarried mothers are largely unintended births, we believe that the most realistic approach to slowing the growth of single-parent families is to help women delay childbearing until both parents are ready to raise a child and prepared to make a long-term commitment to the other parent. Doing so will improve child well-being and reduce child poverty rates.

To that end, we propose a social marketing campaign designed to improve knowledge and attitudes about ways to prevent unintended pregnancies so that women can make better-informed decisions. Specifically, we propose that the

U.S. Department of Health and Human Services' Office of Population Affairs (OPA) use Title X monies to fund states for the purpose of launching a social marketing campaign to educate women about the safety, effectiveness, and convenience of long-acting reversible contraceptives, or LARCs. These state-run campaigns would target the population of women most vulnerable to births outside of marriage: low-income women between the ages of fifteen and thirty.

The Challenge

THE GROWTH OF SINGLE-PARENT FAMILIES

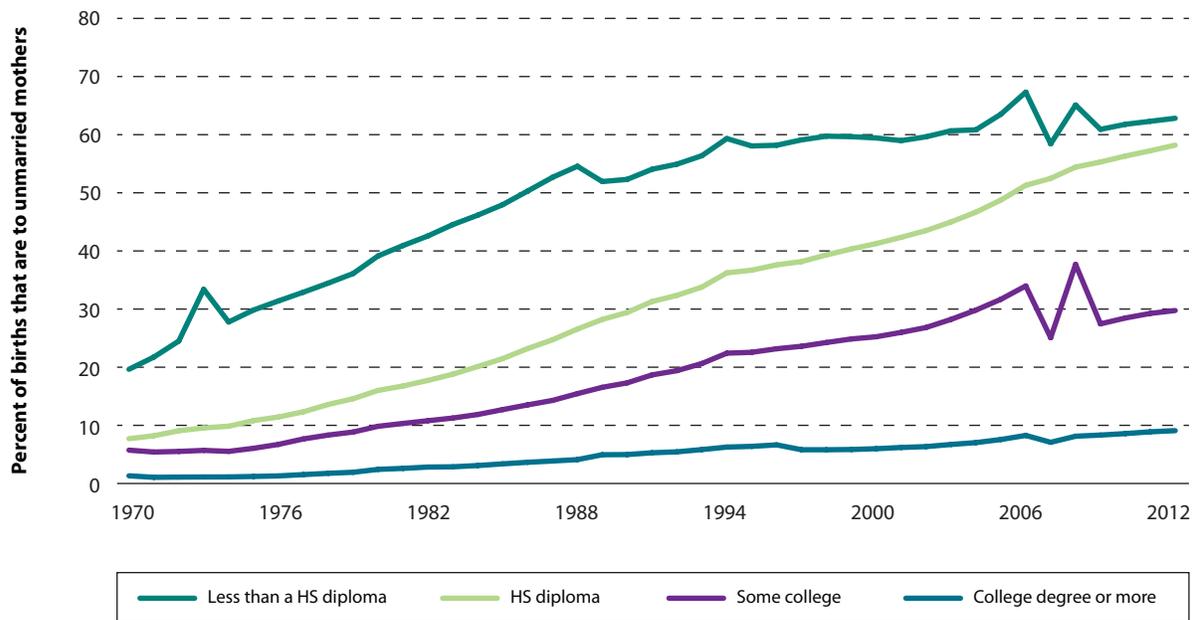
Since about 1980, the growth of single-parent families has been driven almost entirely by an increase in childbearing outside of marriage, often the result of people sliding into relationships and having an unplanned baby.¹ As seen in figure 3-1, this growth has been concentrated among less-educated women.

The result is a growing class divide in family-formation patterns. Combined with growing gaps in income and in education, this widening divide in family structure threatens social mobility (Sawhill 2012; Sawhill and Venator 2014).

Pregnancies and births to unmarried women are largely unplanned. Approximately half of all pregnancies in the United States are reported by the mother as unintended, and that number increases to 70 percent among single women under thirty (Zolna and Lindberg 2012).² Unintended pregnancy rates are highest for women that are the least economically advantaged, as seen in figure 3-2. In particular, unintended

FIGURE 3-1.

Percent of Births to Unmarried Mothers by Education, 1970–2012



Sources: Centers for Disease Control and Prevention 2014; authors' calculations.

pregnancy rates for poor women (women with incomes at or below 100 percent of the federal poverty level) and low-income women (women with incomes between 100 percent and 199 percent of the federal poverty level) are more than triple the rate for women with incomes at or above 200 percent of the federal poverty level.

DELAYING CHILDBIRTH AS AN ANTIPOVERTY STRATEGY

Delaying births is no guarantee that poverty will be reduced. As noted above, most of the increase in unwed childbearing is occurring among less-educated women. Given their disadvantages, they might be poor regardless of whether or not they postponed childbearing.³ For this reason, it is important to combine our proposal with measures to improve the educational and labor-market opportunities of less-advantaged women. But we believe that delaying pregnancy is a crucial step toward improvements in child well-being and in lowered child poverty rates.

Children born to young, unmarried mothers are more likely to fare worse on many dimensions, including school achievement, social and emotional development, health, and success in the labor market. These children are at greater risk of parental abuse and neglect (especially from live-in boyfriends who are not the children's biological fathers), are more likely to

become teen parents, and are less likely to graduate from high school or college (McLanahan and Sandefur 1994; Waldfogel, Craigie, and Brooks-Gunn 2010).

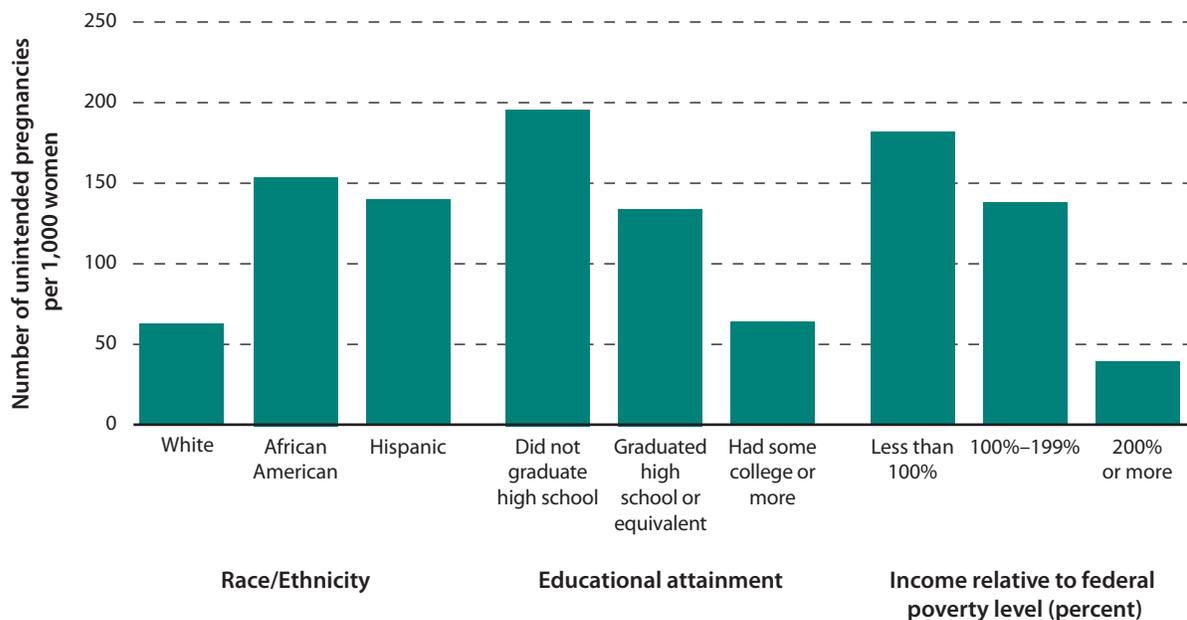
Because unintended births are concentrated among low-income unmarried women, reducing the number of these pregnancies would decrease the number of children born to poor single mothers. A recent paper, based on a simulation with a variety of data sources, suggests that eliminating all unwanted (but not mistimed) births would lower the share of children born into poverty by 2 percentage points and increase the percentage of children born to college-educated mothers by 4 percentage points (Karpilow et al. 2013).

A New Approach

If a large proportion of less-advantaged young adults are having children as the result of unplanned pregnancies, then one way to reduce child poverty is to prevent unintended pregnancies and births. Encouraging more young women to use effective forms of birth control, especially LARCs, can help accomplish that goal. The first step in this process is to increase awareness among young women about the availability, convenience, safety, and effectiveness of these contraceptive devices through a social marketing campaign.

FIGURE 3-2.

Unintended Pregnancy Rates among Unmarried Women in their Twenties



Source: Zolna and Lindberg 2012.

To be effective, this initiative must be combined with efforts to ensure that health providers are well-informed and prepared to provide LARCs, and that there are fewer barriers to affordable health care. More community health centers and the expansion of Medicaid to all states as called for in the Affordable Care Act would help to ensure that providers could accommodate the demands of a social marketing campaign. The Affordable Care Act—with its contraceptive mandate, subsidized premiums, Medicaid expansion, and investment in community health centers—has the potential to transform the health-care landscape. However, there will likely be some groups left uncovered and gaps in coverage for others, especially in states that have so far rejected the Medicaid expansion. In the meantime, our proposal deals with a problem that will exist regardless of any successful expansion of health-insurance coverage.

THE EFFECTIVENESS OF LARCS

The class of contraceptive devices referred to as LARCs includes implants and intrauterine devices (IUDs).⁴ These have very low failure rates (<1 percent), far lower than the two most commonly used forms of contraception: condoms (18 percent) and the Pill (9 percent). According to a study in the St. Louis area that gave women free contraception and counseling on the efficacy of different contraceptive methods, women who used the Pill, a transdermal ring, or a hormonal

patch were twenty times more likely to get pregnant than were women who used a LARC (Secura et al. 2010). A LARC is roughly forty times more effective than a condom. The greater effectiveness of LARCs compared to condoms or the Pill has less to do with their ability to prevent a pregnancy—assuming full compliance with a method—and much more to do with the fact that they change the default from being protected only when the method is used consistently and correctly, to always being protected, regardless of what the user does. They are also easy to use and reversible. Once a woman and her partner decide that they want a baby, they can choose to remove the device with a quick return to the clinic.

THE ROLE OF SOCIAL MARKETING CAMPAIGNS

Health behaviors—particularly risky ones like smoking, unhealthy eating, or unprotected sex—are influenced by social norms and individual motivation. Social marketing campaigns identify these norms and the behaviors that need to be changed, and create messages tailored to reach those people engaging in risky behaviors. An effective, well-communicated message can influence behavior in a positive way.

Campaigns focused on health behavior have proved effective in the past. For example, the American Legacy Foundation's Truth campaign, aimed at reducing smoking among teens, has been credited with changing attitudes about tobacco and

BOX 3-1.

Prevention First Colorado

Colorado implemented the Prevention First Colorado campaign in the Denver area in 2009. The first part of the campaign involved placing health educators in a few clinics in Denver who are responsible for contraceptive education, counseling, and patient follow-up. Doctors in these clinics typically have limited time to spend with patients so these educators allow for more one-on-one time for patients and more-extensive follow-up to reduce the number of patients who use birth control inconsistently. Health educators also automatically sign up patients who are starting a new contraceptive method for a three-month follow-up appointment in order to help them maintain consistency in use. The second part of the campaign is a public education effort, which uses direct mail, bus ads, posters, Web sites, print ads, brochures, and community presentations about the benefits and availability of contraception. The Prevention First Colorado campaign specifically focuses on encouraging the use of the LARCs and uses messages like, “Life is full of surprises, pregnancy shouldn’t be one of them” to encourage young women to go to clinics run by Women’s Health. As this campaign is still under way, evaluations of the effectiveness of the campaign are not yet available.

reducing the number of teens who smoke by 22 percent over three years (Farrelly et al. 2005). Campaigns about sexual behaviors have been less common and, until recently, have typically focused on condom use and HIV awareness. On average, these campaigns increased positive sexual behaviors among the target population (e.g., men using a condom) by as much as 6 percentage points (Evans, Silber-Ashley, and Gard 2007; Sawhill, Thomas, and Monea 2010). While 6 percent may sound small, given the broad reach of such campaigns, their cost-effectiveness is high. One approach of social marketing campaigns is to embed messages in popular television shows. An analysis of MTV’s *16 and Pregnant* suggests that the message broadcast by the show (that is, the difficult reality of becoming a teen mother) led to roughly a 6 percent reduction in teen births between June 2009 and the end of 2010 (Kearney and Levine 2014).

A social marketing campaign targeting unintended pregnancy would aim to produce continuous protection against pregnancy (through LARCs) since the main cause of unintended pregnancies, almost as important as nonuse, is inconsistent use. More than half (52 percent) of unintended pregnancies are due to nonuse of contraception, 43 percent are due to inconsistent or incorrect use, and only 5 percent are due to method failure (Gold et al. 2009).

Within the goal of encouraging more-consistent use of contraception, the campaign would be designed around four objectives, drawing in part on lessons learned from past or ongoing campaigns in Colorado and Iowa with similar goals (see boxes 3-1 and 3-2).

The first objective is to educate young women about the risks of pregnancy and to motivate them to protect against an unplanned pregnancy. The most commonly cited reason for

not using contraception given by women in a government survey was, “I didn’t think I could get pregnant” (Mosher and Jones 2010). Other evidence suggests that many young people who have had unprotected sex and not gotten pregnant infer (incorrectly) that they cannot or will not get pregnant from subsequent sexual encounters (Frohworth, Moore, and Maniaci 2013). Focus group research in Colorado further suggests that many women are in denial about the risks of pregnancy (Prevention First Colorado 2009).

The second objective is to educate young women on contraceptive options and dispel myths surrounding contraception, especially with regard to LARCs. Despite their effectiveness, only about 9 percent of women on contraception use IUDs (Finer, Jerman, and Kavanaugh 2012). Among sexually active women aged twenty to twenty-four, about 3 percent use IUDs as their primary form of contraception, 27 percent use the Pill, 7 percent use another hormonal method (e.g., patch, injectable, or contraceptive ring), and 15 percent rely on condoms; 42 percent of sexually active women in this age group report using no contraception (Jones, Mosher, and Daniels 2012).

Young women also seem to lack knowledge about the range of birth control options available to them. One-fourth of young adults have never heard of IUDs and more than half have never heard of the implant (Kaye, Suellentrop, and Sloup 2009). Even when LARCs are readily available, women do not always take advantage of them because of spurious concerns about side effects spread through word of mouth. For example, a third of young adults still mistakenly believe that IUDs often cause infections, partially because of the continued fallout from Dalkon Shield’s faulty design in the 1970s (*ibid.*).

BOX 3-2.

Avoid the Stork

The Avoid the Stork campaign in Iowa, launched in early 2010, targeted women ages eighteen to thirty through television ads, billboards, print and Web ads, college events, and giveaway promotions. The campaign used humor and created a brand around the concept of avoiding unintended pregnancy: the mascot was a large, awkward stork who would interrupt a person's life to represent the consequences of a pregnancy. Development of the campaign took approximately a year, including time to pilot test the ads among a subsample of college students. By the end of the campaign in 2011, over 70 percent of surveyed women reported having seen or heard of the campaign; Iowa has seen a 4 percentage point decline in unintended pregnancies between 2009 and 2011. (This box is based on Pederson 2012.)⁵

However, the latest research suggests that LARCs are safe for women of all ages, including adolescents and both pre- and post-childbearing women (Espey and Ogburn 2011; Peterson and Curtis 2005; Tolaymat and Kaunitz 2007). Some women experience negative side effects, such as perforation and infection; the likelihood of those two issues arising from an IUD today, however, is less than 0.1 percent (Hubacher et al. 2001; Stoddard, McNicholas, and Peipert 2011). Implants have similarly been found to be efficacious and safe (Darney et al. 2009). Changing the message about contraception to encompass more than just condom use or the Pill is important, and campaigns in Colorado and Iowa have already started to enlighten young women through social marketing and educational counseling.

The third objective is to convince women that LARCs are not just safe and effective, but also a low-maintenance and hassle-free form of contraception, well-suited to women with busy lives. The primary problem for some women is not access to contraception, but rather their ability to use it consistently—to always use a condom in the heat of the moment, to remember to take a Pill, or to get their prescription refilled so that there are no gaps in protection. When asked why they were not using contraception, many women who had an unintended pregnancy reply, “I simply wasn’t thinking” (Edin et al. 2007). Focus group research in Colorado showed that many women often simply forget to take the Pill (Prevention First Colorado 2009). A social marketing campaign needs to persuade women that LARCs are the “no worry” and “no hassle” way to ensure that they are effectively protected against an unplanned pregnancy.

It should be noted that these campaigns would not be advocating that women use LARCs as their sole method of birth control. Rather, the campaigns would emphasize LARCs’ efficacy in reducing pregnancy while also counselling that they do not protect against sexually transmitted diseases (STDs). One of the benefits of the campaign model we are proposing is that it encourages women to go to clinics

to talk to trained professionals about birth control. These trained professionals would advise women on all aspects of sexual health, including the importance of continued use of condoms and regular STD testing.

A fourth objective of the campaign is to make sure that once a woman is motivated to use a LARC, she will be able to easily find a clinic or health-care provider who has a supply of LARCs on hand and whose staff is trained to provide the appropriate counseling and care. Unfortunately, many physicians are not up-to-date or trained in how to provide LARCs to their patients (Dehlendorf et al. 2010; Harper et al. 2008; Madden et al. 2010). Both the Colorado and Iowa campaigns provided training to all clinic staff, and not just to physicians. The University of California, San Francisco Bixby Center for Global Reproductive Health is conducting a major study (2014) testing the effects of improved training for family-planning clinicians on access to and use of LARCs. Their randomized trial has been underway since 2008 and the results are not yet available, but concern about provider knowledge and training is widespread among those in the field. Although the focus here is on the social marketing campaign, we strongly recommend that any campaign be combined with efforts to make sure that providers are well-prepared when clients show up. Expanding on this effort in detail is outside the scope of the current proposal.

IMPLEMENTATION DETAILS

For states looking to follow the models set by Iowa and Colorado, the first step would be to secure funding for a social marketing campaign. Both of these programs were created through a private-public partnership, but past campaigns (such as the Don’t Kid Yourself campaign in the 1990s; see box 3-3) have been federally funded under Title X (Weinreich 1999). We propose that the OPA set aside \$100 million per year (\$500 million over five years) under Title X specifically for states that intend to create social marketing campaigns to combat unintended pregnancy. Public-private partnerships would be encouraged as well. The deputy assistant secretary

BOX 3-3.

Don't Kid Yourself

In 1996, six states (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming) implemented Don't Kid Yourself, a campaign with the goal of reducing unintended pregnancy among low-income women between the ages of eighteen and twenty-four. They used radio ads, newspaper ads, posters, and drink coasters in bars, clubs, and coffee shops to spread messages encouraging the use of birth control and providing information about how to get birth control at family-planning clinics. Their pilot program in two cities was a success, but when they expanded regionally to fifty-five cities in all six states, there was a much lower exposure rate—only 15 percent of the target population reported being exposed to the campaign. However, the message was somewhat successful among those it reached. Three-fourths of those exposed initiated conversations with significant others about birth control due to the campaign, and more than 55 percent of those exposed reported calling a family planning clinic for more information. (This box is based on Weinreich 1999.)

for Population Affairs would award funds on a competitive basis, with eligibility criteria adapted from current Title X guidelines. These criteria include the size and needs of the community, the number of low-income women served by a grant, the capacity of the applicant to carry out their proposal given community resources and staffing, adequacy of the applicant's implementation plan given past research, and the relative availability of nonfederal resources within the community to be served. Some degree of market segmentation might be allowed, involving different target groups and different messages, depending on what more-detailed research showed about the needs in a particular state or area of the country. However, the OPA would provide a template based on its research and the advice of a major marketing firm on the best messages to use. This template could serve as the default in each case, but states could request deviation from the plan based on their specific needs.

During the first year of this initiative, the OPA would issue requests for campaign proposals from state governments. States applying for grants would be encouraged to consult widely with various stakeholders in the state and to evaluate the specific needs of their state or region through surveys and focus groups among the target population. For example, Colorado conducted four focus groups and forty individual, private interviews with low-income women between the ages of eighteen and twenty-four to better understand the perceived barriers to consistent contraceptive use among that specific population. Iowa conducted three statewide surveys, multiple focus groups, and in-depth interviews around the state to understand how people viewed the issues surrounding contraception. Focus groups not only would help explore barriers to contraceptive use, but also would help to evaluate the ways in which the target population gets information. For example, Iowa targeted community colleges because they were able to draw large concentrations of twenty-somethings to

events. Colorado used coasters in bars. Both campaigns also used television ads, billboards, print ads, and mailings.

We propose that the federal government work with a private consulting firm or nongovernmental organization to develop the default brand and message for the campaign; we believe that providing this information to all grant applicants would be helpful in avoiding reinvention of the wheel each time. Iowa's Avoid the Stork campaign worked with Worldwide Social Marketing to develop three different concepts that were then tested with a subsample of their target demographic. They eventually settled on a humorous brand with a memorable mascot, but other campaigns, such as Don't Kid Yourself and Prevention First Colorado, used a more straightforward message about the consequences of a surprise pregnancy.

Clear metrics of success should be established in evaluating the campaign; one such requirement for funding would be the willingness to submit to an independent evaluation of the campaign's success. Many past campaigns have focused on exposure to the ads, and not on changes in attitudes toward LARCs or changes in behavior, such as the number of unintended pregnancies or births averted. Some campaigns, such as the multistate intervention Don't Kid Yourself in the 1990s, had very poor exposure rates; however, Don't Kid Yourself had positive effects on behavior among the 15 percent of the population that it reached. Important metrics to evaluate are exposure to the campaign, the number of women who switched contraception methods as a result of exposure to the campaign, the number of women who contacted clinics advertised through the campaign, attitudes toward LARCs, the number of pregnancies, the number of unintended pregnancies and/or pregnancies that occurred among unmarried couples, the number of users of specific contraception methods, and the number of abortions before, during, and after the campaign. Future campaigns can learn from past campaigns' successes and failures only if the

evidence clearly relays who the campaigns reach and how they affect those they reach. These metrics should be collected on a state-by-state basis at the six-month, one-year, three-year, and five-year marks to capture both short- and long-term effects of the campaign and any differences based on implementation across states.

COSTS AND BENEFITS

Compared to other antipoverty programs, social marketing campaigns are very cost-effective. In fact, most evidence suggests that they save money. Consider a \$100 million annual investment that reaches one-fourth of unmarried women between ages fifteen and thirty in this country. Assume that 5 percent of these women shift to a LARC each year as a result of the campaign, half of them from using a condom and half from using no contraception. The resulting reduction in unintended pregnancy each year would be about 160,000 averted pregnancies. Of the 40 percent (or 67,000) of unintended pregnancies carried to term, about half of these births (approximately 34,000) are to women living below the poverty line. Monea and Thomas (2010) estimate a total taxpayer savings of \$24,000 for each averted birth to a poor or low-income woman. Of the 34,000 averted births in this scenario, about 10,500 would not occur at all, resulting in savings of \$253 million per year; the remaining births would be delayed on average by two years, resulting in additional savings of \$280 million per year.⁶ This means that the savings to taxpayers would be over \$500 million per year, yielding a cost-benefit ratio of about five to one. If we loosen our assumptions to include all births to women eligible for Medicaid-covered pregnancy costs (i.e., women below 200 percent of the federal poverty level) rather than just births to poor women (i.e., women below 100 percent of the federal poverty level), the cost-benefit ratio increases to eight to one.

Previous studies of costs and benefits have shown a similar benefit-to-cost ratio for taxpayers. For example, Thomas (2012) finds that a social marketing campaign costing \$100 million per year will result in approximately a 4 percent reduction in unintended pregnancies, roughly a 2 percent reduction in the number of children born into poverty, and savings of \$431 million to taxpayers per year. The taxpayer-savings figure includes not only reduced Medicaid payouts for prenatal and pregnancy care, but also an estimate of the cost to taxpayers of publicly subsidized benefits (e.g., through the Temporary Assistance for Needy Families and the Earned Income Tax Credit) for the children until the age of five (Monea and Thomas 2011).

These calculations count only the public benefits of reducing unintended pregnancies. There would be additional benefits for a mother of delaying a birth until she is ready, such as

being able to stay in school or finding a stable partner before having children (Lichter and Graefe 2001; Ng and Kaye 2012). Furthermore, the benefits to the children of being born to older parents in more-stable relationships are large.

Questions and Concerns

Do social marketing campaigns really work?

Some do and some do not. It is important that any campaign be well-funded and well-designed to achieve a set of specific objectives. In addition, there needs to be local buy-in, which is why we recommend that states must make an active decision to apply for grants and that the OPA evaluate applications based, in part, on whether the state has sought and obtained local buy-in. In addition, the campaign will not be effective unless funding for all forms of FDA-approved contraception is available following the implementation of the Affordable Care Act in the states, and unless providers are trained to provide all forms of contraception. With these caveats, as noted in the text, campaigns can change the behavior of perhaps 5 percent of the target population and avert a large number of births to poor women.

Won't these women be disadvantaged and their babies poor no matter when they give birth?

By permitting women to complete more education, to gain more work experience, and to form a stable two-parent family, the odds that any child will be born into poverty are reduced. Moreover, women who defer childbearing until they want to be parents are likely to access more prenatal care, to be better parents, and to create better life prospects for the child.

Do these women who say they are having unintended pregnancies really mean it?

Unintendedness is a continuum. There is no bright line between a birth that is planned and one that is unplanned. Some women (and their partners) are clearly ambivalent or simply do not plan at all. That said, the only hard data we have suggest that rates of unintended pregnancy are very high, especially among poor women. A large number will abort the pregnancy. On the other hand, the fact that so many say the pregnancy was unintended—and that mothers say this even after they have bonded with their newborn infant—tends to bias answers to this question downward, not upward.

Is it politically realistic for the government to fund a social marketing campaign in such a contentious arena?

Contraception is a politically contentious issue. Prior efforts to increase access to contraception have been met, at times, with

substantial political opposition; in some cases this opposition has successfully derailed public programs. Still, many programs have been implemented despite this opposition. In particular, we note the success in implementing social market campaigns in Iowa and Colorado—two states that fall in the middle of the political spectrum. Thus, while we acknowledge that political sentiment is a formidable obstacle to universal take-up of social marketing campaigns aimed at contraception use, the successes in Iowa and Colorado suggest that this barrier will not prove insurmountable in a wide swath of states.

Conclusion

Children born to young, unmarried parents are much more likely to grow up in poverty than are those born to older and/or married parents. Many of these children are born to women who did not intend to get pregnant, and who state that the pregnancy was either unwanted or mistimed. Reducing the number of children born to these mothers would significantly reduce the number of children born into poverty. Creating greater awareness of the risks of pregnancy and how to reduce that risk will help women match their childbearing behaviors to their intentions and make it easier for women to delay pregnancy until they can give their child a stronger start in life. All the evidence suggests that this proposal to launch social marketing campaigns would reduce unintended pregnancies and births, reduce child poverty, and save the government money in the process. Family planning by itself will not eliminate child poverty, but it is an important step in the process.

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Endnotes

1. In an increasing number of cases these unmarried mothers are living with the father of the child at the time of the birth, but these cohabiting relationships are much less stable than marriages and typically break up before the child is age five.
2. The term “unintended” comes from the National Survey of Family Growth, which asks women to characterize the intentionality of their pregnancies and births at the time they first learned of their pregnancy. If they say the pregnancy was unintended, they are further asked whether it was “unwanted” or “mistimed.” An unwanted pregnancy is one the woman did not want ever, whereas a mistimed pregnancy is one that simply came earlier than she might have wanted—in some cases by only a year, but in other cases by many years.
3. Literature on teen pregnancies suggests that most of the correlation between having a baby as a teen and later outcomes is due to confounding factors or unobserved traits of the women involved. Quasi-natural experiments find that teenagers who miscarry their pregnancy do not have significantly better outcomes than teenagers who carry their child to term (Hotz, McElroy, and Sanders 2005). However, the broader literature on the effects of contraception shows that it has increased women’s educational and labor-market achievements quite dramatically (Bailey, Hershbein, and Miller 2012; Goldin and Katz 2002).
4. An IUD is a contraceptive device that a provider inserts into a patient’s uterus; an implant is a contraceptive device that a provider places under a patient’s skin, typically on the arm. Both procedures need to be done by a trained health-care provider, usually a physician. Both last up to three years, with some brands of IUD lasting up to twelve years.
5. This social marketing campaign coincided with Iowa’s expansion of Medicaid family planning services in 2010 and a huge increase in funding for family planning clinics starting in 2007, so we cannot conclusively attribute this whole effect to the social marketing campaign. However, it should be noted that the decline in pregnancies accelerated during the campaign. Whereas the percent of unintended pregnancies dropped from 46.1 percent to 45.2 percent between 2007 and 2009, it dropped from 45.2 percent to 40.9 percent between 2009 and 2011.
6. The estimate of taxpayer savings for mistimed births does not account for the fact that delaying a birth may result in a woman having fewer children overall or may result in an improvement of her living situation during the intermittent years. It does, however, account for the fact that the present discounted value of future benefit payouts is less than the value of payouts now. See Monea and Thomas (2010) for more information on how to derive this formula.

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