

An Ounce of Prevention: Policy Prescriptions to Reduce the Prevalence of Fragile Families

Isabel Sawhill, Adam Thomas, and Emily Monea

Summary

Isabel Sawhill, Adam Thomas, and Emily Monea believe that given the well-documented costs of nonmarital births to the children and parents in fragile families, as well as to society as a whole, policy makers' primary goal should be to reduce births to unmarried parents. The authors say that the nation's swiftly rising nonmarital birth rate has many explanations—a cultural shift toward acceptance of unwed childbearing; a lack of positive alternatives to motherhood among the less advantaged; a sense of fatalism or ambivalence about pregnancy; a lack of marriageable men; limited access to effective contraception; a lack of knowledge about contraception; and the difficulty of using contraception consistently and correctly.

Noting that these explanations fall generally into three categories—motivation, knowledge, and access—the authors discuss policies designed to motivate individuals to avoid unintended pregnancies, to improve their knowledge about contraception, and to remove barriers to contraceptive access. Some motivational programs, such as media campaigns, have been effective in changing behavior. Some, but not all, sex education programs designed to reduce teen pregnancy have also been effective at reducing sexual activity or increasing contraceptive use, or both. Programs providing access to subsidized contraception have also been effective and would be even more so if they could increase the use not just of contraceptives, but of long-acting, reversible contraceptive methods such as intrauterine devices (IUDs) and implants.

Finally, the authors present simulations of the costs and effects of three policy initiatives—a mass media campaign that encourages men to use condoms, a teen pregnancy prevention program that discourages sexual activity and educates participants about proper contraceptive use, and an expansion in access to Medicaid-subsidized contraception. All three have benefit-cost ratios that are comfortably greater than one, making them excellent social investments that can actually save taxpayer dollars.

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Forty percent of all U.S. births in 2007 were nonmarital.¹ The share of infants born to unmarried women under the age of thirty was even higher (52 percent).² Out-of-wedlock childbearing has now surpassed divorce as the primary driver of increases in unmarried-parent families.³ Devising policies to address the increase in the number of single-parent families in recent years thus requires focusing on nonmarital childbearing or “fragile families”—that is, families in which the parents were unmarried at the time of their child’s birth.

In this article, we argue that policy makers should be doing everything possible to reduce the prevalence of fragile families. Authors of other articles in this volume argue in favor of providing essential supports to such families, and we would not want to argue against doing so. But given the costs imposed by fragile families on children, society, and the adults involved, it would be better still to limit the growth of these families.

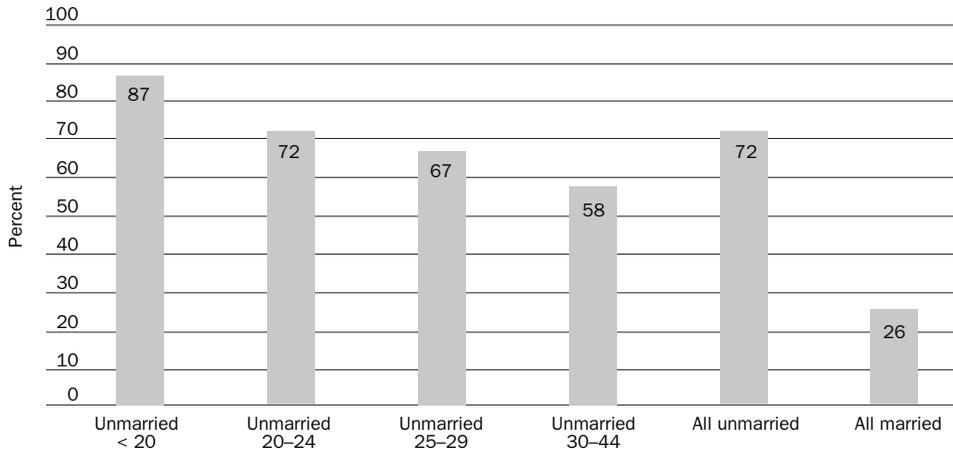
There is a growing consensus among researchers about the negative effects of unmarried parenthood on the children involved. The evidence, which is reviewed by Jane Waldfogel, Terry-Ann Craigie, and Jeanne Brooks-Gunn in their article in this volume, suggests that the best environment for children is a stable two-parent family. Children in single-parent families are more than four times as likely to be poor as children with married parents (with the children of cohabiting parents falling somewhere in between). Children in fragile families also face a wide range of cognitive, emotional, and social problems as they mature.⁴ Some of the differences between children in single- and two-parent families are attributable to the

fact that the adults most likely to become single parents have different characteristics, and are generally more disadvantaged to begin with, than parents who are married. But even after controlling for most of these differences, researchers still find that children in single-parent or cohabiting families fare less well than those with married parents.⁵

Taxpayers are also adversely affected by the growth of fragile families. The difficult economic circumstances of single parents make it more likely that they will be dependent on government aid to support their children. Fragile families are far more likely than married families to be on welfare and to receive food stamps, benefits from the Women, Infants, and Children (WIC) nutrition program, Medicaid, housing assistance, the earned income tax credit (EITC), and other forms of assistance.⁶ As Ariel Kalil and Rebecca Ryan discuss in their article in this volume, 53 percent of never-married mothers in 2004 were receiving some form of public assistance (excluding the EITC).⁷

The effects on parents of out-of-wedlock childbearing have been much debated. Most studies have focused on teenage mothers rather than on all unwed mothers or cohabiting couples. Some have found no adverse effects on women who gave birth as teenagers while others, using better control groups and more recent data, have shown modest adverse effects.⁸ One well-controlled study shows that teenage childbearing reduces the probability of receiving a high school diploma by 5 to 10 percentage points and reduces annual income by \$1,000 to \$2,400.⁹ Keeping in mind that almost 40 percent of unwed childbearing begins during the teenage years, these studies shed some light on the consequences of the formation of a fragile family for the adults involved.¹⁰

Figure 1. Unintended Pregnancies as a Share of All Pregnancies by Age and Marital Status, 2001



Source: Special tabulations of unpublished data by the Guttmacher Institute for the National Campaign to Prevent Teen and Unplanned Pregnancy. Published data presented in Lawrence B. Finer and Stanley K. Henshaw, "Disparities in Rates of Unintended Pregnancy in the United States, 1994 and 2001," *Perspectives on Sexual and Reproductive Health* 38, no. 2 (2006): 90-96.

The adverse effects on mothers should not be surprising given that the vast majority of pregnancies to young unwed women were not planned at the time of conception. Among all pregnancies to unmarried teens in 2001 (the latest year for which data are available), 87 percent were unintended; for all unmarried women the share was 72 percent. By comparison, only slightly more than a quarter of pregnancies to married women were unintended in that year (see figure 1).

Almost half of these unintended pregnancies to unmarried women (48 percent) are aborted and thus never lead to the formation of a fragile family.¹¹ The high rate of abortion is a strong indicator that many of the unmarried women who are getting pregnant not only did not intend to get pregnant but feel strongly enough about the inappropriateness of the pregnancy to terminate it. Their access to abortion as one means of resolving an unintended pregnancy raises both practical and moral questions.

At the practical level, access to abortion is constrained by the limited number of providers, high costs, and the very limited availability of public funds to pay these costs.¹² Because private insurance also plays a relatively small role in helping women afford abortions, the result is that a very high proportion of them are paid for out of pocket, making it impractical for many young or low-income women to avail themselves of this option.¹³

Access to abortion also raises a host of moral questions, and the nation's culture war over abortion likely will not end any time soon. While for the first time more Americans identify themselves as pro-life than pro-choice, there is also a strong sentiment in the United States in favor of working toward reducing the need for abortions while at the same time protecting a woman's right to have one.¹⁴ In keeping with this sentiment, and because most women themselves do not relish the prospect of having to undergo an abortion, our focus in the remainder of

this article is primarily on preventing unintended pregnancies among young, unmarried women. If such prevention efforts are successful, both pro-life and pro-choice advocates should be pleased. Shifting the focus to the prevention of unplanned pregnancies and in turn reducing the need for abortion is likely to garner much wider support than focusing on abortion alone. As President Barack Obama stated during his 2008 presidential campaign, “We may not agree on abortion, but surely we can agree on reducing the number of unwanted pregnancies.”¹⁵

Why So Many Unintended Pregnancies and Unwed Births?

Before we can address the question of how to reduce the prevalence of fragile families, we must first examine why so many women are having babies on their own. Possible explanations include: a cultural shift toward greater acceptance of unwed childbearing; a lack of positive alternatives to motherhood, especially among the most disadvantaged, or a sense that parenthood confers status or meaning on one’s life; fatalism, ambivalence, or lack of planning (as in comments to the effect that “children come from God” or pregnancy “just happens”); a lack of marriageable men, which makes unwed parenting a fallback option for women who want children; the limited availability, high cost, or both, of the most effective forms of contraception; a lack of knowledge about contraception or concerns about its side effects; and, finally, the difficulty of using contraception consistently and correctly, especially in “the heat of the moment.”

Research provides some evidence in favor of each of these hypotheses, and probably all play some role, differing in importance from one individual to another. We review each hypothesis in turn, along with the readily

available evidence to assess its importance. The review provides a useful context for our later discussion of the specific programs that might reduce unplanned and unwed births and the fragile families they create.

Cultural Norms

Attitudinal data consistently demonstrate that Americans have become increasingly accepting of premarital sex, cohabitation, and having children outside of marriage over the past few decades.¹⁶ The trend largely reflects the more liberal views of younger generations, although attitudes within older generations have shifted as well. Nonetheless, even though the stigma attached to nonmarital childbearing has diminished, most Americans still believe that single women having children is bad for society.¹⁷

A Lack of Positive Alternatives to Single Motherhood

One reason that many less-advantaged unmarried young women may face an unplanned pregnancy with relative equanimity, or may even choose to have a baby, is that they perceive the adverse consequences for themselves as being small. As already noted, their life prospects are so constrained by their family background and their poor schooling that becoming an unmarried mother may do little to diminish them further.¹⁸

In fact, for some less-advantaged women, parenthood, even if it is outside of marriage, may be desired for its positive benefits. In-depth interviews conducted by Kathryn Edin and Maria Kefalas with a small sample of lower-income unmarried mothers provide some evidence for this hypothesis, with many of the women crediting their children for “virtually all that they see as positive in their lives.”¹⁹ Edin and Kefalas do not claim that these mothers got pregnant because

they sought these positive outcomes. But they do argue that childless girls in communities similar to the one they studied are surely influenced to some degree by “the self-proclaimed transformations motherhood has wrought in the lives of so many” of the women around them.²⁰

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Fatalism and Ambivalence

It would be a mistake, based on the foregoing, to conclude that less-advantaged women tally up the benefits and costs of early or out-of-wedlock childbearing and make a rational and considered decision to embark on this lifestyle. As noted, most of the pregnancies that lead to the formation of a fragile family are unintended, and for many women, becoming pregnant involves little decision making.

A nationally representative survey conducted by the Guttmacher Institute for the National Campaign to Prevent Teen and Unplanned Pregnancy (the National Campaign) found a strong sense of fatalism and ambivalence among the young unmarried men and women surveyed. Indeed, the survey found that 38 percent of men and 44 percent of women agree or strongly agree with the statement, “It doesn’t matter whether you use birth control or not; when it is your time to get pregnant it will happen.” Furthermore,

among those who report that it is important for them to avoid pregnancy right now, 32 percent say that they would be pleased if they found out today that they or their partner were pregnant.²¹ As the National Campaign writes, ambivalence is “rampant” among these young men and women.²²

A Lack of Marriageable Men

Perhaps another reason why unintended pregnancy and out-of-wedlock childbearing are on the rise is that women, especially low-income minority women, are unable to find men suitable to marry and raise families with. This view was first posited by William Julius Wilson and Kathryn Neckerman in 1986. They argued that high unemployment, weak connections to mainstream employers, and rising levels of imprisonment created a shortage of marriageable black men, leading to a decline in marriage and a sharp increase in nonmarital childbearing.²³

Despite some evidence in support of this hypothesis, most recent research has cast doubt on its importance. In their review of the research, David Ellwood and Christopher Jencks conclude that although both men’s economic opportunities and the ratio of men to women in a given geographic area or within a demographic group are related to marriage rates, neither men’s real wages nor the ratio of men to women has changed enough over the past several decades to explain a substantial fraction of the decline in marriage.²⁴

Availability and Cost of Contraception

The high cost and limited availability of contraception may also explain the high rate of unintended pregnancy among unmarried women. Some forms of contraception, such as the male condom, are relatively cheap and readily available in most drugstores or other

retail establishments. However, other forms that are more effective or less susceptible to user error—such as the implant or an intra-uterine device (IUD)—cost considerably more in terms of both the up-front investment of money and the need to access clinical services to use them.²⁵ In these cases, cost could prove a formidable barrier to use by lower-income women unless they are covered by Medicaid, have access to a publicly funded clinic, or are fortunate enough to have private insurance.

Substantial federal funding is available to assist those with low incomes or other access problems in obtaining contraception; indeed, in fiscal year 2006, \$1.85 billion in public funds went to family planning services.²⁶ Although Medicaid was the most important source of national funding, Title X of the Public Health Service Act also played a substantial role.²⁷ Eligibility for Medicaid-subsidized family planning services has traditionally been limited to pregnant women and mothers whose incomes fall below a very low threshold.²⁸ Over the past decade and a half, however, nearly half of the states have obtained Medicaid family planning waivers that allow them to expand greatly the availability of these services. These states are able to offer family planning services free of cost-sharing to all women of childbearing age—regardless of whether they are pregnant or have children—with incomes generally up to 185 or 200 percent of poverty.²⁹

Although the cost and availability of family planning services can be an issue for some, it does not seem to be an insurmountable barrier for the vast majority. For example, the National Campaign found that only 17 percent of men and women aged eighteen to twenty-nine agree with the statement: “I/my partner would use better methods, but they

Many people who are at risk of an unintended pregnancy are ill-informed about various aspects of sex and pregnancy, have concerns or fears about using specific types of contraception, or both.

cost too much.”³⁰ And in a 2004 nationally representative survey of women aged eighteen to forty-four, the Guttmacher Institute found that cost and access were not the reasons women most commonly cited for nonuse or inconsistent use of contraceptives.³¹

Lack of Knowledge, Fears, and Myths about Contraception

Evidence suggests that a more important barrier to the use of contraception is that many people who are at risk of an unintended pregnancy lack the knowledge necessary to make the best decisions about their reproductive health. Many are ill-informed about various aspects of sex and pregnancy, have concerns or fears about using specific types of contraception (often those that are the most effective), or both.

In its nationally representative survey of unmarried young adults noted above, the National Campaign found that only about half of this group said that they used contraception regularly. About six in ten said they know “little” or “nothing” about birth control pills, and three in ten said they know “little” or “nothing” about condoms. The survey also found that myths and misinformation about

pregnancy and contraception are widespread. For example, 27 percent of women believe it is extremely or quite likely that the pill (or other hormonal methods) leads to serious health problems, like cancer, despite clinical evidence to the contrary. Finally, almost a third of these young adults agreed with the statement: “The government is trying to limit blacks and other minority populations by encouraging the use of birth control.”³² The National Campaign has concluded from these and other data that “confusion about contraception and fertility is overwhelming.”³³

Consistency of Use of Contraception

Another important issue regarding contraception is whether it is used correctly and consistently (every time). Most experts have come to the conclusion that incorrect and inconsistent use is a very important cause of unintended pregnancies. The Guttmacher Institute attributes 52 percent of unintended pregnancies to nonuse of contraception, 43 percent to inconsistent or incorrect use, and only 5 percent to method failure.³⁴

Given the role of inconsistent or incorrect contraceptive use in the occurrence of unintended pregnancies, and the reality that careful use—or any use—is difficult in the “heat of the moment,” policy makers must give more attention to choice of method among those who do not wish to become parents. Methods that are either permanent or long-acting but reversible, such as implants and IUDs, require little or no work on the part of the contraceptive and have especially low failure rates. Other widely used methods, such as birth control pills and condoms, have relatively low failure rates if used perfectly but require much greater diligence on the part of the user. Inconsistent and incorrect use of these methods is well documented and dramatically reduces their efficacies. So

although the pill, when used perfectly, has a failure rate close to zero, its typical-use failure rate is close to 9 percent; for the condom, the perfect-use failure rate is only 2 percent, while the typical-use failure rate is over 17 percent.³⁵

Policy Solutions: Reducing the Prevalence of Fragile Families

The seven hypotheses described above are by no means mutually exclusive; each of them is probably at least partially responsible for the increasing prevalence of fragile families. Several of these factors—the evolution of cultural norms, the dearth of positive alternatives to unmarried motherhood, young people’s ambivalence or sense of fatalism, and the shortage of marriageable males—curtail individual motivation to avoid childbearing outside of marriage. Others—inadequate knowledge about the efficacy of various contraceptive methods, about how to use them correctly, and about the importance of using them consistently—pertain not to motivation but to the ability of motivated individuals to follow through on their intentions. Yet another factor—the prohibitive cost of and limited access to contraception—can lead to unintended pregnancy even among those armed both with the right information and with the best of intentions. We therefore organize our discussion of policy interventions around these three general considerations: motivation, knowledge, and access.

It is also possible, of course, to limit the number of fragile families by encouraging marriage among single parents and unmarried pregnant women or by encouraging more adoption. The topic of marriage promotion is thoroughly addressed in the article in this volume by Philip and Carolyn Cowan and Virginia Knox. That women with unplanned pregnancies rarely choose to put their

children up for adoption makes us pessimistic that promoting adoption can play a significant role.³⁶ Finally, greater access to affordable abortions could also reduce the number of fragile families, but as argued above, we believe it makes sense to give priority to reducing the need for abortion. We therefore focus specifically on policies that have the potential to limit the number of unintended pregnancies among unmarried women. Because such pregnancies are attributable to a tangle of causes (many of them enumerated in the previous section), we think it unlikely that any single policy will be a “silver-bullet” solution. Indeed, the literature reviewed below collectively suggests that few large-scale interventions, if any, have had big and sustained effects on sexual activity, contraceptive use, pregnancy, or childbearing. But several programs appear to have had modest effects on a large scale, while others have been shown to have had large impacts on a smaller scale. We review this evidence below, beginning with a discussion of programs that address the motivation (or lack thereof) to avoid out-of-wedlock pregnancies.

Programs Addressing Motivation

Of the six different types of programs discussed in this section, four (youth development initiatives, media campaigns, policies to improve educational and economic opportunities, and child support enforcement) have had some success in changing behavior. For the other two (welfare reform and abstinence-only education), the evidence is less encouraging. We discuss first the evidence for programs that have had success and then the evidence for programs that have been less promising.

Youth Development Programs

Programs falling under the “youth development” umbrella focus on improving the life skills and the educational and career

opportunities of the target population. Some have been carefully evaluated. In his excellent review of the literature, Douglas Kirby concludes that service-learning programs—in which participants engage in voluntary or unpaid community service—reduce sexual activity or the risk of pregnancy (or both) while youth are enrolled in them.³⁷ He theorizes that these programs may reduce pregnancy rates by inducing participants to change their outlooks on the future or simply by keeping them too busy to become pregnant.

Media Campaigns and Social Marketing

Because most teenagers attend school, they are generally considered to be especially easily reachable targets for pregnancy prevention messages and services.³⁸ The mass media, however, represent a potentially powerful vehicle for reaching adults and teens alike. Over the past four decades, “social marketing” has become a popular tool for influencing social behaviors in much the same way that business marketing has been used to influence consumer behavior. A social marketing campaign might seek to curb smoking, promote cancer screenings, or discourage drunk driving. For our purposes, the most relevant campaigns are those that encourage contraceptive use. The effects of such campaigns, however, are difficult to pinpoint, because it is generally not feasible to evaluate them using a random-assignment experimental design.³⁹

In their widely cited meta-analysis of the ample (if imperfect) evaluation literature on mass media health campaigns, Leslie Snyder and her co-authors conclude that, on average, campaigns encouraging the adoption of health-enhancing sexual habits (most often, the use of condoms during sex) changed the behavior of about 6 percent of the target population in the desired direction.⁴⁰ Seth

Noar argues that the true average effect of media campaigns may be about half that reported by Snyder and her colleagues. Thus, a more conservative estimate is that the average campaign induces about 3 percent of its target population to modify behavior in the desired direction.

Although such effects may seem small, the target audiences of some social marketing campaigns are extremely large and can be reached at a very low cost per person. Moreover, the measured effects of some well-designed campaigns are above average. For example, Rick Zimmerman and his collaborators oversaw and evaluated a saturation media campaign encouraging condom use in Lexington, Kentucky. They compared the change in the frequency of condom use in Lexington before and after the campaign with the equivalent change in Knoxville, Tennessee, which they took to be the study's control city. Their findings imply that the campaign affected the behavior of more than 6 percent of the overall target population.⁴¹

Programs to Promote Economic Mobility

Out-of-wedlock childbearing is much less common among well-educated women than among their more poorly educated counterparts.⁴² Part of this disparity may be attributable to the effect of early and unwed childbearing on one's future educational prospects. But the "causal arrow" may also point in the other direction—as a young woman's long-term economic prospects brighten, she has a greater incentive to avoid having a child outside of marriage, because doing so could pose a threat to her future prospects. Indeed, various studies have found an inverse relationship between educational attainment and subsequent out-of-wedlock childbearing after controlling for a host of other factors.⁴³ Most recently, Benjamin Cowan, in a well-designed

analysis, found that the expectation of facing lower college tuition substantially deters risky sexual behavior among teens.⁴⁴ Thus, improving the educational prospects of low-income young women, and enhancing their economic outlook more generally, may help to reduce the incidence of unintended pregnancy and out-of-wedlock childbearing.

Child Support Enforcement

Over the past thirty years, the federal government and many statehouses have taken steps to compel unmarried fathers to contribute to the financial well-being of their children in order to recoup taxpayer costs incurred in their absence.⁴⁵ Stricter enforcement of child support obligations raises the cost of unmarried fatherhood (although it also reduces the cost of unmarried motherhood) and may therefore affect men's (or women's) sexual activity and contraceptive use on the margins. Several researchers have examined variation across states and over time in child support enforcement policies and in out-of-wedlock childbearing in an attempt to isolate the effect of the former on the latter. These studies tend to conclude that stricter child support enforcement reduces childbearing by teens and unmarried women.⁴⁶ For example, a 2003 paper by Irwin Garfinkel and his co-authors found that increases in child support enforcement during the 1980s and 1990s led to a reduction in nonmarital childbearing of between 6 and 9 percent.⁴⁷

Welfare Policy

A variety of changes were also made to federal and state welfare systems over the past thirty years that should have increased the costs of single motherhood. These changes include a reduction in the real (inflation-adjusted) level of cash assistance for single mothers, a requirement in some states that mothers under the age of eighteen

live with a parent or legal guardian and that they enroll in school in order to be able to receive cash assistance, and a requirement that adult welfare recipients work or seek employment.⁴⁸ Some studies have found that these changes reduced teenage and out-of-wedlock childbearing, while others have found no such effect.⁴⁹ These inconsistencies may have arisen in part because different studies used different measures of welfare policy and focused on different outcomes, or both. On the whole, we conclude that welfare reform likely had a smaller effect on the formation of fragile families than did many of the other policies reviewed here.

Abstinence-Only Education

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 allocated \$50 million annually for programs that encourage abstinence from sex outside of marriage, and this funding has since been expanded.⁵⁰ These programs focus exclusively on the avoidance of sexual activity and do not encourage contraceptive use.⁵¹ Evaluations of these programs are of varying quality, but a handful of them have been quite rigorous, relying on random-assignment experimental designs that tracked students in treatment and control groups over several years. Most rigorous evaluations have found that abstinence programs have no statistically significant effect on sexual behavior.⁵² However, a few less-rigorous evaluations have found suggestive evidence that some abstinence programs may have at least a moderate effect on some dimensions of sexual behavior. And a newly published evaluation from a random-assignment study shows that one such program reduced the incidence of sexual initiation among young teens and preteens by about a third.⁵³ Nonetheless, there is only limited evidence that these programs have achieved their stated purpose.

Programs Addressing Knowledge

Sex education programs, broadly defined, are the primary policy mechanism for addressing knowledge gaps in this area. These programs are almost exclusively geared toward adolescents and are often referred to as “teen pregnancy prevention programs,” although the lack of knowledge about contraception among young adults suggests a need for similar programs targeted toward that group as well. Programs that fall into this category are enormously diverse. Many, though not all, are conducted in a school setting. Some focus exclusively on sex education, while others also incorporate elements of youth development. Most combine an emphasis on the fail-safe option of sexual abstinence with a “just-in-case” approach to educating participants about contraceptive use, but each program strikes its own balance between these two priorities. Some programs have been carefully evaluated; others, only cursorily or not at all. Some that have been well evaluated have been found to have very large effects on sexual activity, contraceptive use, pregnancy rates, and childbearing. Others appear to have had little if any effect.

The evaluations of most of these programs have focused on their effects either on the incidence of pregnancy or on antecedent behaviors such as contraceptive use and sexual activity. The National Campaign’s “What Works” report documents the effects of thirty of the most rigorously evaluated and effective teen pregnancy prevention programs to date.⁵⁴ The evaluations of eight of the programs reviewed for the National Campaign’s report measured the relevant program’s effects on teen pregnancy; about half these evaluations found, using rigorous research designs, that the programs reduced the incidence of pregnancy. These effective programs, however, were generally quite

Table 1. Characteristics of Selected Teen Pregnancy Prevention Programs Found to Have Affected Both Sexual Activity and Contraceptive Use

Among interventions that have been evaluated using random-assignment controlled experimental design

Name of intervention	Details of original study and evaluation	Estimated program cost
Becoming a Responsible Teen	<p>African American youth. Participants were recruited from a low-income community in Jackson, Mississippi.</p> <p>Treatment group: participated in eight sessions in a community-based setting, each one lasting 90 to 120 minutes. Curriculum designed specifically to prevent HIV infection among African American adolescents.</p> <p>Control group: received one-time, two-hour HIV-prevention session.</p> <p>*N = 246 at baseline; 225 at follow-up one year after completion of the intervention.</p>	<p>Estimated cost per participant: ≈ \$70</p>
HIV Prevention for Adolescents in Low-Income Housing Developments	<p>Adolescents aged 12–17. Participants were recruited from 15 low-income housing communities.</p> <p>Primary treatment group: residents of the housing developments that were randomly assigned to receive community treatment. Treatment consisted of distribution of free condoms and brochures, two three-hour workshops on HIV prevention, and a community-wide program with various neighborhood initiatives and workshops for parents.</p> <p>Control group: residents of control developments received free condoms and brochures, watched a videotape about HIV prevention, and discussed the video after viewing.</p> <p>*N = 1,172 at baseline; 763 at follow-up two months after completion of the intervention.</p>	<p>Cost information not available from team that designed, implemented, and evaluated the intervention.</p>
Safer Choices	<p>Freshmen and sophomores in 20 high schools in California and Texas.</p> <p>Treatment group: students in the schools that were randomly assigned to receive treatment. Intervention was implemented for all students in each treatment school and consisted of 20 sessions focusing on improving students' knowledge about condom use and sexually transmitted infections and on changing their perception of abstinence in order to make it a more appealing option. In addition, clubs and councils were created and speaker series and parenting-education initiatives were implemented in order to change the culture within treatment schools.</p> <p>Control group: students at control schools received standard, five-session sexual-education curriculum and a few other school-wide activities that varied from school to school.</p> <p>*N = 3,869 at baseline; 3,058 at follow-up about one year after completion of the intervention.</p>	<p>Estimated cost per participant: ≈ \$110</p>
Be Proud! Be Responsible!	<p>Urban African American males aged 13–18 in the Philadelphia metropolitan area. Participants were recruited from a local medical clinic, a neighborhood high school, and a local YMCA.</p> <p>Treatment group: participated in five-hour intervention designed to prevent HIV infection. Intervention techniques included small-group discussions, videos, and role-playing.</p> <p>Control group: participated in career-planning intervention of similar length.</p> <p>*N = 157 at baseline; 150 at follow-up three months after the intervention.</p>	<p>Estimated cost per participant: ≈ \$120</p>
Modified Version of “Be Proud!”: iCuideate!	<p>Latino youth aged 13–18 in the Philadelphia metropolitan area. Participants were recruited from three local high schools and various community organizations.</p> <p>Treatment and control groups: received interventions similar to the ones described above for “Be Proud!” and “Making Proud Choices,” although the intervention here was tailored specifically for Latinos and Latinas rather than for African Americans.</p> <p>*N = 656 at baseline; 553 at follow-up one year after the intervention.</p>	<p>Estimated cost per participant: ≈ \$120</p>

expensive and have sometimes been difficult to replicate successfully in settings other than the ones in which they were originally implemented.⁵⁵

There are, however, other programs that are much less expensive and that—although their

evaluations did not measure their effects on teen pregnancy—were found to have had substantial effects on sexual activity or contraceptive behavior, or both, using random-assignment research designs. Among the most promising examples of such programs are Becoming a Responsible Teen, HIV

Table 2. Impacts of Selected Teen Pregnancy Prevention Programs Found to Have Affected Both Sexual Activity and Contraceptive Use

Among interventions that have been evaluated using random-assignment controlled experimental design

Name of intervention	Estimated program effects on sexual abstinence/initiation of sex	Estimated program effects on frequency of intercourse
Becoming a Responsible Teen	One year after the end of the intervention, treatment-group members were about 65% as likely as control-group members to report having had sex during the previous two months.	No results reported for sexual frequency in evaluations of this program.
HIV Prevention for Adolescents in Low-Income Housing Developments	<p>Among participants who were sexually inexperienced at baseline: treatment-group members were about 88% as likely as control-group members to report having initiated sex within two months of the end of the intervention.</p> <p>Among participants who were sexually experienced at baseline: no results for cessation/resumption of sexual activity among sexually experienced participants reported in evaluations of this program.</p>	No results reported for sexual frequency in evaluations of this program.
Safer Choices	<p>Among all members of the analysis sample: no statistically significant difference about one year after completion of the intervention (or at earlier follow-ups) in the self-reported odds of having initiated sex between treatment- and control-group members who were sexually inexperienced at baseline.</p> <p>Among Latino members of the analysis sample: about one year after completion of the intervention, sexually inexperienced treatment-group members were significantly less likely than control-group members to report that they had initiated sex (odds ratio = .57).</p>	About one year after completion of the intervention, no significant differences between treatment- and control-group members in the self-reported frequency of sexual intercourse over the previous three months (nor were such differences observed at earlier follow-ups).
Be Proud! Be Responsible!	No statistically significant difference observed three months after completion of the intervention between treatment- and control-group members in the share of participants who reported having had sex over the previous three months (among boys only).	Three months after the intervention, treatment-group members reported having engaged in about 40% as much sex as control-group members over the previous three months (among boys only).
Modified Version of “Be Proud!”: ¡Cuidate!	Using data from follow-ups conducted three months, six months, and one year after the intervention, evaluators concluded that treatment-group members were significantly less likely than control-group members to report having had sexual intercourse in the previous three months. At each of the three follow-ups, treatment-group members were about 85% as likely as control-group members to report having had sex over the previous three months.	No results reported for sexual frequency in evaluations of this program.

continued

Among interventions that have been evaluated using random-assignment controlled experimental design

Estimated program effects on male contraceptive use	Estimated program effects on female contraceptive use	Replication information
<p>Two months after the end of the intervention: about 57% more sexual occasions from the previous two months were reported to have involved the use of a condom among males in the treatment group than among males in the control group.</p> <p>One year after the end of the intervention: no significant difference between treatment-group and control-group males in the proportion of sexual occasions protected by a condom. However, combined-sex analyses showed a significant difference at one year: almost 30% more sexual occasions from the previous two months were reported to have involved the use of a condom among males and females in the treatment group than among males and females in the control group.</p>	<p>Two months after the end of the intervention: about 16% more sexual occasions from the previous two months were reported to have involved the use of a condom among females in the treatment group than among females in the control group.</p> <p>One year after the end of the intervention: about 44% more sexual occasions from the previous two months were reported to have involved the use of a condom among females in the treatment group than among females in the control group.</p>	<p>One successful replication: Curriculum fully implemented in drug-rehabilitation facility; increased abstinence and condom use.</p> <p>One unsuccessful replication: Curriculum shortened by more than half and implemented in a state juvenile reformatory; no observed program effects on sex or contraceptive use.</p>
<p>Self-reports indicate that, as of the follow-up two months after the completion of the intervention, a condom was used at last sexual intercourse about 24% more often among treatment-group members than among control-group members.</p>		<p>No published evaluations of any attempts to replicate program.</p>
<p>About one year after completion of the intervention, males in the treatment group were significantly more likely to report having used contraception at last sexual intercourse (odds ratio = 1.64).</p>	<p>About one year after completion of the intervention, no statistically significant difference between females in the treatment and control groups in the self-reported use of contraception at last sexual intercourse (results for female contraceptive use not reported for earlier follow-ups, but evaluators found a significant difference in the self-reported use of contraception at last intercourse for the combined male and female samples while the intervention was ongoing (odds ratio = 1.76).</p>	<p>No published evaluations of any attempts to replicate program.</p>
<p>Three months after the intervention, a significant difference was observed between average self-reported treatment- and control-group scores (4.4 vs. 3.5, respectively) on condom-use scale where 1 = "never" and 5 = "always" (among boys only).</p>	<p>Intervention was for boys only.</p>	<p>One successful replication: implemented in different communities from original for boys and girls, rather than just for boys; and was evaluated over six months, rather than over just three months. Found to have reduced the incidence of unprotected sex over the evaluation period.</p> <p>One unsuccessful replication: implemented in high-school classrooms during school day. Not found to have any effect on sexual behavior, perhaps because it was mandatory (original version of the program was optional).</p>
<p>Using data from follow-ups conducted three months, six months, and one year after the intervention, evaluators concluded that treatment-group members were significantly more likely to report using condoms consistently. Across the three follow-ups, treatment-group members were between about 50% and about 65% more likely than control-group members to report having used condoms consistently over the previous three months. However, no statistically significant difference observed using data from the three follow-ups between treatment- and control-group members in the share of participants who reported having used condoms at last sexual intercourse.</p>		<p>No published evaluations of any attempts to directly replicate program.</p> <p>However, Making Proud Choices! (MPC), like ¡Cuidate!, was based on the Be Proud! curriculum. MPC: implemented for black boys and girls aged 11–13, found to have reduced self-reported sexual frequency and increased self-reported contraceptive use. See above for information on successful Be Proud! implementations.</p>

Prevention for Adolescents in Low-Income Housing Developments, Safer Choices, Be Proud! Be Responsible!, and ¡Cuidate! Tables 1 and 2 provide an overview of each program's design, target population, costs per participant, key effects, and replicability. Although other programs have produced impressive effects, we focus on these five because they were found by random-assignment evaluations to have affected both sexual frequency and contraceptive use among teens.⁵⁶

Table 2 highlights some of the clearest instances in which these programs are estimated to have had positive effects on sexual activity or contraceptive use, or both. The table also makes plain, however, that no program had a large effect on all of the behavioral dimensions included in this review. Our own analysis of the findings reported in the table (and of additional pieces of data contained in the evaluations of these programs) suggests that, if one were to standardize these effects to the extent possible and to take into account the various findings of no effect, one might conclude that, as a group, these interventions increased the number of teens who were sexually inactive in recent months by about 15 percent on average and that they increased contraceptive use by an average of about 25 percent.⁵⁷

Programs Addressing Access

As noted, the two primary public programs that provide access to subsidized contraception are Medicaid and Title X of the Public Health Service Act. In their study of how expanded eligibility for Medicaid-subsidized family planning services has affected women's contraceptive use, Melissa Kearney and Phillip Levine found that states that were granted family planning waivers reduced by roughly 5 percent the number of all sexually active women aged twenty or older

who failed to use contraception at their last intercourse. They also found that the waivers reduced by about 2 percent the number of births to women aged twenty or older.⁵⁸

Programs such as Title X and Medicaid-subsidized family planning would be considerably more effective if they were able to increase not just the use of contraceptives, but the use of long-acting, reversible contraceptive methods (LARCs) such as IUDs and implants. Our tabulations of data from the National Survey of Family Growth suggest that, among recipients of publicly subsidized birth control who are capable of becoming pregnant but are seeking to avoid doing so, only about a third list a LARC as their primary contraceptive method. The remaining two-thirds rely on less-effective methods—such as the pill, condoms, or even withdrawal—that require more diligence on the part of the user and are therefore less likely to be used correctly or consistently. James Trussell and his colleagues show that, even though LARCs tend to cost more than other methods, they are often considerably more cost-effective in the long run.⁵⁹ Thus, to the extent that programs providing publicly subsidized contraception are able to encourage more women to take up or switch to longer-acting methods, they may ultimately prevent more pregnancies per dollar spent over the long term.

Policy Simulations

We next present summary findings from a set of benefit-cost simulations of three programs, one to motivate individuals to avoid unintended pregnancies, one to improve their knowledge about contraception, and one to remove barriers to contraceptive access. Specifically, we present findings from simulations of a mass media campaign that encourages men to use condoms, an effective teen

Table 3. Estimated Benefits and Costs of Various Interventions to Prevent Unintended Pregnancy

Percent unless otherwise indicated

Benefits and costs	Mass media campaign	Effective teen pregnancy prevention program	Expanded access to subsidized contraception under Medicaid
Percent reduction in pregnancies			
Overall	1.7	0.8	1.9
Among unmarried females	3.4	1.7	2.2
Among teenagers	4.0	7.5	1.4
Percent reduction in births			
Overall	1.0	0.6	1.5
Among unmarried females	2.5	1.6	1.6
Among teenagers	3.4	6.2	1.3
Percent reduction in the number of children born into poverty	2.2	1.4	1.9
Program cost			
Total program cost	\$100,000,000	\$145,000,000	\$265,000,000
Cost per pregnancy avoided	\$913	\$2,683	\$2,165
Cost per birth avoided	\$2,512	\$5,709	\$4,658
Benefit-cost analysis			
Public savings: based on pregnancy care, infant medical care, and children's benefits			
Public cost savings from prevented pregnancies	\$360,460,819	\$300,798,840	\$1,129,790,608
Benefit-cost ratio	\$3.60	\$2.07	\$4.26

pregnancy prevention program that discourages sexual activity and educates participants about proper contraceptive use, and an expansion in access to Medicaid-subsidized contraception. Our simulations draw on the information contained in this article and in a longer paper.⁶⁰

We conduct these analyses using FamilyScape, a sophisticated simulation tool developed at the Brookings Institution to simulate the effect of policy changes on family formation. FamilyScape simulates the key antecedents of pregnancy (for example, sexual activity, contraceptive use, and female fecundity) and many of its most important outcomes (for example, childbearing within and outside of marriage and among teen-aged and non-teenaged mothers, children's chances of being born into poverty, and abortion).⁶¹ Behaviors and outcomes of interest are simulated at the individual level and are allowed to vary according to certain demographic characteristics. With few adjustments

to these individually specified behaviors, FamilyScape tracks real-world outcomes relatively well. That is, it can generally replicate such aggregate outcomes as pregnancy or birth rates based on a set of empirically derived assumptions about how often people have sex, do or do not use contraception of a particular type, do or do not have an abortion, do or do not marry, and so forth.

For the simulated expansion of Medicaid-subsidized family planning services, we assume that contraceptive use would increase by about 2.5 percentage points in all states that have not yet been granted an income waiver.⁶² We also assume that this increase would be concentrated among low-income women, most of whom are unmarried. We assume that the simulated mass media campaign would be ongoing, that its target population would be unmarried men between the ages of fifteen and forty-four, and that 3 percent of that group would switch from using no contraception to using condoms as a result

of the campaign.⁶³ For the simulated teen pregnancy prevention program, we assume that a well-designed and effective campaign that is taken to scale nationally would have about half of the impact of the small-scale campaigns whose effects are summarized in table 2. (Previous research suggests that maintaining the effectiveness of high-quality programs is difficult when they are replicated in new settings.) Because most findings described in table 2 are for low-income adolescents, we also make the simplifying assumption that the program would be targeted on teens of low socioeconomic status.⁶⁴

Table 3 shows the findings of our policy simulations. It is important, when examining these findings, to bear in mind that a program might appear to be relatively more or less efficacious depending simply on the target group chosen. For example, the teen pregnancy prevention program has a smaller effect (0.8 percent) on the overall pregnancy rate than on the rate of teenage pregnancy (7.5 percent).

The bottom panel of the table shows the results of our benefit-cost analysis.⁶⁵ We estimate these programs' costs using data described in endnote 66, and we estimate their benefits by measuring the taxpayer savings associated with the pregnancies that they would prevent. We measure these savings by focusing specifically on the costs to taxpayers of providing publicly subsidized medical care for pregnant women, publicly subsidized medical care for infants, and means-tested government benefits for young children.⁶⁶ We chose this definition of cost savings because it is measurable using available data and is broadly consistent with the approaches taken by other researchers who have conducted related exercises.

All three policies have benefit-cost ratios that are comfortably greater than one. Some policies, however, are more cost-effective than others. For example, even though the Medicaid expansion is by far the most expensive of the three policies, its benefit-cost ratio is also the largest. This finding partially reflects the Medicaid expansion's focus on lower-income women who are likely to qualify for the government benefits and services on which our cost-savings estimates are based. It also reflects the efficient targeting of the Medicaid expansion: when money is spent on improving access to Medicaid-funded contraceptive services, a relatively large share of that money provides contraception to women who are likely to use it. By contrast, our simulated sex education program serves large swaths of teens whose behaviors remain unchanged by the intervention. Similarly, although the media campaign reaches many people relatively cheaply—we estimate its annual cost per member of the target population to be about \$2.70—it changes the behavior of only a small share of these individuals. Thus, the campaign's benefit-cost ratio is higher than that of the teen pregnancy program but lower than that of the Medicaid expansion.

Many of these conclusions are relatively insensitive to large changes in the assumptions underlying the analysis. For example, even if these programs were half as effective—or twice as expensive—as we assume them to be, all three would have benefit-cost ratios greater than one. Moreover, even if the cost of the Medicaid expansion were twice what we assume—or if the benefits of teen pregnancy prevention programs were twice as large as is implied by our analysis—the former program would still be modestly more cost-effective than the latter. As we show in a separate paper, however, none of these

policies is estimated to be cost-effective if one's measure of taxpayer savings excludes the public cost of benefits provided to children after they are born. We would argue, though, that these savings should be included. Indeed, if we were to extend even further the window of time over which we measure the public cost of providing children's benefits and services, our estimates would show that these policies are still more cost-effective.

Our bottom-line assessment is that all three programs are sound investments worthy of consideration by policy makers. We further conclude that, for policy makers most interested in reducing teen pregnancy, a well-designed curricular program focusing specifically on teens would be the most sensible option to pursue. For policy makers intent instead on implementing a program that is cost-effective but comparatively inexpensive, a media campaign might make the most sense. And for those interested in preventing unintended pregnancy and childbearing more generally, expanding Medicaid-subsidized family planning services might be most appropriate option. More to the point, these findings suggest that expanding contraceptive access is likely to be more cost-effective than many of the competing alternatives that have the same basic objective.

Looking Ahead

We began by describing seven hypotheses about why unwed pregnancies are a growing social problem in the United States. We then grouped them into three broad categories: a lack of motivation to avoid unwed pregnancy, a lack of knowledge about how to avoid pregnancy, and a lack of access to the contraception that makes it possible to avoid pregnancy. Our benefit-cost analyses of policies designed to address each of these problems yield two key insights. One is that several different policy options are likely to reduce the incidence of unintended pregnancy and childbearing in a cost-effective manner. The other is that not all contraceptives are created equal. Some are far more effective in practice than others, once the likelihood of incorrect or inconsistent use is factored into the equation. Our findings suggest that policy makers should consider "going to scale" with programs designed to encourage safer sexual behavior and should expand access to effective contraception among individuals who might not otherwise be able to afford it. Given the high personal and public costs of unintended pregnancy, the need for bold policy interventions in this arena is now greater than ever.

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60. See Thomas, “Plans Are Useless, but Planning Is Indispensable’” (see note 56), for a thorough discussion of how the parameters for these benefit-cost simulations were developed and for a presentation of results from a range of sensitivity analyses that, in the interest of brevity, we do not discuss here.
61. For more information on FamilyScape, see Adam Thomas and Emily Monea, “FamilyScape: A Simulation Model of Family Formation” (Washington: Brookings Institution, May 2009).

62. In early simulations, we assumed—based on Kearney and Levine’s finding cited above—that implementation of these waivers would increase contraceptive use by about 5 percent. However, the effect of this increase on the rate of childbearing within our simulation was greater than the equivalent effect that Kearney and Levine estimate the policy to have had among states that have already expanded their eligibility limits. Thus, we simulate a smaller increase in contraceptive use by relying on an alternative estimate that is contained within the confidence intervals reported in Kearney and Levine’s paper and produces a reduction in childbearing that is closer to the effect that they estimate the policy to have had. Since the average income-eligibility threshold for these services in waiver states is a little less than twice the federal poverty threshold, we assume that this behavioral change would be concentrated among females who are below 200 percent of the poverty line. We assume the cost of the expansion to be \$188 per woman served, and we assume that a little more than 5 percent of women in new waiver states would be served by the program as a result of these expansions. These assumptions are based on estimates reported in Kearney and Levine, “Subsidized Contraception, Fertility, and Sexual Behavior” (see note 58).
63. In fact, we assume that a smaller share of teens (1.5 percent) would alter their behavior, given that they have a higher baseline condom-usage rate prior to the simulation of the new policy. We estimate that the cost of such a campaign would be \$100 million a year. We make this assumption based on our analysis of cost data from other national, health-related media campaigns such as the Truth and VERB campaigns.
64. More specifically, we assume that, within the simulation’s target population, there would be a 7.5 percent increase in sexual inactivity among teens; a comparable decrease in the average frequency of sex among those who remain sexually active; and a 12.5 percent increase in the number of male and female contraceptive users. We assume further that the program would cost \$50 a year for each member of the target population. Regarding the difficulty of replicating well-designed and well-executed programs with a high degree of fidelity, see Kirby, “Emerging Answers 2007” (see note 37).
65. Our simulations account for the fact that the prevention of unintended pregnancies sometimes causes them simply to be postponed rather than avoided altogether and that the government saves substantially less money on the prevention of pregnancies in the former category than on the prevention of pregnancies in the latter category.
66. We estimate the average public cost savings associated with the prevention of an unintended fetal loss to a low-income mother to be \$750. We estimate the public cost savings associated with the prevention of a live birth to a low-income mother separately for teens and non-teens. We estimate the average public cost savings associated with the prevention of a teen and a non-teen birth to a low-income mother to be \$19,000 and \$24,000, respectively. Because public subsidies for abortions are—relative to the level of subsidies for births, in particular—quite small, we opt for the sake of simplicity not to account for cost savings associated with the prevention of an abortion.

