

The Impact of Publicly Funded Family Planning Clinic Services on Unintended Pregnancies and Government Cost Savings

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Abstract: Publicly funded family planning clinics serve millions of low-income women each year, providing a range of critical preventive services and enabling women to avoid unintended pregnancies. It is important to quantify the impact and cost-effectiveness of such services, in addition to these health benefits. Using a methodology similar to prior cost-benefit analyses, we estimated the numbers of unintended pregnancies prevented by all U.S. publicly funded family planning clinics in 2004, nationally (1.4 million pregnancies) and for each state. We also compared the actual costs of providing these services (\$1.4 billion) with the anticipated public-sector costs for maternity and infant care among the Medicaid-eligible women whose births were averted (\$5.7 billion) to calculate net public-sector savings (\$4.3 billion). Thus, public expenditures for family planning care not only help women to achieve their childbearing goals, but they also save public dollars: Our calculations indicate that for every \$1 spent, \$4.02 is saved.

Key words: Family planning services, public funding, government financing, United States, contraception, pregnancy, Medicaid, cost/benefit.

Each year, publicly funded family planning providers enable millions of poor and low-income women throughout the U.S. to achieve their childbearing goals and avoid unplanned pregnancies. These services have numerous benefits, including health benefits for women and infants due to better birth spacing,¹ personal benefits for individuals who have a greater chance of realizing their educational and career goals, and economic benefits for both families and society due to personal and public cost savings associated with fewer unplanned children.² Moreover, publicly funded family planning care typically involves much more than just contraceptive services, including giving low-income women access to such preventative services as screening for cervical and breast cancers and sexually transmitted infections and referrals to a variety of health and social services that they might otherwise forgo.³

Currently, nearly seven million U.S. women rely on publicly funded clinics for family planning services,⁴ representing one out of every four women who obtain such services

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from a medical provider each year.^{5,6} In addition, publicly supported family planning care is available from those private physicians who are willing to accept Medicaid reimbursement for services. Funding for these services comes from a number of federal, state, and local sources. For more than 30 years, a key source has been the Title X program, the only federal program devoted solely to the provision of family planning services. In addition, Medicaid coverage of family planning care has grown substantially in recent decades, outpacing Title X and becoming the largest single public funding source for family planning care: In 2001, Medicaid constituted 61% of all public dollars spent on family planning care, some \$770 million.⁷

National studies documenting the impact of public family planning expenditures on unintended pregnancies and cost savings were first conducted in 1977.⁸ Updated studies followed in 1981,⁹ 1990,¹⁰ and 1996,¹¹ with similar methodologies that were refined and improved according to the availability of better behavioral and expenditure data. In the mid-1990s, the services supported by public family planning expenditures prevented 1.3 million unintended pregnancies each year. Based on current rates, about 630,000 of these pregnancies would have ended in abortion and 530,000 would have resulted in an unintended birth.¹¹ In addition, at that time, for every \$1 spent on family planning, \$3 was saved in public costs for pregnancy-related health care.

A number of more recent narrowly focused studies¹²⁻¹⁷ have also demonstrated the positive effect of public funding for contraceptive care, both in preventing large numbers of unintended pregnancies and in realizing significant public-sector cost savings, although none has provided a national-level impact assessment of current public-sector service provision.

Since the last comprehensive analysis was conducted, several new contraceptive methods have been developed, and women's contraceptive behavior has shifted somewhat.¹⁸ Changes in contraceptive method-mix patterns have been particularly dramatic among women served by publicly funded family planning clinics. Between 1995 and 2004, the proportion of Title X family planning clients using oral contraceptives fell from 62% to 48%, while the proportion using injectables rose from 12% to 18%; the proportion using condoms also rose, from 13% to 18%.¹⁹ Moreover, the costs for both public-sector family planning programs and Medicaid-financed maternity care, like all health care costs, have risen dramatically over the last decade. Furthermore, the percentage of all births that are covered by Medicaid has also risen, due to expanded eligibility for prenatal care services implemented by states in the 1980s and 1990s. Given shifting contraceptive use patterns and rising costs, it is therefore critical that we update our estimates of unintended pregnancies averted* and public-sector cost savings for all U.S. women receiving contraceptive care from publicly funded family planning clinics. The goal of this paper is to provide an update of these benefits, yielding results that are useful for policymakers and program planners at the national, state, and local levels.

*It is important to remember that the "pregnancies averted" measured in this, and prior, analyses are in fact *unintended* pregnancies that current users of publicly funded clinics choose to prevent, and are working hard to prevent, through their voluntary use of contraception.

Methods

Analysis steps. We followed five broad methodological steps:

- Examine the actual contraceptive method-mix distribution for a national sample of recipients of public-sector family planning care, and calculate the number of unintended pregnancies that would occur over a one-year period given actual method use.
- Estimate likely method-mix distribution scenarios for these women in the *absence* of public services at the national level, and calculate estimates of the number of additional unintended pregnancies that would be expected under each method-mix scenario.
- Use these estimates to compute an average national-level ratio of the number of pregnancies prevented per 1,000 public-sector family planning clients.
- Apply this ratio to national and state level numbers of clients served at family planning clinics to estimate the numbers of pregnancies prevented by public-sector family planning clinic investments for each state, and distribute the number of pregnancies prevented into its components (births, induced abortions, and spontaneous pregnancy losses).
- Estimate the public-sector medical costs that would be incurred if these unintended births had not been prevented, and compare these costs with family planning program costs at the national and state levels to yield a final estimate of cost savings.

Each of these steps is discussed in detail below. Although we have followed the same basic methodology developed in prior studies,^{10,11} a number of refinements, driven by differences in available data and decisions about construction of the scenarios, have been implemented here.

Data sources. We used data from Cycle 6 of the National Survey of Family Growth (NSFG) to examine the contraceptive behavior of women who had obtained family planning care from a publicly supported provider in the prior 12 months, as well as that of women representing four different scenarios of likely behavior in the absence of services. The NSFG is a nationally representative household survey of 7,643 women aged 15–44 fielded between March 2002 and March 2003. When weighted, the data represent the 62 million U.S. women in that age range. The overall response rate for women was 80%.²⁰

A number of additional data sources were used at different points in the analysis. These include:

- Title X data on clients served and total revenues for 2004;¹⁹
- Data on Medicaid prenatal, delivery, postpartum, and infant care costs available for 22 states from family planning waiver applications and evaluations;¹²
- Previously published estimates of unintended pregnancies, abortions and unintended births for 2001;²¹ and
- Previously published estimates of the number of women served at all family planning clinics in 2001.⁴

Estimating actual and likely method-mix scenarios. *Actual method mix of publicly funded contraceptive users.* Using the 2002 NSFG, we selected the 772 respondents who had received public-sector family planning care in the past year and who were using reversible methods at the time of interview or who received a tubal ligation in the past year. These included women who had either made a visit to a publicly funded family planning clinic (84%) or a Medicaid-reimbursed family planning visit to a private physician (16%). We classified these women according to their current actual contraceptive method (oral contraceptives, male condoms, injectable, IUD, implant, spermicide, natural family planning or periodic abstinence, withdrawal, or female sterilization). We then divided these women into 72 population subgroups based on each combination of age (15–19, 20–24, 25–29, 30 and older), marital status (currently married, currently cohabiting, unmarried), income (below 100% of the federal poverty level (FPL), 100–199% of the FPL, 200% of the FPL or greater) and race (Black, non-Black), and obtained the distribution of each population subgroup according to actual contraceptive method use. See Table 1 for a summary of method use by subgroup.

Assumptions of method-mix scenarios in the absence of subsidized care. Because we could not conduct an actual experiment and withhold services from low-income women to determine how their contraceptive behavior would change, we developed five scenarios that would approximate women's likely contraceptive behavior in the absence of publicly-funded services. For four of the scenarios, we then examined the contraceptive use behavior of NSFG respondents who fit the criteria of that scenario, separately for each of the 72 demographic subgroups. The fifth scenario simply assumes that all women switch to using no method in the absence of publicly funded services.

Scenario A: Publicly funded users' method mix would shift to that of women with similar demographic characteristics who do not use publicly supported family planning services. This scenario is based on examining the contraceptive use behavior of at-risk* women who did not make a visit to a public-sector provider for contraceptive services in the prior 12 months (i.e., those who either made a visit to a private doctor (not paid for by Medicaid), 60%, or made no visit at all, 40%). This is the most conservative scenario, as it assumes that many women who currently depend on public-sector care would be able to continue to obtain (and pay for) prescription methods from private providers. In fact, half of the women in this scenario relied on private insurance to cover their contraceptive services, as did 83% of those who actually made a contraceptive visit in the prior year. Because nearly all (97%) of those who received a tubal ligation in the prior year relied on insurance to cover the procedure, we limited the expected method-mix under this scenario to reversible methods.

Scenario B: Publicly funded users' method mix would shift to that of women who were not currently using subsidized services, but would be likely to need them in the future. This scenario is based on examining the contraceptive use behavior of at-risk women who made no family planning visit in the prior 12 months or who visited a private doctor and paid for that visit themselves. In other words, we excluded all women whose visits

*Women are "at risk" for unintended pregnancy if they are sexually active, not currently pregnant, post-partum, or trying to become pregnant, and if they are neither contraceptively nor noncontraceptively sterile, with the exception of women whose sterilizing operation occurred during the past year.

Table 1.**METHOD USE AMONG WOMEN RELYING ON PUBLICLY-FUNDED FAMILY PLANNING SERVICES**

Percentage distribution of women currently relying on publicly funded family planning care and using reversible methods or who received a tubal ligation in the past year, according to type of method currently using, NSFG 2002

Characteristic	Method				Total
	Pills	Long-acting ^a	Condoms	Other ^b	
All women	42	33	17	8	100
Age					
15–19	53	25	18	5	100
20–24	44	29	19	9	100
25–29	37	36	15	12	100
30+	35	42	16	7	100
Marital status					
Married	34	39	16	11	100
Cohabiting	42	36	13	9	100
Not in union	46	29	19	6	100
Poverty status					
<100% of poverty	36	42	16	5	100
100–199%	37	35	18	10	100
200%+	51	23	17	10	100
Race					
Black	30	42	24	4	100
Non-Black	45	31	15	9	100

^aLong-acting methods include tubal ligation, IUD, injectable, and Norplant.

^bOther methods include withdrawal, periodic abstinence, spermicides, and diaphragm.

were paid for by private health insurance. Because virtually all tubal ligations were paid for with private insurance, we again limited the expected method mix under this scenario to reversible methods.

Scenario C: Publicly funded users' method mix would shift to that of women who had discontinued pill use in favor of a non-prescription method or no method. This scenario is based on examining the contraceptive use behavior of all women who reported discontinuing pill use in the five years prior to the NSFG interview and who reported switching to a non-prescription method or to no method in the month following discontinuation (excluding women who stopped pill use because they were pregnant or trying to get pregnant).

Scenario D: Publicly funded users' method mix would shift to that of all at-risk women

currently using a non-prescription method or no method. This scenario is based on examining the contraceptive use behavior of all women who reported current use of a non-prescription method or no method.

Scenario E: All publicly funded users would shift to no method use.

Calculating unintended pregnancies prevented. For each scenario, we estimated the expected number of unintended pregnancies by multiplying the proportion of women using each method (within each demographic subgroup) by the appropriate one-year method-specific failure rate (i.e., the probability that a woman using a particular method will become unintentionally pregnant during a 12-month period). The number of unintended pregnancies calculated for each subgroup were then summed across all subgroups and methods, and adjusted for consistency with actual unintended pregnancy rates (see below), resulting in a total number expected for each scenario.

Contraceptive failure rates. The overall failure rate for each method is shown in Table 2, but to improve accuracy, we used subgroup-specific failure rates when available. For oral contraceptives and condoms, we used subgroup-specific rates for each combination of age (15–19, 20–24, 25–29, 30 or older) and income level (less than 200% of the federal poverty level, 200% or more). For withdrawal, we used failure rates calculated for four subgroups (age younger than 25 and 25 or older crossed with income below 200% of poverty and 200% and above). For the injectable, implant, diaphragm or cervical cap, spermicides, IUD, and female sterilization, we applied the overall failure rate for all women to all subgroups. Failure rates for oral contraceptives, condoms, injectables, withdrawal, and periodic abstinence were recently updated;²² for the implant, diaphragm or cervical cap, and spermicides, earlier (1995) estimates were used;²³ and for the IUD and female sterilization, we used the most recent typical-use failure rates from *Contraceptive Technology*.²⁴ The IUD rate used was the average of the rates for ParaGard and Mirena.²⁴ The probability of pregnancy when using no method is estimated to range from 80% to 95% depending on the woman's age.²⁵

Failure rate adjustment. Application of one-year failure rates to the distribution of women using specific methods at a particular point in time will not accurately predict the actual number of unintended pregnancies that occur over a one-year period, for a number of reasons. Some women may not have used the method for the entire 12 months; others may have used the method for much longer, resulting in lower failure rates. As was done in prior analyses,^{10,11} we therefore calculated an adjustment factor by comparing the actual number of unintended pregnancies that occurred among contraceptive users in the U.S. in 2001 with the number that would theoretically have been expected when applying failure rates to method users. Specifically, although 1.5 million unintended pregnancies actually occurred to contraceptive users in 2001,²¹ if we apply the same one-year method- and subgroup-specific failure rates described above to the total population of 25.5 million current method users (according to subgroup and method used), we would expect 2.6 million unintended pregnancies. The overall adjustment factor was therefore calculated as the ratio of actual to expected unintended pregnancies (0.573). In order to improve the accuracy of our estimates, separate adjustment factors were calculated for women above (0.513) and below 200% of poverty (0.631) by separating both the actual and the expected unintended pregnancies into two groups according to women's poverty status, and applying these adjustment factors

Table 2.

CURRENT (2002) CONTRACEPTIVE METHOD USE AND PROJECTED METHOD USE IN ABSENCE OF PUBLIC FUNDING UNDER DIFFERENT SCENARIOS

Contraceptive method failure rates; percentage distribution of U.S. women using reversible contraceptives who rely on public sector care, and projected method use scenarios in the absence of public funding; and the total number of unintended pregnancies expected, as well as the numbers of unintended pregnancies, births and abortions averted, per 1,000 users under each scenario, NSFG 2002

Method	Failure rate ^a	Current method use, 2002 ^b	Projected method use in absence of public funding under Scenario:					Average of A-D ^c
			A Similar women using private or no services	B Women likely to use public services	C Women who discontinued pills	D Women using prescription or no method	E No method use	
Pill	8.7	42%	39%	17%	0	0	0	19%
Injectable	6.7	22%	4%	2%	0	0	0	2%
Condom	17.4	17%	26%	40%	55%	50%	0	39%
Tubal ligation in past year	.5	7%	0	0	0	0	0	0
Withdrawal/other	18.4	6%	5%	7%	9%	11%	0	7%
IUD	.5	4%	3%	2%	0	0	0	2%
Spermicide/sponge	29.0	1%	1%	1%	2%	2%	0	1%
Natural family planning/ periodic abstinence	25.3	1%	2%	2%	2%	3%	0	2%

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Table 2. (continued)

Contraceptive method failure rates; percentage distribution of U.S. women using reversible contraceptives who rely on public sector care, and projected method use scenarios in the absence of public funding; and the total number of unintended pregnancies expected, as well as the numbers of unintended pregnancies, births and abortions averted, per 1,000 users under each scenario, NSFG 2002

Method	Failure rate ^a	Current method use, 2002 ^b	Projected method use in absence of public funding under Scenario:					Average of A-D ^c
			A Similar women using private or no services	B Women likely to use public services	C Women who discontinued pills	D Women using prescription or no method	E No method use	
Implant	1.4	.3%	1%	1%	0	0	0	1%
Diaphragm/cervical cap	15.9	.03%	0	0	0	0	0	0
No method	89.0	—	19%	26%	32%	35%	100%	26%
Total	—	100%	100%	100%	100%	100%	100%	100%
Expected unintended pregnancies per 1,000 users		67	238	309	369	392	888	309
Events averted per 1,000 users								
Pregnancies ^d			171	242	301	324	821	242
Births			76	108	134	144	365	108
Abortions			71	101	126	135	343	101

^aRepresents failure rate for all women, but events averted were actually calculated using subgroup-specific failure rates where available.
^bN = 772.

^cScenarios C and D are half-weighted in the average due to their similarity.

^dEqual to the number expected given each scenario minus the number expected given current method use (67).

to the unintended pregnancies expected among each method- and subgroup-specific population. No adjustment was made to the calculation of unintended pregnancies expected among women using no method.

Unintended pregnancies prevented. We calculated a ratio of the number of unintended pregnancies prevented per 1,000 users of publicly funded family planning care by first taking the number of unintended pregnancies that would be expected among the NSFG sample of women currently using contraception and relying on public-sector care and subtracting it from the number that would be expected under each of our five alternative scenarios, and then dividing the resulting difference by the number of women in our NSFG population. Following the methodology of prior studies, we produced our most likely estimate of unintended pregnancies averted by combining the results of various scenarios. Specifically, we averaged the results of the first four scenarios (A–D). Because of the similarity between Scenarios C and D, however, each was half-weighted when calculating the average. Scenario E was kept separate and represents the gross number of pregnancies that would be prevented if all current users switched to no method in the absence of public-sector care.

Estimating pregnancies averted among family planning clinic clients. To estimate the overall impact of public funding for family planning clinic services in 2004, we applied the average ratio of pregnancies averted per 1,000 method users to data on numbers of clients served by clinics. We assumed that the ratio obtained from the average of Scenarios A–D represents the most likely contraceptive use behavior of women after losing access to publicly funded family planning care. We also assumed that this ratio, developed using data for all women relying on publicly supported care, is applicable to the subset of these women (84%) who obtain public care *from clinics*. We did not try to make separate estimates of unintended pregnancies averted as a result of contraceptive services provided by private doctors under Medicaid because of the lack of reliable data on numbers of women receiving such care.

To estimate the total number of clients who received contraceptive care from publicly funded family planning clinics in 2004, we used data from two sources. For the approximately two-thirds of all family planning clinic clients who received care from Title X–funded sites,⁴ we used Title X program-specific data for 2004, tabulated by state.¹⁹ For the remaining 30% of women served at publicly funded clinics that do not receive Title X funds, we estimated 2004 clientele by starting with published state tabulations for 2001,⁴ the most recent year available, and adjusting them according to the observed change in clients between 2001 and 2004 experienced by Title X clinics.^{19,26}

Second, we adjusted for the fact that some clients of publicly funded family planning clinics do not obtain or use a reversible contraceptive method. Some 14% of clients at Title X clinics were classified as not using a contraceptive method, either because they were currently pregnant or trying to get pregnant, or for some other reason. Based on similarities in the characteristics of women receiving care from Title X–funded and non–Title X–funded public clinics, we assumed that the 14% figure applied to non–Title X clinics as well. We therefore estimated method users to be 86% of the national and state totals of family planning clients.

Finally, we multiplied the number of method users, nationally and in each state, by the ratio of pregnancies prevented per user in order to estimate the total number of

unintended pregnancies prevented in 2004. We classified these unintended pregnancies averted according to the outcomes that would have resulted (birth, abortion or miscarriage) using subgroup-specific estimates of the distribution of unintended pregnancies according to outcome. Overall, 44% of unintended pregnancies result in an unintended birth, 42% result in an elective abortion, and 14% result in miscarriage.²¹

Calculating savings. We calculated public-sector savings by comparing the public-sector costs of providing contraceptive services with the public-sector maternity and infant care costs that would have been incurred had these unintended births not been prevented. We did not estimate public-sector savings that would result from averted abortions (or miscarriages). Because few abortions are covered by Medicaid and their costs are relatively low compared with the costs of a birth,²⁷ the savings from averted abortions would be negligible relative to the savings from averted births. We also did not attempt to discount the numbers of unintended births prevented due to the likelihood that some of these births are simply mistimed, and would have happened eventually. Even if some unintended births are accepted and even welcomed by their parents, they still incur public-sector costs that otherwise would have been avoided; it is not clear whether, or how many, of these mistimed births actually replace a later intended birth. Many may be extra births that eventually will be followed by one or more additional births.

Family planning program costs. We used 2004 Title X program data on clients served and total revenues (including funding from all sources) to estimate the average annual cost per family planning client served at Title X clinics in the 50 states (\$972 million ÷ 4.8 million clients = \$203/client). We assumed that this same per-client cost would be applicable for all family planning clients, including those served at publicly funded clinics that did not receive Title X. We multiplied the average per-client cost by the total number of women estimated to have received family planning care from publicly funded clinics in 2004 to estimate the total cost of clinic-based public-sector family planning services.

Medicaid maternity and infant care costs. To calculate savings from preventing unintended births, we first estimated the percentage of these births that would have occurred to Medicaid-eligible women. This required comparing state-level client income data with Medicaid maternity care eligibility levels (which vary by state) and making an adjustment for the fact that a pregnant woman is counted as two people when determining Medicaid eligibility. National and state estimates of the percentage of Title X clients who would be eligible for Medicaid maternity care have been calculated previously, and we assumed that these estimates applied to all women receiving contraceptive services from publicly funded clinics. Nationally, 92% of unintended births averted among family planning clinic clients are estimated to be Medicaid-eligible.

Second, we tabulated the public-sector cost of each Medicaid-eligible birth. Included were the Medicaid expenditures for prenatal care, delivery, postpartum care, and one year of medical care for the infant. A number of sources and assumptions were needed to make state-level Medicaid maternity cost estimates; details of these methods have been published previously.¹² We adjusted the published cost estimates (which were for 2005) using the Consumer Price Index for medical care so that they would be applicable to costs in 2004.²⁸ The resulting national average maternity care cost (as defined above)

per Medicaid birth in 2004 was \$10,504. We then multiplied the estimated number of Medicaid-eligible births averted by the cost per birth to obtain estimates of the total costs that would have been incurred for the averted births.

Finally, savings were calculated by subtracting the cost of the family planning program from the cost for births averted.

Results

Method use with and without public-sector care. Among our NSFG sample of contraceptive users who received publicly supported care in the prior year, 42% used oral contraceptives, 22% used injectables, and 17% used condoms; 7% received a tubal ligation and 4% relied on the IUD. Other nonprescription methods, such as natural family planning, spermicides, or withdrawal, were used by fewer than 10% of women combined (Table 2). Given these method-use patterns and the typical-use failure rates for each method (applied to each demographic subgroup and adjusted for consistency with actual unintended pregnancy rates), we expected 67 unintended pregnancies to occur among every 1,000 publicly supported method users each year.

In comparison, expected method use patterns without access to publicly supported care would be quite different. Under Scenario A—a shift to the method mix of women with similar demographic characteristics but who do not use publicly supported family planning services—19% of women stop method use altogether, and the proportion using condoms rises to 26%; use of pills and injectables declines to 43% combined. Under Scenario B—a shift to the method use patterns of women who were not using subsidized services but who would likely need them in the future—the proportion using no method rises to 26% and condom use increases to 40%. Use of pills and injectables declines even further, to 19% combined. Under Scenarios C and D, all women switch to use of non-prescription methods or no method, either based on the use patterns of women who discontinue oral contraceptives or women who are current users of non-prescription methods. In both cases, at least half of women use condoms, and about one-third use no method. Under Scenario E, all women are assumed to switch to no method use.

Sixty-seven unintended pregnancies are expected per 1,000 method users currently relying upon publicly supported care. The number increases sharply under any of the scenarios we modeled. The number of unintended pregnancies expected under Scenarios A through D is between 238 and 392 per 1,000 method users; it is 888 per 1,000 method users under the no-method-use scenario.

Unintended pregnancies, births, and abortions prevented. Subtracting the 67 unintended pregnancies per 1,000 users that would occur even with publicly supported care from the numbers expected in the absence of such care yields estimates of the impact of publicly funded contraceptive services on prevention of unintended pregnancies—some 171 to 324 unintended pregnancies would be prevented for each 1,000 users that would otherwise occur under Scenarios A through D (an average of 242); 821 would be prevented per 1,000 users that would otherwise occur under Scenario E.

Finally, the 242 unintended pregnancies averted per 1,000 users can be distributed according to outcome: About 108 would have resulted in unintended births and 101

in abortions (based on the average of Scenarios A through D).^{*} Assuming all current users switched to no method use (Scenario E), the full impact of publicly supported contraceptive care is estimated to be the prevention of 365 unintended births and 343 abortions per 1,000 method users. Because calculation of these unintended events averted has been made separately for different subgroups of women, it is also possible to estimate the proportions that occur to specific groups of women: 20% of unintended pregnancies averted involve teenaged women (age 15–19), 71% involve unmarried women, and the same similar proportion (71%) involve women under 200% of the federal poverty level (data not shown).

Unintended events averted nationally and by state. In 2004, an estimated 6.9 million women received contraceptive care from publicly supported family planning clinics. Assuming that 86% of these women received a contraceptive method, and applying the average ratio of 242 unintended pregnancies averted per 1,000 clients, yields an estimate of 1.4 million unintended pregnancies averted by publicly supported clinics in 2004 (Table 3). These pregnancies would have resulted in about 640,000 unintended births and another 600,000 abortions. More-populous states tended to serve higher numbers of clients, as would be expected, and in those states concomitantly higher numbers of unintended pregnancies, births, and abortions were averted. The number of pregnancies averted ranged from 226,000 in California to 3,000 in Hawaii. Title X-funded clinics served 4.8 million clients in 2004 and averted just under a million unintended pregnancies.

We also estimate that of the total 1.4 million unintended pregnancies averted by publicly funded clinics in 2004, about 290,000 would have occurred among teenagers, and just over 1 million would have been to unmarried women or to women under 200% of the federal poverty level (data not shown).

Cost savings. In 2004, an estimated \$1.4 billion was used to support provision of contraceptive care at publicly funded family planning clinics (Table 3, column 7). Factoring in only the public-sector costs for maternity care, delivery, and one year of infant-related care for those contraceptive clients who would be eligible for Medicaid maternity care in their state if they became pregnant, we estimate that a total of \$5.7 billion in Medicaid expenditures would have been needed. Subtracting the family planning program costs from the estimated Medicaid maternity costs yields a total net public-sector savings of \$4.3 billion. Alternatively, comparing the family planning program costs to the total Medicaid costs averted yields an estimate of per-dollar public-sector savings: Nationally, for every \$1 spent on the family planning program, \$4.02 is saved in averted Medicaid birth costs. Again, overall net savings were greatest in states that served the most women. Public funding for family planning clinics saved California, Texas, and New York between \$350 and \$570 million each in 2004, and another eight states realized net savings of over \$100 million. Even the smallest states that served relatively few women (Hawaii, North Dakota, and Vermont) realized net savings from family planning clinic investments of between \$8 and \$12 million. Net savings for the majority of states (30) ranged between \$21 and \$97 million.

^{*}The remaining pregnancies would have resulted in miscarriages.

Table 3.

AVERTED BIRTHS AMONG CLIENTS SERVED AT CLINICS AND ASSOCIATED COST SAVINGS

Number of contraceptive clients served and number of unintended pregnancies, births and abortions averted among clients, all public clinics and those funded by Title X; and costs of and savings from averted births, all according to state, 2004

State	All clinics				Title X-funded clinics			Costs and savings from averted births (millions)		
	Clients served (000s)	Events averted (000s)		Abortions	Clients served (000s)	Pregnancies averted (000s)	Family planning costs (\$)	Cost of births averted (\$)	Net savings (\$)	
		Pregnancies	Births							
Total	6,923	1,442	641	602	4,776	995	1,429	5,749	4,321	
Ala.	114	24	11	10	95	20	34	79	45	
Alaska	19	4	2	2	8	2	7	38	31	
Ariz.	98	20	9	8	45	9	19	78	59	
Ark.	88	18	8	8	77	16	18	74	56	
Calif.	1,087	226	101	95	720	150	224	792	568	
Colo.	113	24	10	10	49	10	29	98	69	
Conn.	59	12	5	5	39	8	12	54	42	
Del.	21	4	2	2	21	4	3	19	16	
D.C.	24	5	2	2	18	4	5	18	13	
Fla.	297	62	28	26	220	46	74	251	177	
Ga.	194	40	18	17	174	36	17	186	169	
Hawaii	15	3	1	1	15	3	2	13	11	
Idaho	34	7	3	3	30	6	2	31	29	
Ill.	203	42	19	18	152	32	39	152	114	
Ind.	139	29	13	12	46	10	27	111	84	

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Table 3. (continued)

Number of contraceptive clients served and number of unintended pregnancies, births and abortions averted among clients, all public clinics and those funded by Title X; and costs of and savings from averted births, all according to state, 2004

State	All clinics				Title X-funded clinics			Costs and savings from averted births (millions)		
	Clients served (000s)	Events averted (000s)		Clients served (000s)	Pregnancies averted (000s)	Family planning costs (\$)	Cost of births averted (\$)	Net savings (\$)		
		Pregnancies	Births						Abortions	
Iowa	96	20	9	8	80	17	13	101	88	
Kans.	60	13	6	5	45	10	7	43	37	
Ky.	129	27	12	11	110	23	21	118	97	
La.	84	18	8	7	77	16	19	87	67	
Maine	48	10	4	4	30	6	13	34	21	
Md.	87	18	8	8	76	16	12	80	69	
Mass.	124	26	11	11	66	14	25	127	102	
Mich.	218	45	20	19	175	36	35	223	188	
Minn.	100	21	9	9	43	9	20	108	88	
Miss.	91	19	8	8	77	16	13	47	35	
Mo.	119	25	11	10	83	17	18	83	65	
Mont.	33	7	3	3	28	6	6	24	18	
Nebr.	40	8	4	3	38	8	8	31	23	
Nev.	36	8	3	3	28	6	13	35	22	
N.H.	32	7	3	3	30	6	8	24	17	
N.J.	148	31	14	13	119	25	37	104	68	
N.Mex.	78	16	7	7	40	8	12	65	53	
N.Y.	468	98	43	41	310	65	151	505	354	

(Continued on p. 792)

Table 3. (continued)

State	All clinics						Title X-funded clinics			Costs and savings from averted births (millions)		
	Clients served (000s)	Events averted (000s)		Clients served (000s)	Pregnancies averted (000s)	Abortions	Pregnancies averted (000s)	Family planning costs (\$)	Cost of births averted (\$)	Net savings (\$)		
		Pregnancies	Births									
N.C.	188	39	17	16	138	29	44	136	92			
N.Dak.	17	4	2	2	15	3	3	15	12			
Ohio	192	40	18	17	130	27	33	155	121			
Okla.	104	22	10	9	78	16	21	79	59			
Ore.	158	33	15	14	86	18	66	107	41			
Penn.	326	68	30	28	291	61	53	123	70			
R.I.	24	5	2	2	20	4	2	20	17			
S.C.	117	24	11	10	102	21	29	100	71			
S.Dak.	20	4	2	2	14	3	4	14	10			
Tenn.	140	29	13	12	111	23	19	121	102			
Tex.	538	112	50	47	253	53	97	513	415			
Utah	53	11	5	5	27	6	5	42	37			
Vt.	19	4	2	2	10	2	7	15	8			
Va.	102	21	9	9	80	17	20	72	52			
Wash.	221	46	20	19	136	28	54	237	183			
W.Va.	65	14	6	6	62	13	8	69	61			
Wis.	101	21	9	9	45	9	19	80	61			
Wyo.	19	4	2	2	15	3	4	19	15			

Discussion

These results provide further evidence that public investment in family planning services yields significant personal and social benefits. First and foremost are the benefits to women: In 2004, women who received care from family planning clinics were able to avoid over 1.4 million unplanned pregnancies. These women were thus spared from having to make difficult decisions regarding whether to have an unplanned birth or to terminate the pregnancy through abortion. In fact, these results suggest that without public funding for family planning services, the numbers and rates of both unintended pregnancies and abortions in the United States (as well as the unintended pregnancy rate among teenagers) would have been nearly 50% higher than they actually were (calculated by dividing the number of unintended pregnancies (or abortions) averted by the actual number of unintended pregnancies (or abortions)²¹ that occur each year). Furthermore, we have not begun to measure many of the other benefits to women and families, such as achieving desired family size, preventing and treating sexually transmitted infections, and avoiding and detecting reproductive cancers, all benefits that accrue as part of the package of contraceptive, reproductive, and gynecological care provided by publicly funded clinics.

Although our analysis does not measure this broad package of benefits, we did estimate some of the public-sector costs that would have been necessary to pay for the maternity and infant care costs for unplanned births among Medicaid-eligible women. Our cost-benefit analysis found that providing millions of poor and low-income women access to free or low-cost contraceptive care unequivocally results in substantial government savings: More than \$4 is saved for each \$1 spent. This estimate (\$4.02) is based on an average of Scenarios A–D, as is the estimate of 242 pregnancies averted per 1,000 clients. If each individual scenario is used to perform the calculations, the estimates range from \$2.84 under Scenario A to \$5.40 under Scenario D for cost savings and from 171 to 324 pregnancies averted per 1,000 clients.

The methodology used in this analysis has a number of inherent limitations that must be noted. First, we based our expectations of contraceptive use behavior in the absence of access to publicly funded services on the behavior of similar women, but did not apply an experimental design. Thus, it is possible that women's actual behavior might differ from the scenarios calculated here and that the resulting pregnancies averted and cost savings might be somewhat higher or lower than our estimates based on the average of the scenarios. By reporting the range of results from Scenarios A–E, we provide a check on the sensitivity of our most likely scenario results. Second, our state-level estimates for 2004 are based on the ratio of pregnancies averted per contraceptive method user calculated from national-level survey data for 2002. If the characteristics and contraceptive use behavior of clinic clients vary among states, these differences will not be reflected in our state-level results. Similarly, changes in contraceptive use behavior between 2002 and 2004 are not accounted for; however, this would only affect our results if there had been a large net increase or decrease in use of very effective methods, and there is no evidence that such a change occurred.

Notwithstanding these limitations, it is also important to restate some important strengths of our methodology. First, by using recently updated age- and poverty-specific

contraceptive failure rates to estimate unintended pregnancies expected among women obtaining publicly funded services, this analysis accounts for the experiences of this population of women better than previous analyses do. Second, we adjust our results based on the actual national unintended pregnancy experience of contraceptive users according to poverty status. The latter ensures that we do not overestimate the numbers of unintended pregnancies expected or prevented by generating more unintended pregnancies than actually occur. Finally, because our basic methodology follows that of prior studies, it is possible to make some comparisons with earlier results.

Comparing our estimates of unintended pregnancies averted per contraceptive client with those based on data from the late 1980s and early 1990s, it is interesting to note that they are very similar. Our current estimate of 242 pregnancies averted per 1,000 clients is only slightly lower than the previous estimate of 267. Overall, failure rates have remained stagnant over the past two decades, and although the distribution of contraceptives used has shifted to include newer methods, the proportions of women using relatively more effective methods has not changed significantly.

Even more surprising is the similarity in cost savings found across studies. The prior study found that \$3 was saved for every \$1 invested. Here, the savings have increased to \$4 per \$1 spent. Looking more closely at the component costs used to calculate each ratio, it appears that both the per-user family planning program costs and the Medicaid maternity and infant costs per birth have roughly tripled between studies, offsetting each other and not providing an explanation for the change. The current study does include a slightly broader definition of perinatal care, including infant care for one year, and this may account for some of the change in per-birth costs. Primarily, however, it appears that most of the increase in cost savings is due to the fact that in the current study, a higher proportion of averted births are estimated to occur to Medicaid-eligible women than in the prior study (92% now, compared with 63% in the earlier study); this is consistent with the fact that between studies, Medicaid eligibility for prenatal care services expanded considerably. The rise in the importance of Medicaid as a source of maternity and infant care therefore means that public funding for family planning care plays an even more important role in generating public-sector savings.

Our results, though consistent with other recent studies estimating the impact of public funding for family planning care, do differ somewhat from those analyses.^{12,14} These differences can be attributed to variation in the scope and purpose of each exercise. Here, our purpose has been to provide an overall national assessment of the impact on pregnancies averted and cost savings from *current* investments in public-sector family planning clinic services, without regard to the particular public program(s) used. In comparison, other studies have measured the expected impact of *future* investments in specific public programs—for example, expanded eligibility for Medicaid-covered family planning services^{12,14} or increased investment in the federal Title X program.¹⁴ Thus, in each case the base population of women expected to participate in the program varied in terms of both their current and expected contraceptive method mix and in their demographic characteristics, resulting in somewhat different ratios of pregnancies averted per family planning client and slightly different estimates of per-client cost savings.

Despite the efforts of publicly supported family planning programs, unintended

pregnancy rates continue to be sharply higher among low-income women than their higher-income counterparts. Reducing unintended pregnancies and their subsequent costs to individuals and society will therefore require efforts on multiple levels. At the very least, all women should be assured access to contraceptive services and supplies, regardless of their ability to pay for care. This study provides current evidence that such public-sector investments will not only result in benefits to women and their families, but will incur substantial public-sector cost savings.

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Notes

1. Conde-Agudelo A, Rosas-Bermudez A, Kafury-Goeta AC. Birth spacing and risk of adverse perinatal outcomes: a meta-analysis. *JAMA*. 2006 Apr 19;295(15):1809–23.
2. The Alan Guttmacher Institute. Fulfilling the promise: public policy and U.S. family planning clinics. New York: The Alan Guttmacher Institute, 2000.
3. Lindberg LD, Frost JJ, Sten C, et al. Provision of contraceptive and related services by publicly funded family planning clinics, 2003. *Perspect Sex Reprod Health*. 2006 Sep;38(3):139–47.
4. Frost JJ, Frohwirth L, Purcell A. The availability and use of publicly funded family planning clinics: U.S. trends, 1994–2001. *Perspect Sex Reprod Health*. 2004 Sep–Oct; 36(5):206–15.
5. Frost JJ. Public or private providers? U.S. women's use of reproductive health services. *Fam Plann Perspect*. 2001 Jan–Feb;33(1):4–12.
6. Frost JJ. Using the NSFG to examine the scope and source of contraceptive and reproductive health services obtained by U.S. women, 1995–2002. Presented at: 2006 Research Conference on the National Survey of Family Growth, Hyattsville (MD), Oct 2006.
7. Sonfield A, Gold RB. Public funding for contraception, sterilization and abortion services, FY 1980–2001. New York: The Alan Guttmacher Institute, 2005. Available at <http://www.guttmacher.org/pubs/fpfunding/tables.pdf>.
8. Jaffe FS, Cutright P. Short-term benefits and costs of U.S. family planning programs, 1970–1975. *Fam Plann Perspect*. 1977 Mar–Apr;9(2):77–80.
9. Chamie M, Henshaw SK. The costs and benefits of government expenditures for family planning programs. *Fam Plann Perspect*. 1981 May–Jun;13(3):117–8, 120–4.
10. Forrest JD, Singh S. Public-sector savings resulting from expenditures for contraceptive services. *Fam Plann Perspect*. 1990 Jan–Feb;22(1):6–15.
11. Forrest JD, Samara R. Impact of publicly funded contraceptive services on unintended pregnancies and implications for Medicaid expenditures. *Fam Plann Perspect*. 1996 Sep–Oct;28(5):188–95.
12. Frost JJ, Sonfield A, Gold RB. Estimating the impact of expanding Medicaid eligibility

- for family planning services. Occasional Report No. 28. New York: The Alan Guttmacher Institute, 2006 Aug.
13. Edwards J, Bronstein J, Adams K. Evaluation of Medicaid family planning demonstrations. CMS Contract No. 752-2-415921. Alexandria, VA: CNA Corporation, 2003.
 14. Frost JJ, Sonfield A, Gold RB, et al. Estimating the impact of serving new clients by expanding funding for Title X. Occasional Report No. 33. New York: The Alan Guttmacher Institute, 2006 Nov.
 15. Foster DG, Biggs MA, Amaral G, et al. Estimates of pregnancies averted through California's family planning waiver program in 2002. *Perspect Sex Reprod Health*. 2006 Sep;38(3):126–31.
 16. Brindis CD, Amaral G, Foster DG, et al. Cost-benefit analysis of the California family PACT program for calendar year 2002. A UCSF Report to the State of California Department of Health Services. San Francisco, CA: California Department of Health Services, Office of Family Planning, 2005.
 17. Kahn JG, Brindis CD, Gleit DA. Pregnancies averted among U.S. teenagers by the use of contraceptives. *Fam Plann Perspect*. 1999 Jan–Feb;31(1):29–34.
 18. Mosher WD, Martinez GM, Chandra A, et al. Use of contraception and use of family planning services in the United States: 1982–2002. *Adv Data*. 2004 Dec 10;(350): 1–36.
 19. Frost JJ, Frohwirth L. Family planning annual report: 2004 summary. New York: The Alan Guttmacher Institute, 2005 Jul.
 20. Chandra A, Martinez GM, Mosher WD, et al. Fertility, family planning, and reproductive health of U.S. women: data from the 2002 National Survey of Family Growth. *Vital Health Stat 23*. 2005 Dec;(25):1–160.
 21. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health*. 2006 Jun;38(2):90–6.
 22. Kost K, Singh S, Vaughan B, et al. Estimates of contraceptive failure from the 2002 National Survey of Family Growth. *Contraception*. 2008 Jan;77(1):10–21.
 23. Fu H, Darroch JE, Haas T, et al. Contraceptive failure rates: new estimates from the 1995 National Survey of Family Growth. *Fam Plann Perspect*. 1999 Mar–Apr; 31(2):56–63.
 24. Hatcher RA, Trussell J, Stewart F, et al. *Contraceptive technology*. 18th Edition. New York: Ardent Media Inc., 2004.
 25. Harlap S, Kost K, Forrest JD. Preventing pregnancy, protecting health: a new look at birth control choices in the United States. New York: The Alan Guttmacher Institute, 1991.
 26. Frost JJ. Family planning annual report: 2001 summary. New York: The Alan Guttmacher Institute, 2002 Aug.
 27. Henshaw SK, Finer LB. The accessibility of abortion services in the United States, 2001. *Perspect Sex Reprod Health*. 2003 Jan–Feb;35(1):16–24.
 28. U.S. Department of Labor, Bureau of Labor Statistics. Consumer price index—all urban consumers. U.S. Medical care, 1982–84, series CUUR0000SAM. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, 2007. Available at <http://data.bls.gov/cgi-bin/surveymost?cu>.