In 1995, the U.S. Agency for International Development implemented an integrated program of family planning education and services in six Russian cities to increase physicians' and women's contraceptive knowledge and change current contraceptive use. Large population-based surveys of women ages 15-44 were carried out at the beginning of project implementation (in 1996) and 3 years later in two project sites and a comparison site. Results from these surveys indicate that project activities affected women's knowledge of family planning methods, and caused women to have more favorable attitudes toward modern contraception. In addition, abortion rates decreased in project sites while remaining virtually unchanged in the comparison site. Because of uneven implementation of project interventions in the demonstration sites, however, the intervention's actual impact on abortion rates remains unclear.

THE IMPACT OF AN INTEGRATED FAMILY PLANNING PROGRAM IN RUSSIA

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Although perhaps more evaluations exist for family planning efforts than for any other health intervention (Bertrand, Magnani, and Rutenberg 1994), little research on the subject has occurred in the countries of the former Soviet Union. Until the breakup in the 1990s, no national family planning program existed in any of the Soviet Union countries. In addition, the government hampered what reproductive health research did occur by restricting access to official statistics (such as abortion rates). Only recently have these

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countries begun family planning programs and released data that allow researchers to assess women's current reproductive health status. This study provides the first comprehensive evaluation of an integrated family planning effort as well as insights into reproductive health practices in post-Soviet Russia.

The fall of the Soviet Union revealed much about the nation's health care system. The publication of official statistics, for example, indicated that the country had achieved lower fertility rates primarily through an extensive clinic network that offered free abortions to most women requesting them (Remennick 1993, 50). Furthermore, despite the government's production of some modern contraceptives (principally IUDs and condoms), the government offered the contraceptives only in limited supplies and at limited sites and not as part of an organized family planning program. What little survey research did occur during this period indicated that women showed limited knowledge concerning contraception (Popov, Visser, and Ketting 1993); exhibited a skewed method-mix, favoring IUDs (Tsaregorodtsev 1997); and demonstrated a general skepticism toward hormonal contraceptives stemming from side effects associated with imported high-dose pills (Remennick 1993). As a result, annual abortion rates remained at more than 100 per 1,000 women of reproductive age at the beginning of the 1990s, with 25% of maternal deaths related to abortion (Tsaregorodtsev 1997).

Just prior to the International Conference on Population and Development in Cairo, President Yeltsin created Russia's first national family planning program through presidential decree. The program required each *oblast* (state) to create at least one family planning center. The federal government offered some equipment and training in support of this effort and worked closely with the newly formed International Planned Parenthood Federation affiliate, the Russian Family Planning Association, to provide educational and informational materials. Budget restrictions, however, limited actual program implementation.

THE CURRENT PROJECT

An extensive review of 30 years of family planning programs identified 10 key elements for success (Robey, Piotrow, and Salter 1994). These factors included ensuring access, providing quality services, securing government support, and informing clients and physicians about methods and services. In 1994, the U.S. Agency for International Development, in collaboration with counterparts, designed a program to assist the Russian family planning effort

based on the observation that whereas Russian couples clearly acted to avoid unwanted births and the government now supported additional access, they lacked key information concerning the effectiveness and safety of modern contraceptive methods (Popov 1994).

The project, as implemented, involved six Russian cities with the goal of reducing abortion-related maternal mortality through changing physicians' and women's knowledge and practices concerning contraception (see Figure 1). Its three major components included the following:

1. Physician training: In each demonstration site, a select group of gynecologists received an introductory 2-day contraceptive technology update seminar. U.S. trainers discussed current types and varieties of contraceptives, with a special emphasis on dispelling myths concerning their use. A smaller number of those attending the first workshop received additional training in counseling techniques. Trainers introduced the GATHER counseling method, which delineates a series of steps that ensure all key points are covered in each counseling session (Rinehart, Rudy, and Drennan 1998). Finally, some of those attending this second workshop received training on curriculum development and training techniques to become master trainers.
2. Information, education, and communication activities: Project design included the development and dissemination of a variety of educational and informational materials to increase physicians' and women's knowledge of the different family planning methods. Materials for health care workers included information on current contraceptive technology and counseling techniques. Materials developed for women of reproductive age involved a series of brochures on different family planning options. To raise overall awareness of family planning, the project also created a mass-media campaign for national and regional radio and TV. This campaign featured a logo (a swan in the shape of a heart) and a slogan ("Family Planning—Care of Health") to increase the recognition of family planning messages. Spots that aired in project sites also included local family planning clinic information. Finally, the project arranged for articles on family planning and a syndicated column ("Ask Dr. Olga") to appear in regional newspapers.
3. Contraceptive supplies: The project provided a 6-month supply of contraceptives to participating facilities to ensure that women could obtain the contraceptive they selected during counseling. As the project continued, foreign pharmaceutical companies began importing contraceptives in response to growing demands, and the project did not resupply the sites.

In addition to project activities in the six cities, the U.S. Agency for International Development requested the Division of Reproductive Health of the U.S. Centers for Disease Control and Prevention (CDC/DRH) to provide assistance in the development, implementation, and analysis of a series of

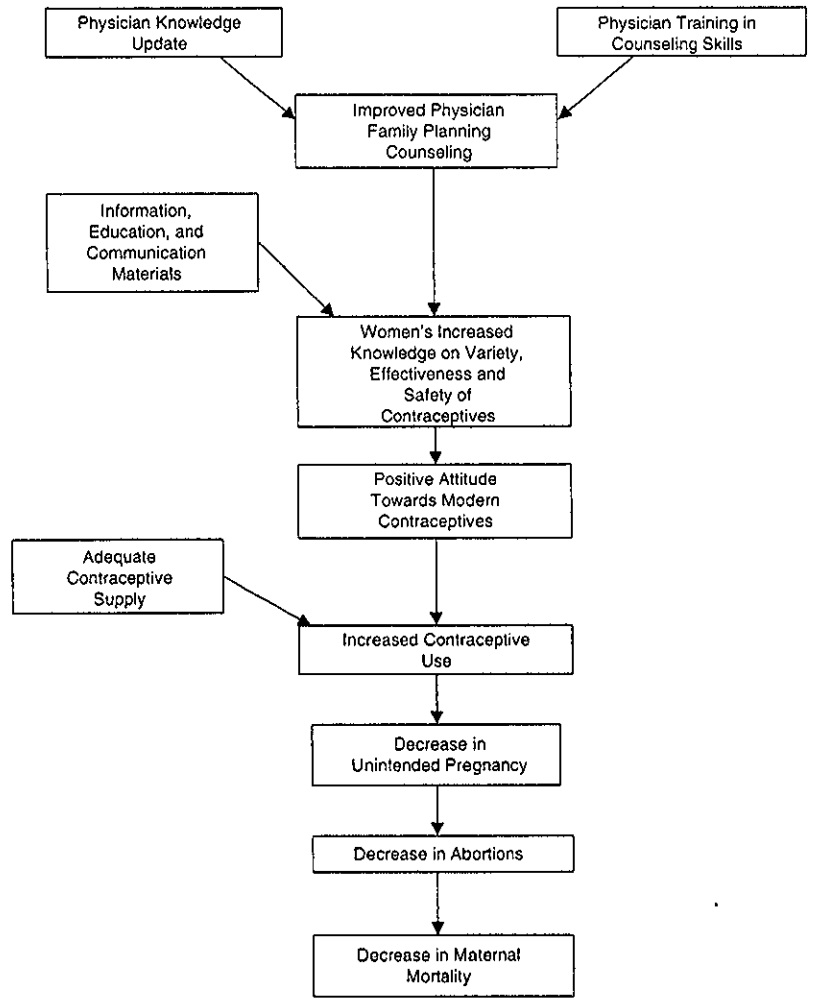

Figure 1: Model of Project Component Relationship

surveys in two project and one comparison site. These surveys provided a basis for assessing the project's impact on women's reproductive health. The first survey took place in 1996, when the project initiated. Three years later, in 1999, the project surveyed the same sites to assess any changes in various aspects of reproductive health.

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SURVEY DESIGN

The All-Russian Centre for Public Opinion and Market Research, a national survey research organization, in collaboration with CDC/DRH, implemented the surveys following a quasi-experimental approach. The two project cities surveyed were Yekaterinburg (formerly Sverdlovsk), a large, industrial city in the Ural Mountains; and Ivanovo City and *oblast*, located about 200 kilometers northeast of Moscow. Perm, a city in the same region as Yekaterinburg and similar to it in many respects, served as the comparison site.

A three-stage cluster sample design provided about 2,000 women ages 15 to 44 in each site. Electoral districts served as the primary sampling units (PSUs). In Yekaterinburg and Perm, the samples were geographically self-weighting. The survey oversampled the city of Ivanovo, with half of the Ivanovo PSUs coming from the city and the other half from the *oblast*. As a result, responses for this site required weighting. The second stage of sampling involved randomly selecting a cluster of contiguous dwelling units within each PSU. The final sample resulted from a random selection of 1 woman between the ages of 15 and 44, regardless of marital status, in each selected residence.

The response rate among households with women between the ages of 15 and 44 in the 1996 survey was 82% in Ivanovo, 64% in Yekaterinburg, and 76% in Perm. Among eligible households, the percentage of selected respondents not at home in repeated visits was 8% in Ivanovo, 11% in Yekaterinburg, and 7% in Perm. In Ivanovo, 10% of eligible women refused an interview; 25% refused in Yekaterinburg, and 16% in Perm.

Completed interviews in 1999 occurred in 91% of the households in Ivanovo, 93% in Yekaterinburg, and 90% in Perm. Seven percent of respondents refused an interview in Ivanovo, 2% in Yekaterinburg, and 6% in Perm. In 1% of the households in Ivanovo and 3% in Yekaterinburg and Perm, the woman selected for interview was never at home. The difference between the two survey response rates most likely represented differences in interviewer record keeping. The interviewers in the 1996 survey did not keep accurate records, and rates had to be reconstructed.

The two surveys had independent sample selections, but were virtually identical to each other in technical and methodological respects. The surveys involved face-to-face interviews with women ages 15 to 44 and included questions about social, demographic, and economic characteristics; pregnancy, abortion, and fertility; selected maternal and child health questions; young adult sexuality; women's health issues; and sexually transmitted diseases. The surveys included the same basic questions on fertility, pregnancy, and

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abortion in both rounds and included a complete pregnancy history and a detailed reproductive history for the past 5 years that involved providing dates and completing monthly calendars.[1] This technique reduced the concern over telescoping (respondents' reporting earlier events as occurring later).

Another issue of response bias—that related to reinterview—also posed little problem. Of more than 6,000 women interviewed in 1999, only 234 women had been interviewed in 1996 as well. This represents 4% in Ivanovo, less than 1% in Yekaterinburg, and 9% in Perm.

Not all aspects of the model in Figure 1 could be directly measured using population-based representative surveys. For example, measuring the extent and quality of family planning counseling requires observation of actual counseling sessions. In the survey, this information depended on women's recollections of such encounters. In addition, the survey as designed could not measure maternal mortality.

Despite these limitations, the surveys provided the most efficient method to chart the changes in many aspects of the model, particularly women's family planning knowledge and behavior. Similarly, the results reflect the probable impact of such activities should they occur in other cities, given the homogeneity of the country's population and formerly centralized health care system.

RESULTS

CHANGES IN PHYSICIAN COUNSELING

Contraceptive counseling has been shown to play an important role in a woman's or couple's decisions regarding whether to use contraceptives and how effectively and consistently to use them. The GATHER method presented to Russian gynecologists during counseling training involves informing a client of her contraceptive choices along with advantages and disadvantages of each and allowing her to select the method she considers most appropriate. Following selection, the counselor reviews common side effects of the method and advises the client on when it is appropriate to consult a physician—either for replacement (as for an IUD) or for complications (such as severe bleeding).

Based on the results shown in Table 1, there is little evidence that project interventions brought about significant increase in the likelihood of women receiving family planning counseling in the project sites. The interviews

TABLE 1: Percentage of Women Who Reported Receiving Various Aspects of Family Planning Counseling and Who Selected the Method During 1993-1996 or 1996-1999 (Preintervetion and Postintervention)

Aspect of Counseling	Ivanovo 1993-1996	Ivanovo 1996-1999	Ivanovo Difference	Yekaterinburg 1993-1996	Yekaterinburg 1996-1999	Yekaterinburg Difference	Perm 1993-1996	Perm 1996-1999	Perm Difference	Ivanovo Versus Perm	Yekaterinburg Versus Perm
Discussed family planning	50.4	51.2	0.9	43.6	54.9	11.3*	43.0	52.4	9.4*	–8.5	1.9
n	945	980		945	984		924	857			
Discussed side effects of method selected	86.1	73.5	–12.6*	74.3	74.6	0.2	76.0	76.7	0.7	–13.3*	0.5
Follow-up procedures explained	84.3	76.1	–8.3*	76.5	74.7	–1.8	84.7	82.0	–2.6	–5.7	0.8
Received pelvic examination	94.9	90.3	–4.6*	87.4	87.3	–0.1	91.4	88.9	–2.6	–2	2.5
Respondent selected method	45.0	30.1	–14.9*	39.6	30.5	–9.1*	43.8	39.7	–4.0	–10.9*	5.1
Provider selected method	39.5	52.5	13.0*	39.2	39.4	0.2	41.4	32.2	–9.3*	–22.3*	9.5*
Both respondent and provider selected method	15.5	17.4	1.9	21.2	30.1	8.9*	14.8	28.1	13.3*	–11.4*	–4.4
n	454	472		452	617		338	395			

*Significance ≤ .05.

asked women about their experience with contraceptive counseling only if they reported using an IUD or oral or injectable contraceptives in the previous 5 years—which represented slightly less than one half of the women in each site. In the 1999 survey, of those women asked about counseling, just over half in each site reported having discussed various methods with a health care provider during their most recent visit to obtain a family planning method (see Table 1). This represented a significant increase in two of the three sites between 1996 and 1999. Despite these increases, there were no significant differences in 1999 between the three sites in the likelihood of discussing various methods with a provider, largely because counseling levels were already higher in Ivanovo at the time of the first survey in 1996.[3] Although no changes occurred for women in Yekaterinburg and Perm in the other aspects of counseling mentioned in the survey (discussion of potential side effects, explanation of follow-up procedures, and carrying out a pelvic examination), a significant decline took place in the proportion of women in Ivanovo reporting all. However, women in Ivanovo were slightly more likely than others to receive various types of counseling prior to the 1996 survey.

In all three sites, fewer women reported having selected their contraceptive method themselves in 1999 than in 1996. In Ivanovo, a significant increase appeared in the number who reported that the provider selected the method for them, whereas in Yekaterinburg and Perm, the percentage of women who reported working with the provider to select a method increased significantly. Between the two surveys, there appears to have been a significant movement toward client-centered counseling in Perm but a shift toward more traditional counseling in Ivanovo, despite project interventions.

Women who have recently given birth form another subgroup in need of family planning counseling. The surveys revealed that postpartum counseling did increase after project implementation in Ivanovo (see Table 2). However, it declined in the other two survey sites, most notably in Perm, where there was a decline of 16 percentage points. Between the two surveys the percentage of women who reported discussing family planning with a doctor or nurse in project sites increased at least 10 points relative to Perm—a significant difference between Ivanovo and Perm.[4] Also, more than twice as large a percentage of women in the project sites as in the comparison site left the hospital following the birth of their child with a contraceptive method. The increases in the project sites were significant as were the changes relative to the control site. This difference probably represented the project's provision of progestin-only contraceptives that can be used by lactating women without affecting breast-feeding. Despite these increases, however, only about one third of those women giving birth in the previous 3 years recalled receiving any information about how to plan their next pregnancy and birth, and 10% or

TABLE 2: Percentage of Women Who Received Various Family Planning Services After Their Most Recent Delivery, Among Women Who Had a Delivery During 1993-1996 or 1996-1999 (Preintervention and Postintervention)

Service	Ivanovo			Yekaterinburg			Perm			Ivanovo Versus Perm	Yekaterinburg Versus Perm
	1993-1996	1996-1999	Difference	1993-1996	1996-1999	Difference	1993-1996	1996-1999	Difference		
Talked to doctor or nurse about contraception	28.7	36.1	7.4*	43.5	37.7	–5.8	42.8	26.7	–16.1*	23.5*	10.3
Left with method or prescription	4.1	10.3	6.2*	3.3	8.8	5.5*	3.7	4.4	0.7	5.5*	4.8*
n	335	340		285	274		290	321			

*Significance ≤ .05.

less left with a method. Clearly, health care workers missed a number of opportunities to counsel women in both project and comparison sites.

WOMEN'S KNOWLEDGE OF FAMILY PLANNING

As described earlier, the information, education, and communication portion of the project included individual information as well as mass-media messages. Information on media habits collected in the 1996 baseline survey indicated that national (as opposed to regional) television reached the largest share of the project's target audience (married women ages 18 to 30). Thanks to support from the Russian government at its highest levels, the spots received free national airtime as well as local broadcasts in project areas. Unfortunately, from an evaluation viewpoint, this national airtime allowed women in Perm to also see the messages.

The 1999 survey found that women in all three areas reported increased exposure to family planning information.[5] Between two thirds and three quarters of the women in all three sites reported having seen family planning information on TV in the past 6 months—compared to only about one fifth of women 3 years earlier (see Table 3). About 60 percent of the respondents in each site had also read about family planning—at least 25 percentage points higher than in 1996.

Not only did women report increased exposure to family planning information, 84-91% of them reported recognizing the campaign slogan "Family Planning—Care for Health." Given that the spots appeared on national TV, as many women in Perm recalled the slogan as in the project sites. Significantly greater proportions of respondents, however, recognized the logo in the project sites than in Perm. Project sites conducted other activities, such as open houses and press conferences, to publicize clinic services. These additional activities appeared to have increased the logo's visibility and target audience recognition.

WOMEN'S ATTITUDES TOWARD FAMILY PLANNING

Family planning information specifically addressed the myths and concerns many women held toward modern contraceptives, and survey results indicated that these efforts had a significant impact. Women's opinions of various contraceptive methods became more favorable over the intervening 3 years.[6] Fewer than half of the women in all three sites reported disliking oral contraceptives, with a greater decrease in the project sites than in the comparison site (see Table 4). The decrease, however, differed significantly only

TABLE 3: Percentage of Women Reporting Seeing Family Planning Information in Media and Mass-Media Campaign Material, Preintervention and Postintervention (1996 and 1999)

	Ivanovo			*Yekaterinburg*			*Perm*			*Ivanovo Versus Perm*	*Yekaterinburg Versus Perm*
	1996	*1999*	*Difference*	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*		
Saw family planning information on TV	23.4	65.9	42.5*	22.2	73.1	50.9*	21.8	73.0	51.2*	−8.7*	−0.3
Read about family planning	25.7	59.9	34.2*	34.9	59.6	24.7*	34.7	61.9	27.2*	7.0*	−2.5
Recalled mass-media logo (swan)		28.4			37.9			16.4		12.0*	21.5*
Recalled mass-media slogan		84.2			90.7			87.5		−3.3*	3.2*
n	1,931	2,000		2,263	2,004		1,785	2,000			

*Significance ≤ .05.

TABLE 4: Percentage of Respondents Giving Various Birth Prevention Methods Low Overall Ratings, Among Women Who Stated They Were Familiar With the Method, Preintervention and Postintervention (1996 and 1999)

	Ivanovo			*Yekaterinburg*			*Perm*			*Ivanovo Versus Perm*	*Yekaterinburg Versus Perm*
Method	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*	*Difference*	*Difference*
Oral contraceptives	56.6	45.8	−10.8*	52.2	40.3	−11.9*	52.9	46.5	−6.4*	−4.4	−5.5*
n	1,122	1,405		1,456	1,903		1,178	1,354			
IUD	26.5	29.3	2.8	37	35.7	−1.3	32.5	33.8	1.3	1.5	−2.6
n	1,296	1,476		1,570	1,845		1,328	1,412			
Injectables	66.4	55	−11.4*	67.2	52.9	−14.3*	68.9	57.5	−11.4*	0	−2.9
n	232	498		448	989		360	532			
Condoms	46.3	45.6	−0.7	48.7	38.5	−10.2*	45.7	36.1	−9.6*	8.9*	−0.6
n	1,352	1,601		1,378	2,046		1,708	1,544			
Female sterilization	67.4	67.8	0.4	80.5	73.6	−6.9*	74.6	70.9	−3.7	4.1	−3.2
n	487	971		851	1,474		661	939			
Abortion	97.6	95.4	−2.2*	98.3	97.7	−0.6	97.3	96.8	−0.5	−1.7	−0.1
n	1,445	1,657		1,889	2,005		1,488	1,474			
Miniabortion	96.4	94.5	−1.9*	96.7	96.2	−0.5	96.3	95.8	−0.5	−1.4	0
n	1,411	1,633		1,842	1,991		1,444	1,633			

NOTE: *n* = total number stating they had heard of the method.
*Significance ≤ .05.

when comparing Yekaterinburg with Perm. Women's unfavorable rating of injectables also decreased in all sites, as did negative opinions of condoms and female sterilization in Yekaterinburg and Perm.

Of particular note, women changed their attitudes about the health and safety risks related to modern contraceptives. Women's attitudes toward hormonal methods became significantly more favorable in the 3-year interval between the surveys. They reported being less concerned about health risks of oral contraceptives in all three sites. Women in the two project sites had also significantly lowered concerns regarding injectables compared to the comparison site (see Table 5).

CONTRACEPTIVE USE

Reducing women's fear about modern contraceptives should, ultimately, decrease their resistance to using them and increase the prevalence of modern contraceptive use. In comparing contraceptive use among women in union (in a registered or unregistered marriage) in the three survey sites, significant changes did occur (see Table 6), although not always in the desired direction.[7] Overall contraceptive use, for example, dropped significantly in Ivanovo, increased in Yekaterinburg, and remained the same in Perm. More important than overall use in terms of assessing project impact is the change in modern contraceptive use. These changes tended to mirror the changes in overall use at all three sites. IUD use dropped in all three sites and was accompanied by an increase in the percentage of women using no method in Ivanovo, a greater increase in condom and traditional method use in Yekaterinburg, and a matching increase in the use of condoms and traditional methods in Perm. Thus, despite greater knowledge and acceptance of modern contraceptives, women were not always choosing the more effective methods. Oral contraceptives, the method that was a primary focus of project efforts, showed no significant changes in any of the sites.

PLANNING STATUS OF PREGNANCY

Pregnancy outcomes relate closely to planning status in former Soviet Union countries. The 1996 survey showed that all but a small percentage of unwanted or mistimed pregnancies ended in abortion (All-Russian Centre for Public Opinion and Market Research 1998).[8] All three sites experienced significant increases in the percentage of pregnancies that respondents identified as unwanted between the 1996 and 1999 surveys (see Table 7). Although only a third of the pregnancies in the preproject

(text continues on p. 206)

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TABLE 5: Percentage of Respondents Giving Various Birth Prevention Methods Low Safety/Health Ratings, Among Women Who Stated They Were Familiar With the Method, Preintervention and Postintervention (1996 and 1999)

	Ivanovo			Yekaterinburg			Perm			Ivanovo Versus Perm	Yekaterinburg Versus Perm
Method	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*	*Difference*	*Difference*
Oral contraceptives	42	30.2	−11.8*	33.9	26.3	−7.6*	35.3	21	−14.3*	2.5	6.7*
n	1,361	1,654		1,671	2,024		1,350	1,527			
IUD	22.3	23.6	1.3	27.1	21.9	−5.2*	26.3	22.4	−3.9*	5.2*	−1.3
n	1,487	1,693		1,747	2,025		1,480	1,575			
Injectables	52.1	37.6	−14.5*	54.8	38.7	−16.1*	53.4	50	−3.4	−11.1*	−12.7*
n	303	614		577	1,121		461	654			
Condoms	3.3	5.6	2.3*	2.9	4.1	1.2*	3.6	3.6	0	2.3*	1.2
n	1,578	1,800		1,933	2,175		1,561	1,673			
Female sterilization	56.7	53.7	−3	56.4	52.5	−3.9	46.7	45	−1.7	−1.3	−2.2
n	605	1,092		918	1,538		733	1,068			
Abortion	93.6	90.1	−3.5*	94.6	93.4	−1.2	91.4	92.9	1.5	−5.0*	−2.7*
n	1,692	1,842		2,103	2,131		1,655	1,558			
Miniabortion	91.3	86.2	−5.1*	90.4	88	−2.4*	86.5	87.9	1.4	−6.5*	−3.8*
n	1,643	1,801		2,003	2,094		1,583	1,525			

NOTE: *n* = total number stating they had heard of the method.
*Significance ≤ .05.

TABLE 6: Current Contraceptive Method, Women in Union, Preintervention and Postintervention (1996 and 1999) (in Percentages)

	Ivanovo			Yekaterinburg			Perm			Ivanovo Versus Perm	Yekaterinburg Versus Perm
Method Used	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*	*1996*	*1999*	*Difference*	*Difference*	*Difference*
Any method	77.2	72.8	–4.4*	69.7	75.4	5.7*	68.6	70.2	1.6	–6.0*	4.1*
Modern method	58.9	52.9	–6.0*	55.4	57.7	2.3	50.7	49.3	–1.4	–4.6	3.7
IUD	35.4	28.5	–6.9*	27.6	23.7	–3.9*	28.0	23.3	–4.7*	–2.2	0.8
Condom	12.6	13.5	0.9	11.4	16.9	5.5*	12.9	16.4	3.5*	–2.6	2.0
Oral contraceptives	7.2	7.4	0.2	10.0	9.5	–0.5	5.2	5.3	0.1	0.1	–0.6
Female sterilization	2.1	2.4	0.3	2.2	2.5	0.3	1.7	1.4	–0.3	0.6	0.6
Vaginal methods	1.3	0.2	–1.1*	0.6	1.8	1.2*	1.0	1.8	0.8	–1.9	0.4
Morning after pills	0.7	0.5	–0.2	0.1	0.5	0.4	0.7	0.6	–0.1	–0.1	0.5
Combination	1.5	0.1	–1.4*	2.4	1.5	–0.9	0.7	0.4	–0.3	–1.1*	–0.6
Other methods	0.1	0.4	0.3	1.2	1.3	0.1	0.6	0.2	–0.4	0.7*	0.5
Traditional method	18.3	19.9	1.6	14.3	17.7	3.4*	17.9	20.9	3.0*	–1.4	0.4
Periodic abstinence	9.2	9.1	–0.1	11.9	14.2	2.3	14.4	14.2	–0.2	0.1	2.5
Withdrawal	0.9	10.8	1.8	2.4	3.5	1.1	3.5	6.7	3.2*	–1.4	–2.1
No method	22.8	27.2	4.4*	30.3	24.6	–5.7*	31.4	29.8	–1.6	6.0*	–4.1
n	1,381	1,295		1,298	1,253		1,344	1,255			

*Significance ≤ .05.

TABLE 7: Planning Status of Pregnancies Occurring the 2 Years Prior to Intervention (1994-1996) and 2 Years Prior to Interview (1997-1999)

	Ivanovo			Yekaterinburg			Perm			Ivanovo Versus Perm	Yekaterinburg Versus Perm
Planning Status	*1994-1996*	*1997-1999*	*Difference*	*1994-1996*	*1997-1999*	*Difference*	*1994-1996*	*1997-1999*	*Difference*	*Difference*	*Difference*
Planned	42.1	36.5	–5.6	37.8	26.1	–11.7*	34.2	26.2	–8*	2.4	–2.9
Mistimed	17.3	13	–4.3	22	20.4	–1.6	22	20.4	–1.6	1.8	4.5
Unwanted	35.3	49.4	14.1*	34.9	52.2	17.3*	36.3	55.5	19.2*	–4.9	1.9
Unsure	5.4	1.1	–4.3*	5.2	1.3	–3.9*	6.2	1.1	–5.1*	0.8	1.2
n	485	468		518	544		515	535			

*Significance ≤ .05.

years were classified as unwanted, respondents reported fully half of the pregnancies occurring in the later years as unwanted. The increase in unwanted pregnancies is concomitant with a decrease in planned and mistimed pregnancies. These shifts, however, occurred across the all sites and very likely reflected, in large part, the impact of a major economic crisis that occurred in Russia just prior to the second survey in August 1998. This increase in unwanted pregnancies is somewhat surprising in light of the failure of abortion rates to increase between the two surveys (see below).

As the number of planned pregnancies decreased, the proportion of mistimed pregnancies that resulted in a live birth increased (see Table 8). Mistimed pregnancies were more than 3 times as likely to result in a live birth in 1997-1999 than in 1994-1996. An increased percentage of unwanted pregnancies also ended in a live birth. This change might have partially related to increased abortion-related costs. In all three sites, the percentage of women reporting paying either in-kind or cash for abortion services doubled from 1996 to 1999 (Sherwood-Fabre, Goldberg, and Bodrova 2000).

ABORTIONS

The changes in proportions of unintended pregnancies resulting in live births affected abortion rates (see Table 9). Both the total abortion rate and the abortion ratio decreased in the project sites but not in the comparison site. In particular, abortion incidence among women ages 15 to 19 and ages 25 to 29 decreased in Yekaterinburg and Ivanovo whereas the abortion rate for women ages 15 to 24 increased in Perm. Given that the vast majority of pregnancies and births occurred among Russian women before age 30, changes among younger women substantially affected the overall abortion rate. In this case, the difference meant more than 500 fewer abortions occurring in the lifetime of the respondents in Yekaterinburg and Ivanovo but an additional 200 abortions occurring among respondents in Perm.

Because the project goal involved a reduction in the incidence of abortion, any difference in abortion rates between project and comparison sites should be well supported. To further test project impact, the number of abortions a woman reported ever experiencing was regressed on a series of population variables, including being in union, educational level, use of modern contraceptives, age, desire for more children, and having seen or read something about family planning. The analysis also included two dummy variables representing the project sites. The regression results indicated that even after controlling for population differences, living in Yekaterinburg or Ivanovo significantly reduced the number of abortions (see Table 10). These results

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TABLE 8: Percentage of Pregnancies Occurring the 2 Years Prior to Intervention (1994-1996) and 2 Years Prior to Interview (1997-1999) Resulting in a Live Birth, by Pregnancy Intendedness

	Ivanovo			*Yekaterinburg*			*Perm*			*Ivanovo Versus Perm*	*Yekaterinburg Versus Perm*
Intendedness	*1994-1996*	*1997-1999*	*Difference*	*1994-1996*	*1997-1999*	*Difference*	*1994-1996*	*1997-1999*	*Difference*	*Difference*	*Difference*
Planned	77.0	81.9	4.9	76.5	76.1	–0.4	71.6	74.3	2.7	2.2	–3.1
Mistimed	9.5	39.3	29.8*	9.6	33.3	23.7*	12.6	30.8	18.2*	11.6*	5.5
Unwanted	2.3	4.8	2.5*	1.7	7.7	6.0*	0.0	3.7	3.7*	–1.2	2.3
Unsure	11.5	100	88.5*	14.3	71.4	57.1*	—	—	—	—	—
Pregnancies resulting in live birth	35.5	38.8	3.3	32.4	31.6	–0.8	27.3	26.8	–0.5	3.8	–0.3
n	485	467		519	545		516	533			

NOTE: Dashes indicate that there were no cases ($n = 0$).
*Significance ≤ .05.

TABLE 9: Average Age-Specific and Other Abortion Measures for the 2 Years Prior to Interview, Preintervention and Postintervention (1994-1996 and 1997-1999)

	Ivanovo			Yekaterinburg			Perm			Ivanovo Versus Perm	Yekaterinburg Versus Perm
	1994-1996	1997-1999	Difference	1994-1996	1997-1999	Difference	1994-1996	1997-1999	Difference	Difference	Difference
Age of respondent											
15-19	0.03	0.026	−0.004	0.045	0.043	−0.002	0.057	0.063	0.006	−0.010	−0.008
20-24	0.148	0.098	−0.05*	0.132	0.143	0.011	0.153	0.169	0.016	−0.066*	−0.005
25-29	0.129	0.083	−0.046*	0.124	0.091	−0.033*	0.181	0.141	−0.04*	−0.006	0.007
30-34	0.081	0.134	0.053*	0.093	0.096	0.003	0.108	0.12	0.012	0.041*	−0.009
35-39	0.049	0.067	0.018*	0.054	0.051	−0.003	0.062	0.073	0.011	0.007	−0.014
40-44	0.02	0.019	−0.001	0.034	0.034	0	0.039	0.058	0.019*	−0.020*	−0.019*
Total abortion rate	2.28	2.14	−0.14	2.41	2.29	−0.12	3	3.11	0.11	−0.250	−0.230
Abortion rate[a]	0.077	0.074	−0.003	0.079	0.077	−0.002	0.099	0.105	0.006	−0.009	−0.008
Abortion ratio[b]	1.62	1.52	−0.1	2.22	1.96	−0.26	2.45	2.45	0	−0.1	−0.26

NOTE: All rates are for the 2-year period preceding the date of the interview.
a. Proportion of women ages 15 to 44 having induced abortions in 1 year.
b. Ratio of induced abortions to live births.
*Significance ≤ .05.

TABLE 10: Results of Regression of Population Factors and Dummy Variable for Project Sites, 1999 Women's Reproductive Health Survey

Variable	Unstandardized Coefficient	T Statistic	Significance
Constant	.981	12.693	0
Yekaterinburg	−.073	−2.963	.003
Ivanovo	−.102	−3.974	0
Want more children	.042	1.223	.222
Read/seen family planning information	−.119	−0.483	.629
No contraceptive use	−.061	−2.016	.044
Modern contraceptive use	−.109	−4.156	0
In union	.044	1.727	.084
High school education	−.005	−0.229	.819
No high school education	.193	4.416	0
Number of living children	.051	3.555	0
Age of respondent	−.019	−11.204	0
R^2	.053	21.495	0

indicated that overall project activities in the demonstration cities had a significant and independent impact on abortions that women in the comparison site did not experience.

CONCLUSIONS AND RECOMMENDATIONS

Clear, broad conclusions regarding project impact could not be drawn from survey results despite the significant change in abortion rates that occurred in project sites. Women in the project sites indicated knowing more about family planning than 3 years earlier and had more favorable attitudes toward modern contraceptives, but survey responses could not directly link these changes to changes in abortion rates.

A major barrier to linking the components to changes in the abortion rates involved the model's uneven implementation. The survey indicated that family planning programs were missing many opportunities to reinforce and personalize the information women received. Health care workers discussed family planning with only about half of the women using contraception. In addition, only one third of those giving birth reported that someone spoke to them about how to avoid future unintended pregnancies. Such discussions along with the offer of contraceptives might have encouraged more women toward action.

As a result of limited project implementation, family planning behavior had not changed as anticipated. Overall contraceptive use did not increase except in Yekaterinburg, and use of less reliable traditional methods increased whereas more effective IUD use decreased. Consequently, about one fourth of the women who did not want to become pregnant still risked an unintended pregnancy because they used either no method or a method with low effectiveness.

Despite uneven project implementation, abortion rates did decrease in project sites. Separating out the effect of project activities from other factors occurring at the same time made a final determination of project impact impossible. Clearly, the integrated effort of increasing family planning information through a variety of sources motivated some women, with knowledge, to act. The additional activities directed at health care providers' skills and the provision of contraceptives occurring in the project sites supported a decrease in abortions that did not occur in the comparison site.

Thus, for project sites, future decreases of abortion-related maternal mortality must involve reducing missed counseling opportunities as well as motivating those now aware of the benefits of modern contraceptives toward actual use. Outside of project sites, heath care workers still need training in counseling women and couples in making their family planning decisions.

A large cohort of young women will soon be entering their most fertile years, and many demographers expect pregnancy and birth rates to increase (see, e.g., Kinkade 1997, 2). To avoid a concurrent increase in abortion rates requires continued efforts to raise women's awareness of the safety and availability of alternative methods of fertility control as well as creating a health care structure that provides needed support during this decision-making process.

NOTES

1. The question involved completing a month-by-month calendar for the past 5 years. For each month, the respondent noted whether she was pregnant, gave birth, or used a contraceptive method. If a contraceptive was used, the type, when she stopped using the method (if she did so), and the reason for doing so were noted.

2. The question read, "The last time you started using oral contraceptives, an IUD, or injections, did a health provider talk to you about various methods of family planning and the most appropriate method for you?"

3. Because the survey design did not select the samples to represent the three areas combined nor the nation as a whole, this study provides separate results for each site.

4. Respondents were asked, "Following your most recent birth, did a doctor or nurse talk to you about or offer to talk to you about contraception?"

5. The survey asked, "In the past 6 months, have you seen anything on television/heard anything on radio/read anything in newspapers or magazines about modern contraceptives?"

6. The question read, "Overall, how much do you like each of the methods of preventing pregnancy (10 = *like very much*, 1 = *dislike very much*): oral contraceptives, IUD, injections, condoms, female sterilization, abortion, miniabortion?"

7. Using all women as the denominator for contraceptive use was also calculated to allow a comparison with official contraceptive use statistics and produced a drop in IUD use similar to that which appeared in national statistics.

8. As part of the pregnancy history, respondents were asked, for each pregnancy, "Thinking back to when you became pregnant, did you want to become pregnant at that time, want to get pregnant later, or not want to have any more children?"

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