An Evaluation of the WIN Project

Evidence of Effectiveness

Women and Infant Health (WIN) Project

JSI

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The Women and Infant Health Project (WIN) is implemented by John Snow, Inc.
in close collaboration with the Ministry of Health of the Russian Federation with partners
EngenderHealth, Johns Hopkins University Center for Communication
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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EXECUTIVE SUMMARY

From 1999 to 2003, the Women and Infant Health (WIN) Project worked in close collaboration with the Ministry of Health of the Russian Federation to improve the quality of maternal and newborn services and to increase access to and demand for high quality reproductive health services in three Russian cities: Veliky Novgorod, Perm, and Berezniki. The WIN Project was implemented by John Snow, Inc. (JSI) and its partners, EngenderHealth, Johns Hopkins University Center for Communication Programs, and University Research Corporation.

The WIN interventions fell into three main areas: clinical and counseling training of health care providers in evidence-based medical practices and follow-up supervision of trainees; community-based and facility-based information, education, and communication activities; and advocacy and policy promotion at all levels of the health administration.

Methodology

The WIN Project evaluation component was designed to assess the effectiveness and impact of the project in the twenty participating facilities and in the communities of the three cities where it worked. This report employs data from pre- and post-intervention household and facility surveys and a third facility survey, conducted to assess sustainability of the new practices. These survey data were complemented by quarterly data on practices and services provided at participating facilities from the project's Facility Monitoring System (FMS). Introduced in 2000 at the site, oblast, and national levels, the FMS and was built upon routine data collection systems already in place at WIN-participating facilities. One staff member at each participating site was designated to coordinate the FMS data and report it to the project.

In 1999 and early 2000, the WIN Project conducted two surveys: a household survey of 1300 women of reproductive age in each of the three cities, 3900 women in all; and a facility survey, which interviewed 500 providers and more than 1300 antenatal, abortion, or maternity care clients. The household survey provided baseline data on current health knowledge, attitudes, and practices, and data to estimate fertility and abortion rates. The facility survey collected baseline data regarding the provision of and attitudes toward maternal and child health care at the project intervention sites, which included women's consultations, maternity hospitals, and children's polyclinics in Perm, Berezniki, and Veliky Novgorod. The facility survey was repeated in early 2002, and the endline household survey was conducted in early 2003. The third and final facility survey was conducted at all WIN sites in early 2003.

Findings

Our quantitative data demonstrate the positive changes in facility practices that occurred following the WIN Project training for providers and continuing as WIN provided further training, IEC campaigns, and assistance with protocol and policy development. More facility clients received and were satisfied with the new, client-centered services and practices than prior to the Project interventions. Further, the adoption of new practices was generally consistent across all types of facilities, which points to the project's effectiveness at integrating its interventions.

The women's consultation is where most Russian women receive antenatal care and is also a primary site for family planning services, postpartum and post-abortion care. For antenatal clients, the frequency and content of discussions of exclusive breastfeeding between providers and clients improved, reflecting providers' use of their WIN training. While the proportion of

antenatal clients who reported receiving contraceptive counseling more than doubled between 2000 and 2003, this group represented only 43% of antenatal clients, still showing room for improvement.

Family-centered maternity care training, including essential care of the newborn, succeeded in changing many ineffective or potentially harmful practices in maternity hospitals. Practices that support women to exclusively breastfeed, such as immediate skin-to-skin contact and immediate breastfeeding, 'rooming-in,' and arrangements to feed on demand, clearly increased, with over 80% of women reporting experiencing all of these practices. Four out of the five maternity hospitals instituted widespread access to 'rooming-in' and support for exclusive breastfeeding, and achieved internationally recognized status as WHO Baby-Friendly Hospitals. A large proportion of the clients at these facilities now choose the option of family-centered maternity care, which was not offered when the WIN Project began.

Breastfeeding counseling combined with the implementation of supportive practices appears to have been extraordinarily effective, as at endline nine out of ten postpartum women reported exclusively breastfeeding their infants through the entire hospital stay. In fact, when maternity hospital practices support exclusive breastfeeding from birth, it appears that exclusive breastfeeding is sustained even beyond the hospital stay. The FMS data show an increase in the proportion of infants exclusively breastfed up to six months of age.

Our data provide strong evidence of how quickly infant-feeding practices can change and how immediately positive effects can follow. FMS data show 'rooming-in' growing in tandem with increased exclusive breastfeeding in hospital, reduced cases of neonatal jaundice, and increased proportions of children exclusively breastfed up to the age of six months.

By endline, more women were taking advantage of the opportunity to have a close person to support them during labor and delivery, and attitudes of women toward having such support had become more positive. However, family support in the delivery room is one practice that facilities may find hard to sustain without further encouragement because it requires medical staff to accommodate their own work to the presence of family members. Further, some older practices in labor and delivery are not declining as quickly as expected, for example, routine use of an intravenous line and artificial rupture of membranes. These still-common practices suggest further interventions are needed to promote evidence-based care.

A dramatic result of the WIN interventions was the increased prevalence of contraceptive counseling provided to women by physicians in facilities. Counseling of both postpartum and post-abortion clients more than doubled over the course of the project. At endline, about half of all postpartum women reported that their medical provider discussed postpartum contraception with them, up from only 20% at baseline. Of these postpartum women, almost half reported discussing the lactational amenorrhea method (LAM), up from 10% at baseline. One result of this counseling is that at endline more women (about 65%) reported at the time of discharge from the maternity hospital that they knew the postpartum contraception method they would use; at baseline, only about half of these women had known the method they would use.

More postpartum women at endline—more than one quarter, up from only two women at baseline—reported that they would use LAM for contraception during the postpartum period. However, among postpartum women and their providers we found inadequate knowledge about when LAM becomes ineffective. Further, at endline, a small number of abortion clients reported that they had become pregnant while using LAM as a method of contraception, suggesting that training for providers on LAM has not been completely effective.

As with postpartum women, many more post-abortion women received contraceptive counseling—by the time of the endline facility survey, more than nine out of every ten. Further, the project increased the proportion of abortion clients who received focused counseling on a particular contraceptive method. Most abortion clients previously had relied on barrier methods of birth control that failed. Post-counseling, a very large proportion of the women said they intended to use a contraceptive method, and of the more than 80% who had chosen a method by the time of their discharge, more than three-quarters intended to use a medical method, the most efficacious.

A gap remains between knowledge and practice of effective contraception. As stated above, by endline, more than 80% of post-abortion clients expressed not only an intention to use medical contraception, but had identified their method of choice. Yet, all three rounds of facility surveys revealed that a large proportion of these women—between 30 and 40 percent—actually used contraception inconsistently or not at all. These results suggest not a lack of desire by these clients to use an effective method of pregnancy prevention, but instead an inability to do so.

Clearly, the counseling training broadened the number of providers giving contraceptive counseling and extended the coverage of such counseling to a nearly all abortion clients. The fact that more women received more detailed information about the effective use of a particular method should help to improve effective use of the medical methods most desired by these women.

The WIN interventions promoted a 'client-centered' approach to all types of women's health care, encouraging providers to include women in decisions regarding their own care. One important indicator of the success of project activities aimed at improving the quality of services is the change in women's perspectives or attitudes toward the care that they received. Large gains in client satisfaction occurred to some degree across all three cities. Generally speaking, clients reported increased satisfaction with services provided by the facilities they attended, except in Veliky Novgorod, where one participating maternity hospital did not fully adopt the new practices.

The IEC component of the project produced and disseminated appropriate health messages and materials. We found that at endline, informational materials were distributed to 80% of clients at participating facilities, more than tripling from baseline. Approximately three quarters of all clients were given or took an educational brochure when they left the clinic or hospital. The most widely distributed brochures discussed exclusive breastfeeding, pregnancy prevention, sexually transmitted infections, and child care.

Community surveys indicated that the WIN media campaign on exclusive breastfeeding reached more than 60% of women in the three cities. Nearly 80% could recognize the WIN breastfeeding logo, used in the campaign and on posters and materials in facilities. Women who heard the message on television were 60% more likely to say that breast milk should not be supplemented by anything else than those who had not heard the television message.

Between baseline and endline, household surveys showed that among women who said that they wanted to stop childbearing the proportion who thought that social norms supported use of modern contraceptives increased. At baseline, 50% of those who wanted to stop childbearing reported that most of their friends used modern contraception, which rose to 56% at endline.

The women's perception of modern contraception as a slowly growing norm seems to be quite accurate. Current contraceptive prevalence rose only slightly between baseline and endline, but a

large shift to modern methods was observed—an increase of between five and ten percentage points in the three cities. At endline, between 55% and 63% of women interviewed in the three cities reported current use of a modern method. It appears that more women were using more effective contraceptive methods at endline than they were at the start of the WIN Project.

Despite apparent improvements in contraceptive use, the cross-section of abortion clients interviewed at participating facilities was just as likely at the time of both second-round and endline surveys as at baseline to have had an abortion in the previous 12 months. About 17% of those abortion clients reported having had another abortion in the past year. These proportions hardly changed over the three years of the WIN Project. Our data suggest that these 'rapid repeaters' were not able to obtain a method when they needed it, or were less motivated to use it than abortion clients were in general. Taken together, these findings suggest that the majority of 'rapid repeaters' are repeatedly exposed to the risk of conception and need either permanent methods or access to the most effective (medical) contraceptive methods.

Our population-based data and data from official statistics generally point to a decline in abortions since the project began, continuing a secular decline that has been described since the beginning of the 1990s. According to our household survey data, total abortion rates and general abortion rates have fallen consistently since the three-year period before WIN Project activities began. In Perm, the baseline estimate of the abortion rate was 2.2 abortions per woman, and in the post-intervention period this rate fell to 1.7 abortions per woman or 58 abortions per 1000 women of reproductive age. In Berezniki, the total abortion rate fell from 2.2 to 1.4 abortions per woman or 48 per 1000 women of reproductive age. In Veliky Novgorod, which at 1.7 per woman had the lowest level of abortions at baseline, a decline similar in magnitude to that in Perm occurred, driving the abortion rate to 1.2 abortions per woman or 39 per 1000 women of reproductive age in the post-intervention period. We think that the effectiveness of the project's interventions, as documented by our data, suggest that WIN Project activities contributed to the increased use of modern contraceptives in the communities and to the concomitant decline in abortion rates.

The WIN Project data show little change in perinatal death rates. However, the data do indicate a slight but sustained decline in death rates in Perm maternity hospitals while death rates in Berezniki and Veliky Novgorod were erratic. The entire decline in perinatal death and stillbirth rates in Perm appears to be due to a decline in one facility, the regional perinatal center where high-risk births from surrounding areas as well as the city of Perm are delivered. Three to four years is probably too short a time to show a change in impact indicators related to neonatal health. A longer period of observation would be needed to discern a firm trend.

Implications

Our evaluation of the WIN Project has demonstrated that many important changes in women's health care have occurred as a result of project activities. The likelihood that these will be sustained is high because they have been adopted so enthusiastically by both providers and the populations they serve.

Exclusive breastfeeding is clearly a very popular option with both women and their providers. This new, healthy behavior may improve morbidity rates in infants, but a longer period of observation is probably necessary to document an association. Ideally, a longitudinal study should be conducted that collects and examines individual-level data. That study might provide evidence to confirm in the Russian context what has been shown repeatedly worldwide: that exclusive breastfeeding reduces child morbidity and improves child health.

While some healthy behaviors have been readily accepted, most notably exclusive breastfeeding among new mothers, others are slower to change. Some evidence-based practices are harder than others for facilities to implement—for example, family support for mothers during childbirth. Facilities may need further support to promote provider use of certain practices, which should be given close attention in the future to ensure that no deterioration occurs. Replacement of abortion with the use of modern contraceptives for achieving reproductive intentions may need more vigorous promotion among physicians as well as women.

The counseling training for providers introduced by the WIN Project correlates with women's increased exposure to modern, medical contraceptive options. However, the data show a gap between women's knowledge of modern methods and their successful use of such methods. For example, while WIN data demonstrate significant growth in knowledge and intended use of LAM as a contraceptive method postpartum, data also show incomplete provider and client understanding of LAM and a disturbing failure of LAM to prevent conception in some abortion clients.

The WIN Project has demonstrated success in introducing evidence-based contraceptive counseling with consistent messages at all points along the maternal health care chain, and women have expressed preference for medical methods of contraception. While the increase in early planning for postpartum or post-abortion contraception would seem to reduce unwanted conceptions, especially soon after a birth or an abortion, our data show that some women still come to these facilities for repeat abortions within a short period of time. More information is needed about these 'rapid repeaters' and about abortion clients who were not using a contraceptive at the time they conceived. Further analysis may provide information on the characteristics of these women, which may help to target them with additional contraceptive advice and support.

Even more provocatively, our data suggest that women have a very negative attitude toward induced abortion as a means of birth control. Both at baseline and in 2003, ninety-six percent of all women interviewed had an overall negative image of this method of birth control. Clearly, study is needed to determine the factors that contribute to the disparity between Russian women's preference for modern contraception and their practice of obtaining induced abortions to prevent unwanted births.

In sum, the combined evidence presented in this evaluation suggests that the WIN Project activities contributed to widespread implementation of evidence-based practices in women's health care facilities and adoption of more healthy behaviors by women. The success of these project interventions has probably also contributed to declining abortion rates and, to some extent, improvements in perinatal health. However, some of the WIN practices appear to have been easier for facilities to implement than others, regardless of facility policies supportive of the new, evidence-based guidelines and strong leadership from facility and health administration on behalf of institutional changes. And, some of the WIN practices have produced outcomes less dramatic than hoped and expected. Barriers can range from the simple 'domino effect' that a new

practice can have on the regular, smooth functioning of a health care facility—as in the case of introducing family members into the delivery room—to a complex set of financial, physical, and cultural factors that may help to explain the persistence of abortion's use as a birth control method among Russian women.

Further studies over a longer time frame are probably desirable. Such research will be necessary to detect the full impact of changes promoted by the WIN Project, to answer some lingering questions about how the WIN interventions function in the Russian context, and to design further interventions to both enhance and expand the accomplishments of the WIN Project thus far.

INTRODUCTION

This report presents quantitative evidence of the results of the four-year, USAID-funded Women's and Infant Health Project (WIN Project). The conclusions about project effectiveness presented here are derived from simple comparisons of data obtained during the immediate pre-intervention period from late 1999 to early 2000, when the first training activities began, with data obtained after two to three years of implementation.

Background to the WIN Project

For four years, the Women and Infant Health Project (WIN) Project, implemented by John Snow, Inc. (JSI) and partners, worked in close collaboration with the Ministry of Health of the Russian Federation to improve the quality of maternal and newborn services and increase access to high quality reproductive health services. The WIN Project was originally commissioned as a three-year project (June 1999 to June 2002) funded by USAID, and was extended for a fourth year, ending in September 2003. The project was implemented by JSI and its subcontractors: Engender Health (formerly AVSC), Johns Hopkins University Center for Communication Programs (JHU-CCP), and University Research Corporation's Quality Assurance Project.

The project builds upon lessons learned from the Women's Reproductive Health (WRH) Project, which operated for three years in fourteen regions of Russia, ending in 1999. The earlier project trained providers in contraceptive technologies and counseling techniques and provided initial supplies of contraceptives in selected demonstration sites. The WRH Project also mounted a national media campaign to promote reproductive health.

The WIN Project promoted evidence-based medical practices, including family-centered maternity care, exclusive breastfeeding, and healthy lifestyles, in model sites in three Russian cities: Perm and Berezniki, in Perm Oblast near the Ural Mountains; and Veliky Novgorod (Novgorod the Great) in the northwest, near St. Petersburg. The project established training programs and information, education, and communication (IEC)/counseling interventions for providers of a range of women's and newborn health services and their clients in participating sites. Specifically, the WIN interventions focused on maternal and newborn health and nutrition, including promotion of exclusive breastfeeding; family planning services for postpartum and post-abortion clients; protection against domestic violence; essential care of the newborn; and family-centered maternity care as a component of antenatal, delivery, and postpartum care.

Twenty health facilities, with catchment area populations totaling about 1.1 million residents, participated in the project (approximately 0.75 million in Perm, 0.25 million in Veliky Novgorod, and 0.18 million in Berezniki).

The project was expected to contribute to achieving improved maternal and infant health by improving the quality of selected women and infant health services and increasing access to and use of the improved services. It was also expected to increase demand for these services as well as increase the practice of preventive health behaviors in the communities where WIN worked.

The expected results of WIN Project interventions included:

- a reduction in overall abortion rates with significant reduction in repeat abortions;
- an increase in contraceptive use among sexually active women;
- an increase in the number of women exclusively breastfeeding;
- an increase in the number of hospitals offering 'rooming-in' to mothers;

- an increase in the number of hospitals offering family-centered maternity care as a birthing option;
- the development of guidelines, protocols, and standards defining new approaches to women's and infant health services and practices; and
- a decrease in perinatal mortality in targeted hospitals.

The WIN interventions fell into three main areas: (1) clinical and counseling training and follow-up supervision for Russian obstetricians, gynecologists, neonatologists, pediatricians, midwives, and infant nurses; (2) community-based and facility-based information, education, and communication strategies for both families and providers; and (3) advocacy and policy promotion within facilities, and at city, oblast and federal levels of the health administration. These interventions were guided by the following principles:

- Use of evidence-based medicine to enhance clinical practice
- Use of quality assurance methods involving both providers and clients in provision of quality services
- Promotion of a client-oriented focus
- Continuity and consistency in client-provider communications and across service levels

The aims of the provider training were to increase evidence-based practice and reduce unnecessary medical intervention during antenatal, delivery, and neonatal care; and to improve postnatal and post-abortion contraceptive counseling.

The IEC component of the project produced and disseminated appropriate health messages and materials to inform and educate the population in the three target cities about the new services and to promote the practice of exclusive breastfeeding and family planning. The IEC component also developed and produced materials and media for use within participating facilities.

The policy component worked with the health administration at facility, city, regional (oblast), and federal levels to identify and address policy obstacles to program implementation, and to develop and promote adoption of breastfeeding, family planning, and infection prevention protocols.

The specific objectives of the project were to make evidence-based and 'client-friendly' medical services more widely accessible, providing a new model for women's health care services, and to increase their use and the practice of preventive health behaviors among women in the communities. The activities implemented by the project are discussed in succeeding sections, together with evidence of their effects.

DATA SOURCES AND METHODS

The WIN Project evaluation was designed to assess the effectiveness and impact of the project in twenty participating facilities and in the community in the three cities where it worked, Veliky Novgorod, Perm, and Berezniki.

Over the course of project implementation, the evaluation component of the project used data to:

- provide quantitative information on current practices and knowledge for 'fine-tuning' training programs;
- monitor progress during the project in order to adjust project activities as necessary;
- provide a firm basis for policy discussions; and

- measure change in selected indicators of effectiveness and impact achieved by the project.

At the start of the project, two surveys were conducted: a pre-intervention household survey of 1300 women of reproductive age in each of the three cities, 3900 women in all; and a facility survey, which interviewed 500 providers and more than 1300 women who were antenatal, abortion, or maternity care clients. A system to monitor key process and outcome indicators was also instituted in participating health facilities, as well as at the city and oblast level.

The facility survey analyses reported in the following chapters are based on aggregated reports of individual respondents and provide estimates of indicators that reflect knowledge and reported practices of the average provider and experiences of the average client in the entire network of participating facilities. These estimates cannot be disaggregated for each participating facility, due to sample size restrictions. No analyses were performed that would enable identification of individual providers or clients.

The Facility Monitoring System (FMS) initiated at all participating sites provides a unique complement to these surveys. The FMS provided quarterly data, separately for each participating facility. The only exceptions to this were morbidity and mortality rates, which must be aggregated for at least one year to provide a sufficient number of events for relatively stable estimates.

The pre-intervention household survey was conducted in late 1999[1] and the baseline survey of provider practices and client experiences was conducted in participating facilities in early 2000.[2] The routine Facility Monitoring System was established in July 2000. The first quarter for which there is complete FMS data ended in September 2000.[3] From mid-December 2001 to early February 2002, a second facility-based survey was carried out in the same facilities, using the same protocol.[4] Finally, in early 2003, just six months before the end of the project, a follow-up household survey was conducted in the three cities (report in progress) as well as a third, follow-up facility survey to assess whether changes observed in 2002 were sustained. [5] The reader is referred to the final reports of each survey and the final Facility Monitoring System report for more information about the methodologies employed and more detailed results.[6]

FINDINGS AND RESULTS

The project evaluation plan was implemented to measure changes in key indicators of project results: increased access to WIN services, increased demand for these services (and for preventive health practices), and improved quality of WIN services and health practices. The assumption was that appropriate and timely use of effective health services and good health behavior should together improve the health status of the population, and ultimately reduce the burden of illness and mortality and unwanted or high risk births.

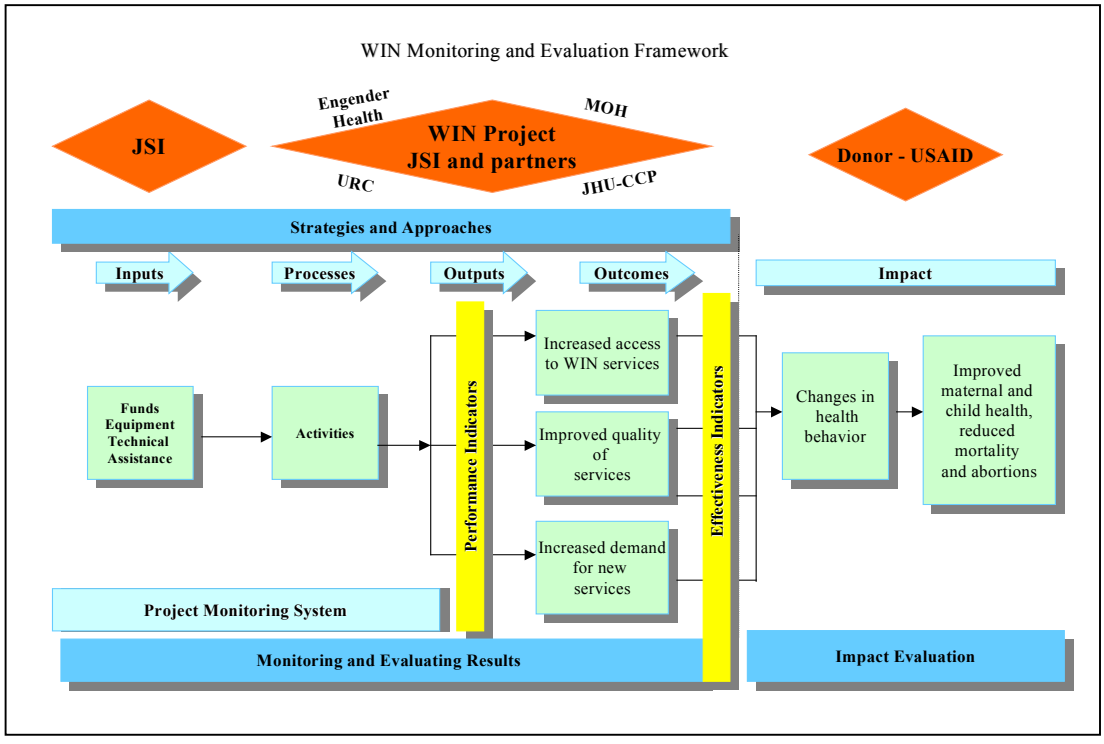
The key WIN training interventions aimed to improve the quality of services provided in participating health facilities—women's consultation centers, maternity hospitals and gynecology units, children's polyclinics and family planning centers. We assessed changes in the *quality* of services by measuring indicators of current practice from the point of view of both providers and clients just before the interventions began to be implemented and two and three years after implementation in participating facilities.

We assessed changes in *access* to services by examining changes in the availability and use of key women's health services. *Demand* for services could also be gauged by use of such services, but we also examined changes in women's knowledge and attitudes toward selected elements of WIN interventions that are preventive in nature—primarily contraceptive use and breastfeeding—and that also reflect changes in demand for services. We also measure changes in demand by examining practice of these and other 'healthy behaviors' in the community.

Figure 1 illustrates the hypothesized links between activities (measured through evidence of implementation—*performance indicators*) and their direct effects (measured through changing indicators of service provision, quality, knowledge and use—*outcome or effectiveness indicators*). The combined effects of all activities are then measured through changes in health behavior (*intermediate impact indicators*) and in *indicators of ultimate impact* (evidence of changes in morbidity, mortality, and fertility, including abortion).

One caveat when examining evidence of *impact* is that other factors in the environment that are outside the remit or control of the project are likely to exist that affect behavior, health outcomes, and mortality. These may be either positive or negative and may include cultural constraints on behavior change, other health interventions and technologies that enhance health services, or socioeconomic improvement (or deterioration).

Figure 1. WIN Project Monitoring and Evaluation Framework



Performance indicators, which provide evidence of implementation, include: the number and type of providers and master trainers, the number and type of training courses and follow-up visits held, the number and type of media activities developed and disseminated, the number and type of informational materials distributed, the number and type of community mobilization activities implemented, the number of policy-related meetings held and protocols developed, etc.

These performance data have been reported elsewhere[7] and are not included in this report, which focuses instead on evidence of the *effects* of these activities after a period of implementation, and also on evidence of the project's *impact*, seen in the light of other contextual factors.

In sum, this report assess changes in:

1. **Access to and use of services** to measure the effectiveness of advocacy, policy, training, and combined effects of IEC activities.

2. **Knowledge of, attitudes toward, and practice of preventive health behaviors** to measure the effectiveness of IEC activities in the community, and counseling and informational materials and messages in facilities.

3. **Quality of services** to measure the effectiveness of training and policy advocacy activities—as reflected in provider practices and knowledge, and client experiences and satisfaction.

We also report on changes in intermediate and ultimate impact indicators: contraceptive prevalence rate in the population, abortion rates in the population and repeat abortion rates among clients in facilities, and perinatal death rates and infant health.

EFFECTIVENESS OF TRAINING ACTIVITIES AND SYSTEM CHANGES

WIN Project training activities focused on three areas of practice: family-centered maternity care (FCMC), which included introducing evidence-based medical practices and client-centered approaches to the care of women during normal labor and delivery, and essential care of their newborn infants (ECN); breastfeeding counseling; and contraceptive counseling for postpartum and post-abortion women.

External consultants introduced a training curriculum in FCMC and ECN and trained a core group of trainers at participating facilities in each city. These trainees then transferred their new knowledge and skills to colleagues in their own facilities. The consultants made a series of follow-up visits to these facilities, to observe practice, assist in solving problems occasioned by the changed practices, and support continuous improvement in the quality of care provided by participating medical practitioners.

Local certified trainers in routine essential newborn care and breastfeeding counseling also conducted training courses for providers in all participating facilities—women's consultation centers, maternity hospitals, and children's polyclinics. They also paid follow-up visits, and assisted the facilities in their progress toward achieving the 'Baby Friendly Hospital' status awarded by the WHO and UNICEF for good practice. Other local trainers, assisted by an external consultant, trained providers in all participating facilities, including the family planning centers in Perm and Berezniki, in modern contraceptive technologies and counseling about contraception. The counseling training follow-up visits integrated aspects of all these training courses, reinforcing principles of client-centered care throughout the health care system. Antenatal care providers were included in breastfeeding and contraceptive counseling training, and also participated in seminars on childbirth preparation and healthy lifestyles for pregnant and lactating women.

In addition to the training and follow-up facilitative supervision visits, physical changes needed to be made in facilities. To implement these changes, participating facilities were exempted from

various orders and other protocols that usually govern certain types of care. These required changes are discussed elsewhere.[8] All of these latter changes were aspects of the WIN project activities that contributed to changes in our quality of care indicators.

To evaluate the effectiveness of these activities, we begin by examining indicators of the quality of services delivered to women in participating facilities in the three cities.

Quality of antenatal care

Training for antenatal care providers covered three main topics: preparation for childbirth and involvement of family members for support during labor and delivery; healthy lifestyles, especially during pregnancy; postpartum family planning choices and breastfeeding. Awareness of the problem of domestic abuse and prevention of STIs were also discussed. Providers in participating facilities often had some knowledge of the new practices the project would promote, but did not always know the reasons for these, nor the details of how to implement them.

While medical care will vary depending on an individual client's needs, we were interested in what providers considered the 'right' standards of care. In our facility surveys, we asked providers to tell us what their usual practices were.

For example, most providers knew, even before training started, that they should discuss STIs with pregnant women. At baseline, almost 80% of providers said that they routinely discussed STIs, HIV, and AIDS with their antenatal clients (Table 1). In our follow-up survey, this increased to almost 100% of providers. Despite these reports, far fewer antenatal clients actually reported that their providers discussed these topics with them—only 17% at baseline, but increasing to almost 50% by the time of the endline survey (Table 2).

This comparison of provider and client reports shows that while more providers were actually discussing STIs routinely two and three years after training, there is clearly room for improvement in this practice. Nevertheless, this is one area where this proxy indicator for quality of antenatal care has seen positive change.

Table 1: Provider reports of routine practices during antenatal care

INDICATOR	PERCENT OF PROVIDERS REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Routinely discuss with clients:			
STIs, HIV, and AIDS	*79*	*98*	*99*
Examine for or ask about domestic abuse	10	22	8
Discuss postpartum contraception	62	85	93
Discuss warning signs of complications	88	99	99
Discuss exclusive breastfeeding	74	99	99
Usually *recommend* the following:			
Rooming-in	70	95	89
Breastfeeding on demand	77	99	95
Partner family participation in the birth	39	95	93
Woman's participation in her own care	91	100	99
Childbirth preparation (woman and partner)	51	95	89
Exclusive breastfeeding first 6 months (unprompted report of advice to give breast milk and nothing else)	47	94	89
N (of providers)	98	92	91

Source: WIN Project Facility Survey Reports, 2000, 2002, 2003.

Likewise, at baseline three quarters of antenatal care providers said they discussed exclusive breastfeeding with their clients, and 47% said they usually recommend it (from the unprompted responses to the question 'what do you recommend mothers to feed their baby in the first six months?'). However, at baseline only 25% of antenatal clients reported that their provider discussed this, and the content may not have met the international standards for exclusive breastfeeding. We can see that at the end of the project, almost 100% of providers reported discussing this topic and 90% said they usually recommend it. Clients, too, reported a big increase in discussions of exclusive breastfeeding—65% or more of clients in the follow-up surveys said this happened, almost doubling from baseline (Table 2).

The content of discussions about exclusive breastfeeding improved, as well as their frequency. At baseline, 56% of antenatal clients could correctly define exclusive breastfeeding, that is, giving breast milk and nothing else except vitamins, minerals or medicine (Table 2). At second round, 67% could define it. This improvement in client knowledge was sustained as shown by data from the endline survey: 69% of antenatal clients could correctly define exclusive breastfeeding in 2003. Further, in 2003 64% of these pregnant women said that a child should be six months old before being given other liquids or foods to supplement breast milk (the accepted age to stop exclusive breastfeeding according to the World Health Organization (WHO)).

Contraceptive counseling for antenatal clients

Women in Russia rarely want to have more than two children, yet childbearing starts quite early.[9,10] Women often want to delay a next birth by more than three years, and to stop childbearing altogether when they have two children. Discussion of contraceptive methods to use after the birth is best begun during the antenatal period, so that women are prepared to use some contraceptive method when their fertility returns. For women who intend to breastfeed, it is also important to identify the most appropriate contraceptive methods (ones that will not interfere with breastfeeding or harm the breast-fed infant).

Antenatal providers were clearly aware of this need, also, since at baseline three out of five (62%) said that they did discuss this topic routinely (Table 1). Yet, at baseline less than a quarter of clients reported that the provider had discussed postpartum contraception (Table 2). Reports from both providers and clients at follow-up surveys indicate that this practice had become much more prevalent. By 2003, more than 90% of providers said they discussed contraception, increasing from 62% at baseline and up from 85% in the second round survey. However, less than half of antenatal clients report that this topic was discussed. This is a big improvement, almost doubling from baseline reports, but there is still room for much more improvement in this aspect of antenatal care.

Table 2: Quality of antenatal care as measured by client reports

INDICATOR	PERCENT OF ANTENATAL CLIENTS REPORTING 'YES'		
	BASELINE	ROUND 2	ENDLINE
Client reports that provider discussed:			
STIs, HIV, and AIDS	17	41	48
Alcohol and cigarettes	48	69	70
Drugs	33	50	47
Nutrition during pregnancy	82	91	92
Partner/family participation in childbirth	21	70	65
Option to have rooming-in	16	66	60
Any of these discussed with partner/family	6	24	25
Danger signs during pregnancy	74	85	84
Discussed signs with partner/family	7	24	25
Exclusive breastfeeding	25	71	66
Care of newborn	18	48	40
Self-care postpartum	16	39	35
Can correctly define 'exclusive breastfeeding'	56	67	69
Provider discussed postpartum family planning	23	42	43
N (of clients)	491	533	518

Source: WIN Project Facility Survey Reports, 2000, 2002, 2003.

Quality of care during labor and delivery

The family-centered maternity care (FCMC) training aimed to reduce certain procedures that were routinely practiced in Russian labor and delivery wards, but whose effectiveness is not based on evidence.[i] FCMC training for delivery care providers focused on making the childbirth experience more 'family-friendly,' encouraging partner or family support during labor and delivery, and discouraging routine practices that make women feel uncomfortable or have been shown to be ineffective or even harmful. These non-evidence-based practices include routinely giving intravenous fluids, pain medication, electronic fetal monitoring of labor, artificial rupture of membranes, withholding food or drink during labor, and routine enema, perineal shaving, and episiotomy. Other practices have been demonstrated to be beneficial, such as having a close person for support during labor and delivery, and freedom of movement and choice of positions during labor.

Many practices demonstrated to be ineffective or harmful were prevalent in WIN facilities at the start of the project.[11] FCMC training was successful in changing many of these practices. Table 3 displays data from provider reports that show major improvements in most of the practices deemed either harmful or not beneficial. For example, perineal shaves and enemas were very prevalent at baseline—almost 100% of providers said that perineal shaves were routine, and almost 80% said that enemas were routinely done. This dropped to almost no providers reporting such routine practice at the second round survey, which was sustained into 2003.

[i] Unless otherwise stated, evidence cited from clinical trials is taken from the publication: Enkin, Keirse, Neilson, et al, *A guide to effective care in pregnancy and childbirth*, 3rd Edition, Oxford: Oxford University Press, 2000, based on the systematic reviews of evidence developed for the Cochrane Library.

Table 3: Delivery care providers' reports of 'usual practice' in their maternity hospital

INDICATOR	PERCENT OF PROVIDERS REPORTING 'USUAL PRACTICE' FOR CLIENTS		
	BASELINE	2ND ROUND	ENDLINE
Perineal shave	97	4	4
Axillary shave	52	2	4
Enema	78	3	4
IV solution	36	2	4
Medicine for pain relief	61	4	2
Restrict woman to bed rest – try most	3	1	2
Restrict food	20	5	7
Restrict drinks	39	2	2
Perform episiotomy for some or all women	100	92	69
Monitor labor with partogram	32	95	93
Allow woman to walk during labor	57	85	94
Allow woman to sit up during labor	43	82	93
Allow a close person at birth	26	97	99
N (of providers)	121	113	135

Source: WIN Project Facility Survey Reports, 2000, 2002, 2003.

As we can see in the data from postpartum clients displayed in Table 4, women verify these changes. At baseline more than 90% reported having a perineal shave and 92% had an enema. At the second round, the practices had clearly declined, though not as much as provider reports would suggest. Those clients who reported experiencing these practices had dropped by half, to 43% and 25% respectively, and these gains were sustained and even improved in 2003.

Table 4: Postpartum clients' reports of experience during labor and delivery (reflecting changes to evidence-based practice by providers)

INDICATOR	PERCENT OF CLIENTS REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Had perineal shave	93	43	16
Axillary shave	64	33	2
Enema	92	25	20
IV solution	85	57	49
Medicine to induce labor	47	30	24
Medicine for pain relief	62	48	45
Restricted to bed rest	26	15	15
Food restricted	34	18	20
Drink restricted	29	13	16
Artificial rupture of membranes	55	47	44
Episiotomy	30	16	14
Allowed to walk	67	82	80
NOT allowed to sit up during labor	56	14	15
Did NOT have close person at birth	96	68	52
N (of clients)	324	446	423

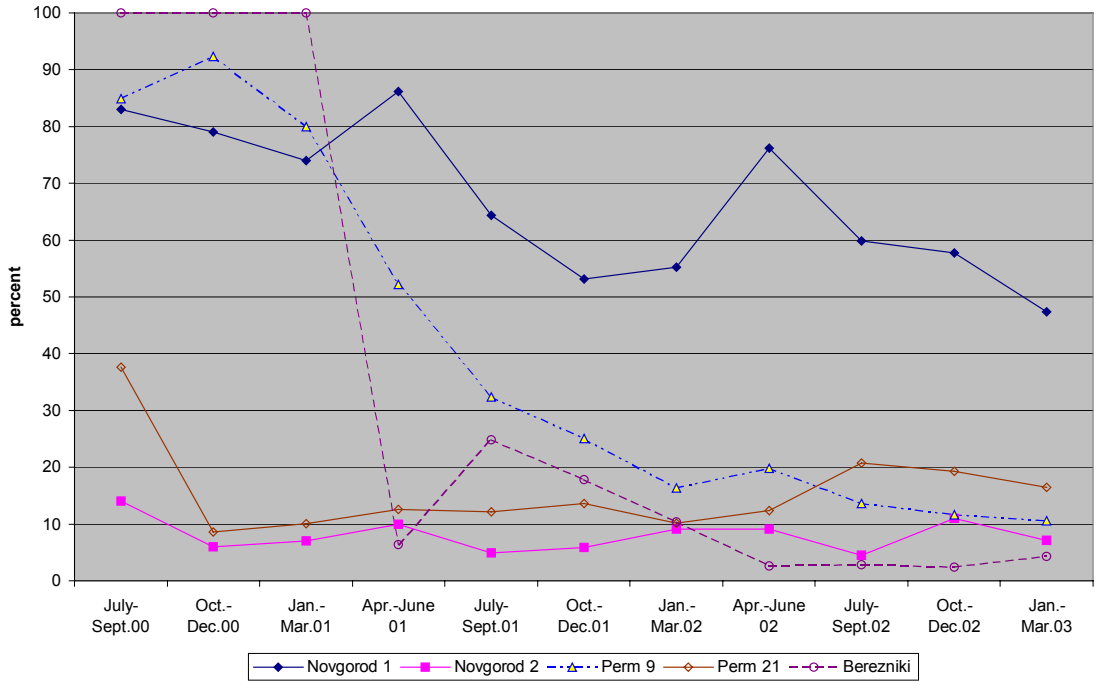
Source: WIN Project Facility Survey Reports, 2000, 2002, 2003.

Pain management

Management of pain with sedatives, tranquilizers, and blocks during labor and delivery is unlikely to be beneficial.[12] Pain medications have been shown to depress the respiratory system of the newborn and increase hypothermia, to increase the incidence of instrument and operative delivery, and to increase risk if general anesthesia is required for delivery. They also cause maternal drowsiness and reduce immediate maternal-infant contact. Non-pharmacological techniques of pain relief such as maternal movement and position change during labor, touch, and massage, have been demonstrated to be beneficial.

The large decline in provider reports of the use of pain relief medication (Table 3) may be misleading, as 45% of women still reported receiving some pain medication (Table 4).

Figure 1. Percent of women given pain medication during labor



In our routine facility monitoring system, hospitals provided the project with quarterly reports on the proportion of women who were given any pharmacological methods of pain relief, including analgesics.[ii] Almost all of the participating maternity hospitals also reported large declines in this practice, but the data displayed in Figure 1 (and found in Table 1, Annex) show that practices of medication for pain relief vary quite widely across participating facilities. Nevertheless, in all maternities, the proportion of women receiving pain medication decreased over the 11 quarters that the FMS had operated, falling from more than 80% to less than 50% even in Maternity No. 1 in Veliky Novgorod, where WIN interventions were adopted less enthusiastically by some providers.

[ii] By the time that the Facility Monitoring System began to collect data in the summer of 2000, staff from all facilities except Berezniki had some training in the principles of FCMC. Berezniki's breastfeeding training was held in February, 2001 and FCMC training in June 2001, but staff were aware of the changes already taking place in Perm and other project sites.

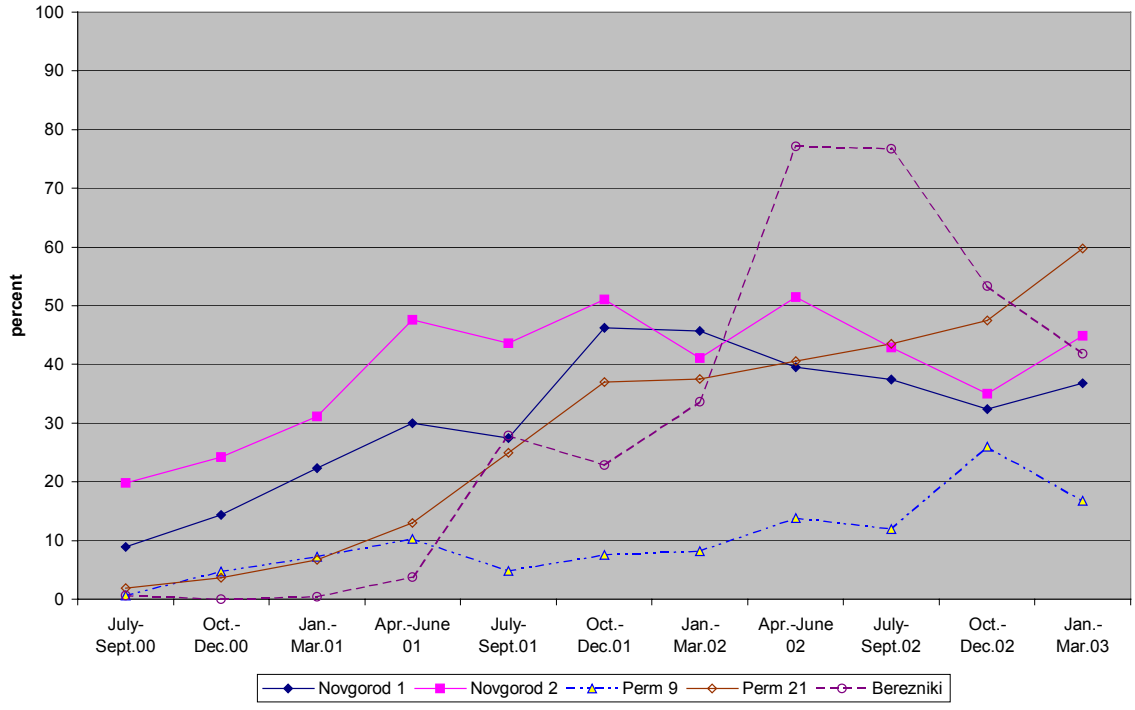
In four out of five facilities, the prevalence of pain medication given to laboring women fell to low levels (25% or less) by the end of 2002. Nevertheless, there is still a discrepancy between facility and provider reports and those of their clients, which may indicate that what is meant by 'pain medication' was not clear to these respondents.

Support during labor and delivery

Evidence from controlled trials also shows that support during labor reduces use of medication for pain relief and the need for Cesarean delivery, or for episiotomy during vaginal delivery. It also improves the condition of the newborn.[13]

At baseline, only 26% of providers reported that they and their facility allowed women to have a close person present for support during birth (Table 3). This increased in the second round and endline surveys. Almost all delivery care providers interviewed reported that this practice was allowed. Similarly, at baseline 96% of women reported that they did not have a close person with them, but this had declined to less than 70% in the second round, and improved even further in the endline survey, when only half of women reported not having such support (Table 4).

Figure 2. Percent of women with family support during labor



We can see from the FMS data for individual facilities that the initial, very low levels of support of a close person during labor moved steadily upward in every participating maternity hospital during the first eight quarters, as shown in Figure 2 (data in Table 2, Annex). However, some drop-off is noticeable in both facilities in Veliky Novgorod after Quarter 8. At endline, both maternities in Perm were making slow but steady progress. Berezniki's Quarter 10 result appears to signal a real downward trend, as the Quarter 11 data continue this trend, with only a little more than 40% of women having support during labor.

To make further progress, labor support is one practice that facilities may need to work hard to encourage, as it requires medical staff to accommodate their own work to the presence of 'extra' people in the labor or delivery room. There is still room for improvement in some additional indicators, such as routine use of an intravenous line and artificial rupture of membranes, but overall the data demonstrate a large decrease in practices that have no proven benefit or are potentially harmful.

PROVISION AND USE OF NEW SERVICES AND PRACTICES

Indicators of family-centered maternity care

In each facility survey, we asked women coming to facilities about whether the new services promoted by the WIN Project were provided to them, and whether they used these new services, especially those designed to establish and support exclusive breastfeeding.

Attitudes toward support during labor

Women's attitudes toward some new practices, such as involvement of a family member for support during labor and delivery, have changed markedly. At baseline, many women reported that they did not *want* any close person with them during childbirth. This was a novel idea and had been experienced by very few women prior to the WIN interventions (Table 5). In the second round, far fewer women—only about 30%—said they would not want a close person with them at the birth than at baseline (60%). This increasingly positive attitude toward the new practice was sustained in the third round (endline) survey, and the practice in facilities had clearly increased, with almost half of postpartum women reporting in 2003 that they actually had someone with them for support during labor.

Table 5: Client reports of access to and use of new services

INDICATOR	PERCENT OF POSTPARTUM CLIENTS REPORTING 'YES'		
POSTPARTUM CLIENTS:	BASELINE	2ND ROUND	ENDLINE
Discussed preparation for delivery with antenatal care provider (had childbirth preparation)	55	74	74
Partner participated in those discussions (of those who discussed during antenatal care)	27	34	32
Received information about the FCMC option	25	81	76
Selected FCMC option during antenatal period (of those who received information about it)	17	42	59
• Of all clients, those who selected FCMC during antenatal care	4	33	45
Were offered 'rooming-in' option	46	90	84
Chose 'rooming-in' option	38	82	79
• Baby taken away 1st night (of those rooming-in)	62	9	7
Does not *want* close person at next birth (of all respondents)	59	32	34
Chose to feed on demand	28	84	81
Women exclusively breastfeeding entire duration in maternity	**26**	**88**	**88**
N (of clients)	324	446	423

Source: WIN Project Facility Survey reports, 2000, 2002, 2003.

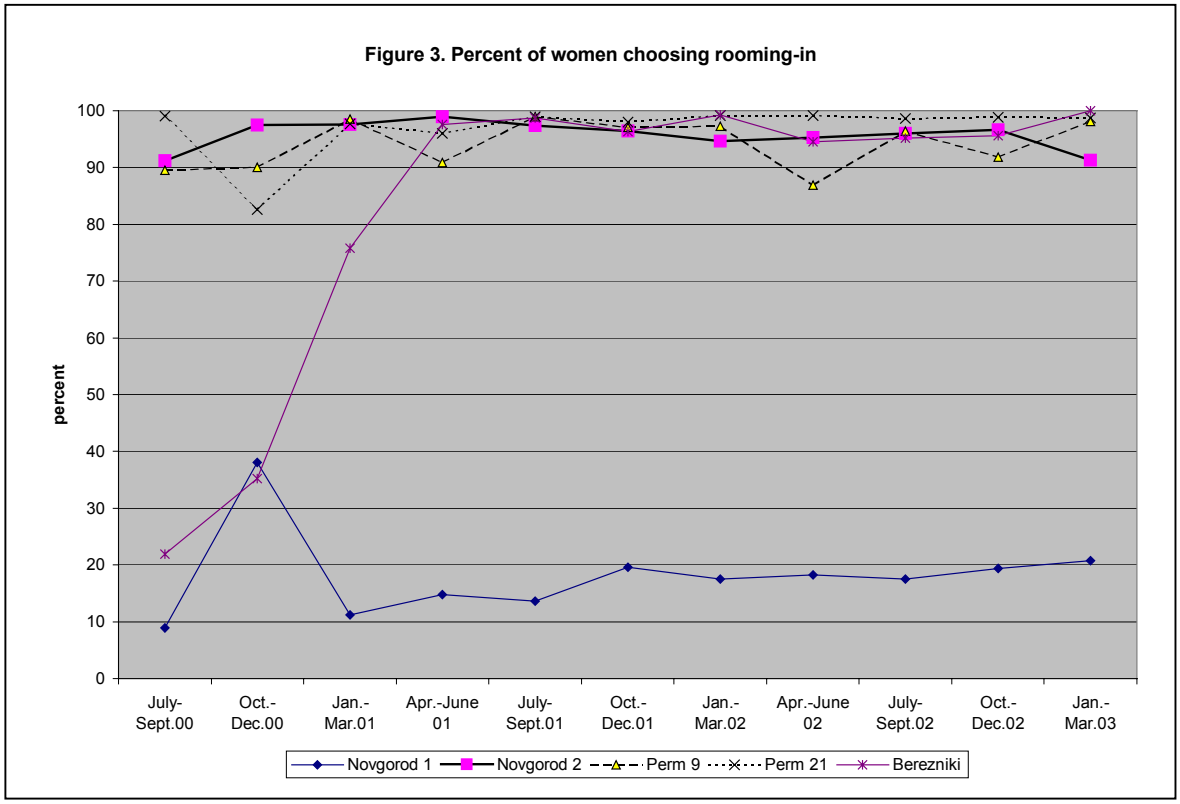
Table 5a: Reports of women interviewed in households: had baby with her day and night while in hospital

OF WOMEN WITH A LIVE BIRTH IN PAST 5 YEARS:	% REPORTS 'YES' FROM WOMEN IN COMMUNITY			
	Baseline % (N)		**Endline % (N)**	
Perm	27	(359)	61	(280)
Berezniki	16	(385)	61	(344)
V. Novgorod	18	(322)	43	(254)

Source: WIN Project household survey reports 2000, 2003.

Provision and use of 'rooming-in'

Hospital policies that support 'rooming-in' and feeding infants on demand can reduce the likelihood of supplementary bottle feeds that undermine the establishment and continuation of exclusive breastfeeding. WIN supported development of hospital protocols in participating facilities to promote exclusive breastfeeding. These policies promote breastfeeding by fostering feelings of self-confidence among new mothers and ensuring that mothers and babies are together day and night.



Evidence from controlled trials has shown that restriction of mother-infant contact and routine nursery care for babies in hospital reduce maternal affectionate behavior, increase mothers' feelings of incompetence and lack of self-confidence, and increase the likelihood of early discontinuation of breastfeeding.[14] By contrast, the epidemiological evidence shows that that 'rooming-in' results in lower rates of infection than keeping infants in central hospital nurseries, where the problem of cross-infection occurs.[15]

Prior to the training interventions and adaptation of physical facilities, 'rooming-in' was an option most women were not offered. The routine practice was to keep all babies in a newborn nursery, taking infant to mother only at feeding time. Of all postpartum women interviewed at baseline, less than half reported that they either had 'rooming in' or at least were offered the option. At the same time, 80% percent or more of physicians reported that they offered this option to their clients (Table 6). By the second round survey, 95% of providers reported offering 'rooming-in,' and 90% of postpartum women reported being offered the option. Eighty-two percent of postpartum women reported selecting 'rooming-in' in the second round survey in 2002, and this was sustained with 79% reported at endline that they selected 'rooming-in' (Table 5).

Almost 40% of women reported at baseline that they had their babies with them day and night, but most of these women reported that their newborn was taken away to a nursery for the first night (Table 5). By the second round survey, more than twice as many mothers (more than 80%) reported that they had 'rooming-in', and 'true rooming-in' (baby stays with mother from birth) increased dramatically. This reported improvement was sustained in the endline survey (Table 5). Women interviewed in the household surveys confirmed a large increase in 'rooming-in,' but the increase was less marked in Veliky Novgorod, where one facility did not readily adopt this practice (Table 5a).

Table 6: Reports from providers on new services provided

INDICATOR	PERCENT OF PROVIDERS ANSWERING 'YES'		
	BASELINE % (N)	2ND ROUND %	ENDLINE %
Neonatologists offer rooming-in to clients	80 (121)	95 (112)	98 (86)
Ob/gyns offer rooming-in to clients	84 (121)	95 (113)	100 (135)

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Figure 3 displays data from the Facility Monitoring System for each participating maternity hospital. Once the practice of 'rooming-in' was established, four out of five facilities report that more than 90% of the women choose this option in maternities where it is offered. The data shown in this figure (also found in Table 3, Annex) demonstrates the rapid change that was made during the first five quarters in Berezniki, the last city to receive training in breastfeeding and the baby-friendly hospital, and family-centered maternity care.

These data show that 'rooming-in' is a practice that can change very quickly, once a facility makes the necessary arrangements. However, these changes did not happen in all facilities. Maternity Hospital 1 in Veliky Novgorod, which at first made an attempt to allow 'rooming-in' but later retracted its efforts, lagged far behind the other hospitals, which actively and enthusiastically accepted the evidence and changed to this new practice. 'Rooming-in' appears to be one of the most popular changes promoted by WIN among new mothers and providers.

Quality of care of the neonate

We asked neonatologists about certain practices that known to be beneficial, such as recording an APGAR score, prophylactic treatment of the eyes, and weighing the neonate at birth, but that their clients would not know about or be able to assess. We also asked about some practices of unproven benefit, such as swaddling and treatment of female genitals for syphilis prevention. We can see from the data displayed in Table 7 that attitudes among some neonatologists toward 'rooming-in' changed quite markedly, with almost a quarter saying they knew of no reasons to restrict the practice of 'rooming-in.' Some other practices did not change, however, or even

became more prevalent, such as prophylactic treatment of genitals. Nevertheless, some important changes in neonatal care practices clearly occurred, and some practices, such as weighing of the neonate (to enable monitoring of post-birth weight loss and gain), increased.

Table 7: Neonatologists' reports of routine practices for neonatal care

INDICATOR	PERCENT OF PROVIDERS REPORTING ROUTINE PRACTICES FOR ALL NEONATES		
	BASELINE	2ND ROUND	ENDLINE
Record APGAR score	75	73	97
Clean baby with oil	78	47	69
Suction with catheter	10	50	22
Swaddling	86	70	79
Prophylactic eye treatment	81	74	97
Prophylactic treatment of genitals	73	51	75
Weigh neonate	87	80	99
Immediate skin-to-skin contact with mother	30	75	88
Immediate breastfeeding	45	82	91
Offer rooming-in	80	95	98
No contraindications for rooming-in	3	22	23
N (of providers)	121	112	86

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Breastfeeding and supporting practices

Other practices help to establish a bond between mother and infant and support establishment of breastfeeding. While early mother-infant contact has not been subjected to rigorous trials, evidence in its favor is strong, and immediate skin-to-skin contact can help to maintain the newborn's body temperature. The data in Table 9 show that only about half of postpartum women reported at baseline that they had immediate skin-to-skin contact with their infants. By the second round, 90% reported this practice, showing only a slight decline in the 2003 survey. Neonatologists' reports support this observed change, with nearly 90% of these doctors reporting that immediate skin-to-skin contact was the usual practice in their facility (Table 7).

As we can see in Table 8, only 28% of neonatologists reported recommending exclusive breastfeeding for women at baseline, but more than half also reported recommending supplementing breast milk with water. By 2003, this had dropped to only 2% of providers recommending water supplements.

Provider reports that they recommend immediate breastfeeding increased too, to more than 98% at endline. But the 90% who reported recommending immediate breastfeeding at baseline conflicted with the reports from their clients. The proportion of women reporting that they breastfed their infant immediately after birth rose from 38% to almost 90% in the second round survey, and showed only a negligible decline in the 2003 survey data (Table 9). By endline, it seemed that even according to clients, nearly all providers encouraged immediate breastfeeding.

Table 8: Neonatal caregivers' reports about breastfeeding counseling to mothers

INDICATOR	PERCENT OF PROVIDERS WHO REPORT 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Recommend exclusive breastfeeding*	28	91	90
Advise supplementing with formula	33	5	3
Advise supplementing with water	52	1	2
Recommend feeding on demand	64	96	97
Recommend breastfeeding in 1st hour after birth	90	95	98
Counsel on when to begin supplementing	11	78	85
No contraindications for breastfeeding	0.1	22	23
N (of providers)	260	169	195

* The only 'correct' responses to the unprompted question 'what do you recommend mothers to feed their babies in the first six months?' were: breast milk, vitamins, minerals or medicine, and nothing else.
Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Effectiveness of breastfeeding counseling

Exclusive breastfeeding up to six months is now well accepted as important for both mother and infant.[16] There is no evidence that a fully breastfed baby needs supplements of water, glucose, or formula, nor is there evidence to support giving additional fluids to breastfed babies to prevent or treat physiological jaundice of the newborn (hyperbilirubinemia). However, routine supplementation of breast milk with other feeds has been demonstrated to result in high discontinuation rates for breastfeeding. A controlled trial has shown that women whose babies receive routine supplements are up to five times more likely to abandon breastfeeding in the first two weeks as women whose babies are not supplemented.[17]

Exclusive breastfeeding also has a contraceptive effect, when menses have not returned and the infant is less than six months of age. The practice of exclusive breastfeeding can help women to space their pregnancies (preferred spacing for health reasons is at least 36 months between births), and reduce unintended pregnancies following a birth. This method of contraception, known as 'lactational amenorrhea method,' or LAM, can also act as a 'bridge' to other family planning methods. In one study, more than 70% of mothers who used LAM in the postpartum period went on to use another contraceptive method, including more than 60% who had never before used contraception. [18]

Exclusive breastfeeding in the maternity

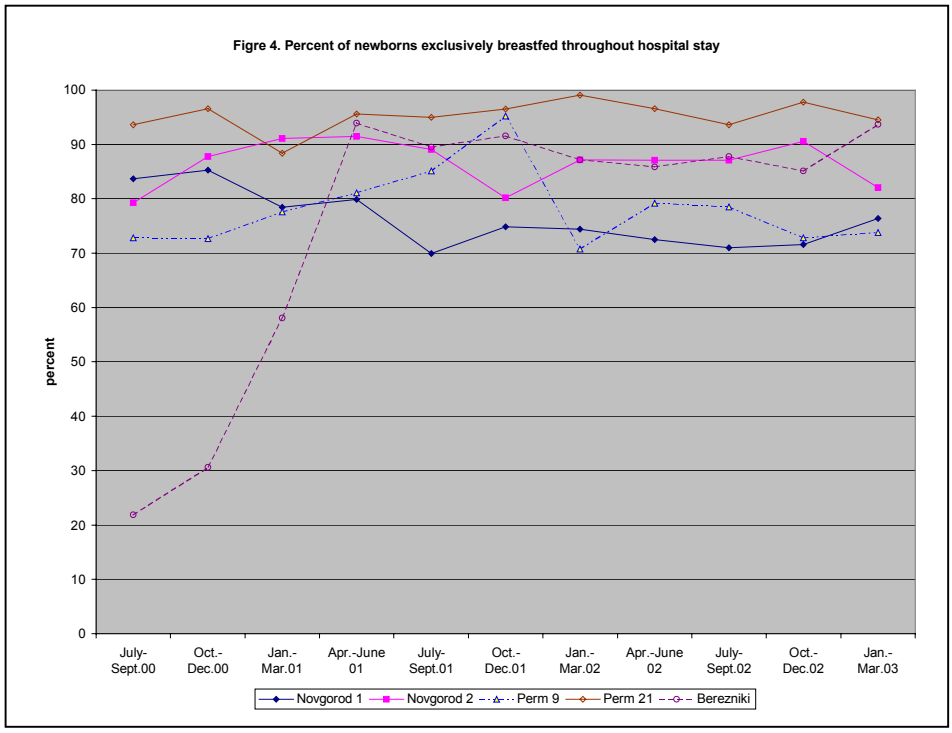
The most positive proof that breastfeeding counseling and support were effectively implemented by providers is that the proportion of women who reported that they exclusively breastfed their baby during the entire hospital stay more than tripled, to almost nine out of every ten postpartum women (Table 9). By the time of the second round survey, 88% of women reported that their baby was given nothing else to drink during the hospital stay. This gain was sustained, as shown by the findings of the endline survey.

Table 9: Percent of postpartum women reporting <u>use</u> of new services and practices: exclusive breastfeeding and family involvement

INDICATOR	PERCENT OF WOMEN REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Had 'rooming-in'	38	82	79
• Baby taken away 1st night (of those rooming-in)	62	9	7
First skin-to-skin contact immediately after birth	55	90	82
Breastfed newborn immediately after birth	38	87	81
Breastfeed on demand	28	84	81
Exclusively breastfed during entire hospital stay (nothing else given)	**26**	**88**	**88**
N (of clients)	324	446	423

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Hospitals were also asked to report in the Facility Monitoring System the percent of newborns exclusively breastfed—with no supplementation—during the hospital stay (Table 4, Annex). All maternities reported quite high levels of exclusive breastfeeding, as the data in Figure 4 shows.



In Maternity 2 in Novgorod, Maternity 21 in Perm, and the Berezniki maternity, 85% to 95% of newborns were reported by staff to be exclusively breastfed during their entire hospital stay. These levels remained high and fairly stable over the entire time span. By the time that the first quarter reports from the monitoring system were made, all facilities except those in Berezniki had already received breastfeeding training. The change in this indicator for Berezniki, following breastfeeding training in February 2001 and FCMC training in June 2001, is especially dramatic, and shows how quickly breastfeeding practices can change.

All WIN-participating maternities *except* Novgorod Maternity No. 1 have been awarded WHO/UNICEF Baby-Friendly Hospital Initiative (BFHI) certification since the WIN Project began its work. Novgorod Maternity 2, Perm 9, Perm 21, and Berezniki maternity have all been subjected to intense scrutiny. As part of the assessment for accreditation for BFHI status,

interviews with providers and clients and direct observations are conducted. The BFHI certification procedures' findings support the monitoring system's breastfeeding data for these four facilities.

Observations and interviews on site do not support the data from Maternity No. 1 in Novgorod (more than 70% of newborns exclusively breastfed for entire hospital stay), but rather suggest that some feeding of newborns still occurs in the central nursery.[19] The improvement noted in Maternity 9 in Perm during the first six quarters appears to be waning, and needs corrective action if the gains are not to be permanently lost.

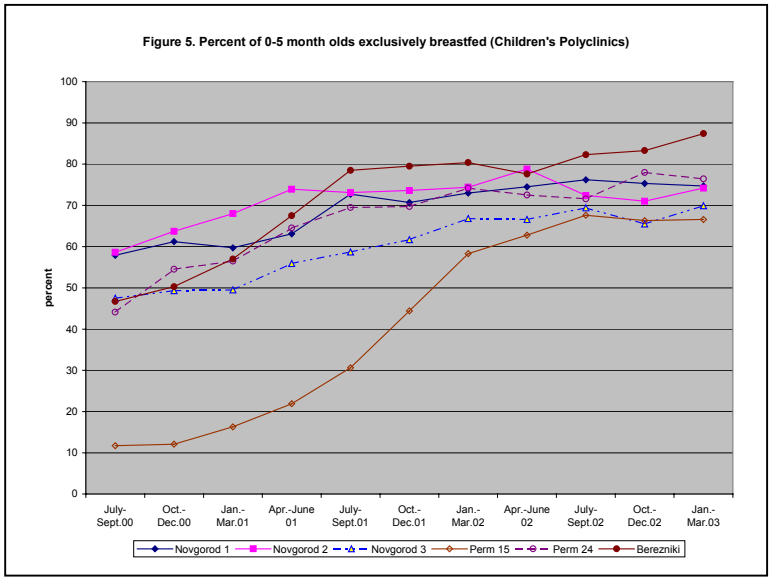
Exclusive breastfeeding up to six months of age

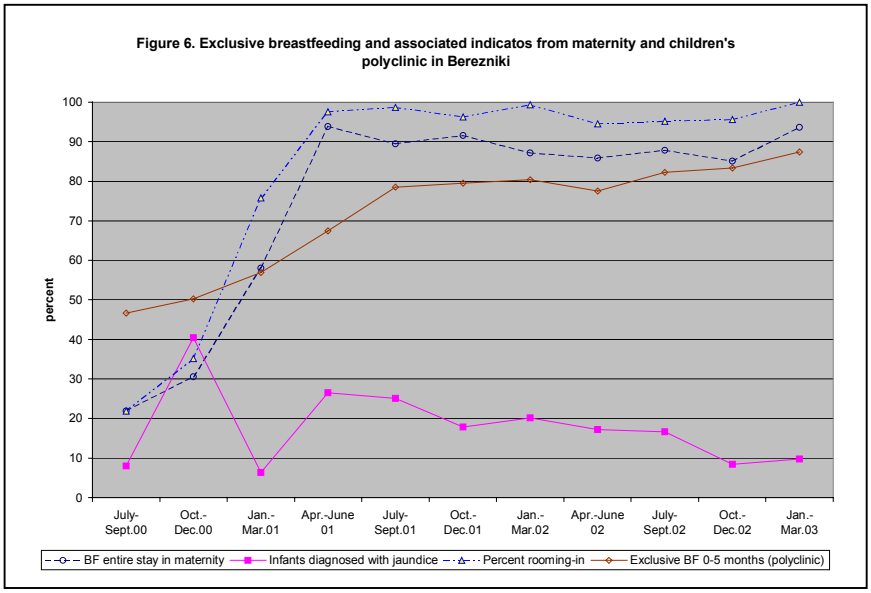
In children's polyclinics, feeding practices of children are routinely recorded during well-child visits. Data are reported to the WIN Facility Monitoring System by staff of children's polyclinics for another indicator of exclusive breastfeeding: the percent of infants under six months of age at their last check-up who were exclusively breastfed.[20] We measured the proportion of all children less than six months of age who were reported to be exclusively breastfed at the time of their clinic visit (given nothing except breast milk). These reports continue to show a steady upward trend in exclusive breastfeeding for young infants up to six months, the optimal age for supplementation. The data are displayed in Figure 5, and are found in Table 5, Annex.

Polyclinic 15 in Perm has made tremendous progress since the Quarter 1 report, when only about 10% of children under six months of age were exclusively breastfed. Since September 2000, the proportion of exclusively breastfed infants under six months seen at this facility has more than tripled. The proportion of children exclusively breastfed has increased steadily in all sites, and now varies from a low of 65% of under-six-month-olds to more than 80% across these participating polyclinics.

The data displayed in Figure 6, for the single maternity hospital in Berezniki and the children's polyclinic associated with it, illustrate how the breastfeeding indicators change together with practices and outcomes linked to breastfeeding. 'Rooming-in' increased rapidly in tandem with an increase in exclusive breastfeeding in the maternity hospital.

In Berezniki, exclusive breastfeeding for the entire duration of stay in the maternity improved dramatically over the first five FMS reporting quarters, and has been sustained since then. The data from Berezniki Maternity reflect the rapid progress in practice of exclusive breastfeeding that occurred after training—starting with a baseline measure of only 22% of mothers reported to be exclusively breastfeeding in hospital, and reaching 90% by quarter five.





Coincidentally, rates of diagnosed jaundice were fairly low when exclusive breastfeeding was at its lowest (and hence, full bottle feeding most prevalent). The evidence from published studies shows that physiologic jaundice of the newborn mostly likely develops due to inadequate intake of milk and calories, and results from poor management of breastfeeding, expressed largely through insufficient frequency of breastfeeding.[21] In Berezniki Maternity, jaundice rates rose as breastfeeding practices became mixed, with some children getting only partial breastfeeding, and have fallen consistently as full, exclusive breastfeeding on demand has become the norm in the maternity. The proportion of infants still exclusively breastfed when seen in the children's polyclinic rose more slowly, but is sustained at more than 80% of all under-six-month-olds.

Effectiveness of contraceptive counseling for postpartum women

Just as with antenatal clients, postpartum women need to discuss pregnancy prevention with their provider before leaving the hospital, since they need to be prepared with a contraceptive method by the time fertility returns, which can happen even before they return for a post-natal check. We see from the data shown in Table 10 that counseling postpartum women in the maternity on their contraceptive choices has clearly improved, more than doubling from baseline to almost half of all women reporting they had received counseling. This gain was sustained, but not improved, as the endline survey result shows.

The quality of this counseling also apparently improved by the time of the second round survey, with 94% of women reporting that their provider had explained their chosen method, its side effects, and what to do if side effects occurred (Table 10). This latter improvement appears to have been lost by 2003. However, providers were clearly discussing the lactational amenorrhea method (LAM) of birth control, one of the best methods for breastfeeding women to prevent an unwanted conception in the postpartum period. About half of these women reported that their provider discussed the use of LAM, rising from only about 10% at baseline. We see a concomitant increase in the proportion of women who think breastfeeding can be used as a contraceptive, rising from only about 10% at baseline to almost half of all postpartum clients in the second round survey, and nearly as many in the following year.

Providers also reported that they counseled women on this method, but fewer know and mention the three conditions that must apply for LAM to be effective in preventing pregnancy: exclusive breastfeeding on demand, menses have not returned, and the baby is less than six months of age (Table 10a). This is clearly an important component of LAM counseling, and efforts should be

made to strengthen provider knowledge. If counseling on LAM is not improved, women will not be aware of the need for another contraceptive method when all of these conditions are not met.

By the time of the second round survey, almost a quarter of women who knew what method they would use chose LAM (16% of all postpartum women), but less than 2% of these women could name all three conditions when LAM is no longer effective.

Table 10: Postpartum client reports of contraceptive counseling

INDICATOR	PERCENT OF CLIENTS REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Provider counseled about postpartum pregnancy prevention	19	47	48
Provider explained method, side effects, and what to do if side effects	80	94	83
Provider encouraged questions	95	98	99
Provider discussed LAM	11	50	47
Think breastfeeding can be used as contraceptive	12	46	44
Woman chose LAM, of those who know what method they would choose (% of all clients)	(2) (0.6%)	25.3 (16%)	26.2 (17%)
• Know all 3 conditions when LAM is no longer effective	-	1.9	7.0
N (of clients)	324	446	423

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Table 10a: Provider reports of contraceptive counseling for postpartum clients

	PERCENT OF PROVIDERS REPORTING 'YES'		
Discuss LAM with postpartum women	41	78	80
• Know all 3 conditions when LAM is no longer effective	16	22	37
• LAM is mentioned as best method for breastfeeding women	19	54	61
N (of providers)	221	306	330

ADVICE GIVEN ON BACK-UP METHOD AFTER LAM	PERCENT OF PROVIDERS WHO MENTION EACH METHOD		
High-estrogen brand oral contraceptive	22	5	6
Mini-pills (low estrogen)	47	52	58
IUD	72	76	73
N (of providers)	74	192	192

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

For breastfeeding women, high estrogen oral contraceptives are contraindicated, as they interfere with breastfeeding, leading to breastfeeding failure and supplementation with breast-milk substitutes.[22] As we can see from the data displayed in Table 10a, providers learned this well, with only 6% at endline reporting that high estrogen pills are an option for women who plan to continue to breastfeed when LAM is no longer effective. Low-estrogen oral contraceptives are an acceptable method for a breastfeeding mother.

Partner involvement in counseling

We see from the data displayed in Table 11 that more than 80% of women who were counseled reported desiring that their partner participate in those discussions with their provider, even at baseline. Few partners accompanied their partners during these discussions, but the proportion of partners reached increased from 3% at baseline to 12% in the second round, falling back to 7% in 2003. In absolute terms, this is much more than at baseline, since so few women (only 19%) reported being counseled at baseline, while nearly one every two postpartum women were reported being counseled at the end of the project.

Table 11 Postpartum clients' reports of contraceptive intentions

INDICATOR	PERCENT OF POSTPARTUM CLIENTS REPORTING:		
	BASELINE	2ND ROUND	ENDLINE
Of those counseled and have a partner:			
• Want partner to participate in family planning discussions with provider	85.5	81.8	84.0
• Partner participated	3.2	12.2	7.1
Partner participated (of all postpartum women)	0.6	5.6	3.4
Knows what method she will use	51.0	62.0	65.0
Of those who know what method they will use:			
• Plan to use modern method*	93.0	74.0	70.6
• Plan to use medical method*	72.0	50.0	50.2
• Plan to use LAM	1.2	25.3	26.2
N (of postpartum women)	324	446	423

* Definition of modern and medical methods does not include LAM.
Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

We can also see an increase in the proportion of postpartum women who know at the time of discharge from the maternity what contraceptive method they planned to use (Table 11, lower panel). A large proportion planned to use a medical method, even at baseline. Those planning to use modern and medical methods decreased after the WIN interventions, but this was due to the increased proportion of postpartum women who reported that they planned to use LAM. The LAM method is not included in the definition of a medical method, but is being recommended by more providers following family planning and breastfeeding counseling training.

Reports from women in the community

We also have data from women interviewed in their own homes in household surveys regarding their experiences of postpartum contraceptive counseling. Among women with a recent birth, the data displayed in Table 12 show a large increase in women who in 2003 reported postpartum counseling by a medical provider as compared with the baseline reports of 2000. We also observe a small but important increase in women who reported leaving the hospital with a method, or a prescription for one, doubling or nearly doubling in Berezniki and Perm, albeit from low levels.

Table 12: Women reporting postpartum contraceptive counseling experience

DOCTOR OR MIDWIFE DISCUSSED OR OFFERED TO DISCUSS CONTRACEPTION % (N)			
	PERM	BEREZNIKI	V. NOVGOROD
2000*	23.3 (335)	39.7 (352)	29.2 (298)
2003*	39.0 (195)	47.5 (242)	36.7 (158)
LEFT THE HOSPITAL WITH A CONTRACEPTIVE METHOD OR PRESCRIPTION (%)			
2000*	6.0 (335)	13.6 (352)	12.1(298)
2003*	13.3 (195)	21.9 (242)	17.1(158)

Source: WIN Project Household Survey Reports, 2000, 2003. *Baseline: all women with a birth in previous 5 years; endline: all women with a birth since 7/2000

Quality of counseling experienced by contraceptive users in the community

The household survey questionnaires included a series of questions concerning the interactions between family planning providers and their clients. Women who had used at least one medical method of contraception (IUD, oral contraceptives, injectables, implants, or sterilization) were asked whether their provider talked with them about the method and its effectiveness or side effects. In the endline survey around 60% of respondents in all three cities reported that their provider discussed various types of contraceptive options (Table 13).

Table 13: Quality of contraceptive counseling received among ever users of medical methods, by city of residence

QUALITY OF CONTRACEPTIVE COUNSELING	CITY					
	PERM		BEREZNIKI		V. NOVGOROD	
	2000	2003	2000	2003	2000	2003
Provider talked about various methods of contraception	56.0	63.9	52.1	63.0	53.9	59.8
Method received was selected by:						
Respondent	62.7	55.8	70.6	70.3	66.0	62.0
Provider	15.0	16.2	11.1	10.9	10.3	10.8
Both	22.3	28.0	18.3	18.8	23.7	27.2
Provider explained the possible side effects of method	53.0	60.9	50.9	59.8	51.6	52.2
Provider explained effectiveness of method. relative to other methods	55.3	64.4	55.1	62.2	55.8	54.2
B (of respondents)	675	568	686	622	696	684

Source: WIN Project Household Survey Reports 2000, 2003.

Using these responses as proxies for the quality of contraceptive counseling, we see from the data in Table 13 that reports of quality counseling from women interviewed in the community increased over the period of the WIN Project activities. In 2003, more women than in 2000 reported that the medical provider they consulted discussed various methods of contraception with them and explained the possible side effects and the relative effectiveness of the methods. These effects were more marked in Perm and Berezniki than in Veliky Novgorod, where little or no change is evident.

At endline, more than 80% of women who recently used a medical method reported that they participated in making the decision about use of the method. They either selected the method themselves or together with their health care provider. Eight-four percent of women in Perm, 89% in Berezniki and 98% in Veliky Novgorod reported participating in this decision. But the proportion of women who reported that their provider had chosen the contraceptive method for them was virtually unchanged between the baseline and endline household surveys.

Post-abortion care and counseling

Use of effective family planning methods can reduce the number of unintended pregnancies and help prevent abortions. A U.S. study showed that an increase in expenditure of US$1 per capita in public funding for family planning services was associated with a reduction of 1 abortion per 1000 women.[23] Other studies have shown that as use of effective family planning methods increases, abortion rates decline over time; however, evidence indicates that this process is a slow one, taking between 20 and 30 years to produce such an effect on abortion rates. [24]

Complications of abortion place burdens on both women's health and the health care system. Complications for women can be serious, leading to death or disability, even where abortion is legal and most abortions are performed in health facilities. In recent surveys in Romania and Moldova, between 7% and 11% of women reported post-abortion complications. In 1995, approximately 25% of maternal deaths in Russia were attributed to abortion-related causes,[25] and this was also true for maternal deaths recorded in 2000.[26] In the WIN Project's baseline and endline household surveys, between 14% and 19% of women in the three cities where the WIN Project was implemented reported experiencing complications 'soon after' an abortion.[27]

Studies also indicate that women who have abortions are at high risk of another unplanned pregnancy, and most of these women were using a less effective method, or not using any method of family planning when they became pregnant. In the WIN baseline facility survey, almost 30% of abortion clients were not using any method of contraception, and most of the remainder were using less effective methods when they conceived.[28]

The WIN training interventions worked to improve provision of information and counseling to women on appropriate post-abortion and postpartum contraceptive methods. By promoting use of effective methods of pregnancy prevention and reducing reliance on abortion to control fertility, the project aimed to prevent adverse consequences of abortion, reduce the costs associated with hospitalization, and increase reliance on safer methods of birth control.

Provision of contraceptive methods at facilities

Prior to the WIN Project interventions, hospital gynecology units did not routinely offer contraceptive methods to clients immediately following an abortion. The first Comprehensive Post-Abortion Care (PAC) training course took place in Perm in April 2001. The data displayed in Table 14 show that only a very small proportion of abortion clients received a family planning method prior to discharge from the facility.

Reports for this indicator from Novgorod Gynecology Unit 1 and Perm Gynecology Unit 9 indicate that no clients were provided with family planning methods immediately following an abortion. This finding also suggests that hospital policy in these facilities had not yet changed to allow provision of an IUD, one of the methods most likely to be available at the time of an abortion.[iii]

[iii] As a result of concerns about high rates of infection among post-abortion IUD users, a Ministry of Health guideline bars physicians from providing IUDs immediately post-abortion. After WIN Project training on safe IUD insertion technique, some facilities started to provide IUDs at the time of the abortion procedure, and a new Guideline on Post-Abortion Care has been approved at national level.

Table 14: Percent of abortion clients at participating gynecological units who left with a family planning method

	NOVGOROD GU1 %	NOVGOROD GU2 %	PERM GU9 %	PERM GU21 %	BEREZNIKI %
July-Sept.00	0	3	0	8	0
Oct.-Dec.00	0	7	0	8	14
Jan.-Mar.01	0	12	0	2	11
Apr.-June 01	0	9	0	8	17
July-Sept.01	0	9	0	57	13
Oct.-Dec.01	0	13	0	25	13
Jan.-Mar.02	0	17	0	6	8
Apr.-June 02	0	7	0	14	9
July-Sept.02	0	1	0	5	10
Oct.-Dec.02	0	3	0	3	7
Jan-Mar.03	0	1	0	0	5

Source: WIN Project Facility Monitoring System Report July 2000 – March 2003, Quarter 1 – Quarter 11.

The largest increase—in the gynecology unit of Perm 21—occurred during a post-abortion care operations research study, designed by the Population Council's FRONTIERS Project to test different ways to increase contraceptive use among post-abortion clients.[29] The study, carried out by WIN partner EngenderHealth, offered free contraceptive commodities of the client's choice to one group of post-abortion clients, in addition to contraceptive counseling; the other group received only counseling. At the height of recruitment of the first group into that study (June to November 2001) almost 60% of abortion clients received a supply of contraceptives prior to discharge.

In the other sites, few contraceptives were available for distribution and the vast majority of abortion clients were referred to women's consultation centers for family planning counseling at the time of post-abortion check-up.[30]

Quality of post-abortion counseling

At baseline, more than 85% of abortion clients in each facility survey reported that their provider told them when to make a follow-up visit for a check-up following the abortion (Table 15). This changed little over the course of project interventions. However, in the baseline survey only 41% of clients reported being counseled about how to prevent another unwanted pregnancy before leaving the facility. The proportion who were counseled more than doubled by the time of the second round survey, and improved to more than 90% by the endline survey. This is a good indication that the counseling training for providers resulted in increased discussion about contraception with abortion clients.

Abortion clients are highly motivated to use an effective contraceptive; client intentions remained the same between baseline and post-intervention surveys. Most women having an abortion said they were planning to use a modern contraceptive method following the abortion, and almost 80% of these women indicated that they planned to use a medical method (the most effective methods available: IUD, oral contraceptives, implants, post-coital pills).

Table 15: Abortion client reports of contraceptive counseling

INDICATOR	PERCENT OF CLIENTS REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Abortion client told when to make a follow-up visit	85.3	88.2	86.0
Were counseled about contraception before discharge	41.1	82.0	91.5
Planning to use a method and know what method they will use	85.2	83.5	83.3
N of respondents	489	559	527
Of those who know what method			
• Choose a modern method	97.6	97.8	98.3
• Choose a medical method	78.6	79.4	77.6
Discussed use of method with medical staff (of those who chose a method)	48.0	63.9	66.1
Provider explained method, side effects, and what to do if side effects	83.0	88.7	84.5
Provider encouraged questions	94.5	96.7	96.9
Partner participated in counseling	1.7	1.9	1.2
N (of respondents)	417	467	436

The proportion of those planning to use a method who reported discussing that method with their medical provider increased considerably in the second round survey. The proportion of women who reported having discussions focused on their method of choice rose from less than half of women in the baseline survey, to more than 60% in the second round and slightly more in the endline survey. Even at baseline, the quality of this counseling appears to have been high among those women who received it, with more than 80% reporting that their provider explained the method and its side effects, and what to do in case of side effects.

The counseling training appears to have broadened the number of providers giving contraceptive counseling and to have extended the coverage of such counseling to a nearly all abortion clients. And, because more women reported discussing their chosen method with a medical provider, this comprehensive counseling, focused on a chosen method, reached a larger proportion of all abortion clients.

Table 16: Provider reports about contraceptive counseling

INDICATOR	PERCENT OF PROVIDERS REPORTING 'YES'		
Abortion providers who:	BASELINE	2ND ROUND	ENDLINE
Talk about contraceptive method at time of procedure	92.1	94.5	88.9
See patient for post-abortion check (does not refer elsewhere)	46.6	51.6	49.6
Know correct timing of return to fertility post-abortion	52.6	66.0	75.0
N of abortion providers	103	128	117
Of all providers who counsel on contraception those who:	PERCENT OF PROVIDERS (N)		
Advise pill users at risk of STIs to continue with pill but also use condom (N)	66 (196)	88 (250)	84 (236)
Advise IUD users to return if abdominal pain experienced (N)	40 (200)	82 (243)	75 (225)

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Provider knowledge also appears to have improved after training. At baseline, only about half of abortion providers were able to state the correct timing of a woman's fertility after an abortion (as early as two weeks after) while by the endline survey three out of four providers could give the correct answer to this question (Table 16). More providers also reported advising pill users at risk of a sexually-transmitted infection to use a condom in addition to the pill, and twice as many reported advising IUD users to return to see a medical provider if they experience abdominal pain following insertion.

The data in Table 17 show that women in the community also reported improved practices by providers for post-abortion contraceptive counseling. In both Berezniki and Novgorod, where all women's health facilities were involved in the WIN Project beginning in late 1999, at endline, three of every four women who had a recent abortion report receiving contraceptive counseling from their medical provider. This represents an increase of almost 20% since the baseline survey in 2000. In Perm, where only some of the facilities participated in the project from the start, 60% of women report such counseling, an increase of almost 10% from baseline.

Table 17: Percent of women reporting post-abortion contraceptive counseling practices, by city of residence

POST-ABORTION PRACTICES	PERM		BEREZNIKI		V. NOVGOROD	
	2000*	2003*	2000	2003	2000	2003
Doctor or midwife discussed ways to avoid an unplanned pregnancy	52.2	60.5	53.0	75.5	57.7	73.6
Doctor or midwife provided referral for contraceptive counseling	15.8	19.0	10.1	18.1	12.3	15.5
Left the clinic or hospital with a contraceptive method or a prescription	23.9	32.7	26.5	46.8	25.7	36.5
Total N	360	205	336	188	300	148

Source: WIN Project Household Survey Reports, 2000, 2003. *Baseline, all women reporting an abortion in previous five years; endline, all women having an abortion since January, 2000

The proportion of women who reported leaving the facility with a contraceptive or a prescription for one is considerably higher among abortion clients (Table 17) than among postpartum women (Table 12), and has increased considerably from reports in the baseline household survey. This is especially true in Berezniki, where almost half of all women who experienced an abortion since January 2000 (when the WIN interventions began) reported receiving a method or prescription before leaving the facility.

Abortion clients' use of new services and practices

As we saw in the last section, among abortion clients interviewed at facilities, nine out of ten women are now counseled about contraception prior to leaving the facility, more than doubled from baseline (Table 15). Most of these women say they know what method they want and intend to use, even at baseline, and almost all chose a modern method. The choice of contraceptive to use has hardly changed at all, with three quarters of these women reporting that they want to use a medical, highly effective, method of birth control.

The data displayed in Table 18 show that most abortion clients say they intend to use an effective method of contraception to prevent an unwanted pregnancy, but their prior experience suggests that they are unable to carry through these intentions to practice. Since the WIN interventions began, more women now discuss their chosen method with a medical provider, which may in future improve effective use of the chosen method.

Table 18: Reports from abortion clients about desire and intention to use contraceptive methods

INDICATOR	PERCENT REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Planning to use a contraceptive and know what method:	85.3	83.5	83.3
Of those who know what method:			
• choose a modern method	97.6	97.8	98.3
• choose a medical method	77.6	79.4	77.6
Discussed use of the chosen method with provider	47.8	63.9	66.1
Want no more children	27.0	32.0	38.0
Prior users of any contraceptive method	70.6	69.1	61.3
Prior users of medical methods	17.0	23.6	23.8
Prior users of barrier methods	48.7	53.4	51.0
Prior users of traditional methods or LAM	16.6	21.8	23.8
Got pregnant while using a method (of those using)	69.6	61.4	61.9
N (of clients)	491	559	527

Source: WIN Project Facility Surveys 2000, 2002, 2003. See Fn.31 for reference.

Most abortion clients had used a contraceptive method in the past. However, at baseline, less than one woman in five said she was actually using a medical (highly effective) method prior to conception. Use of a medical method had increased by the second round, to about one in four abortion clients reporting prior use of a medical method, and those who reported becoming pregnant while actually using a method declined slightly, to about 60% of all abortion clients.

Contraceptive failure, then, decreased slightly, but many abortion clients were evidently not practicing consistent use of an effective method of contraception, despite the fact that they did not want to become pregnant at the time.

Most abortion clients were using a barrier method of birth control (condoms, spermicides, creams or jellies) at baseline (49%), and almost 75% of barrier method users reported becoming pregnant while using the method.[31] Barrier methods are more subject than medical methods to mistakes by the user that lead to failure of the method and unwanted conception. This high failure rate for barrier methods declined somewhat, between baseline and the second round and endline surveys (to 60% and 52% respectively).

The growth in use of traditional methods or LAM by abortion clients can be partly explained by the additional women who had adopted LAM (0 at baseline, 1% in the second round, and 3% at endline). Nearly all prior users of these methods reported becoming pregnant while using the method. As we saw in an earlier section, few postpartum women know all of the conditions necessary to make LAM an effective method of birth control. It is clear that LAM counseling needs to be improved to prevent future unwanted conceptions ending in abortion as a result of a LAM failure.

These results point not to a lack of desire by these clients to use an effective method of pregnancy prevention, but instead to an inability to do so.

We have seen from our facility survey data that post-abortion contraceptive counseling has become widespread, but women must still leave the facility to find and purchase their own contraceptive supplies. In fact, data from our household surveys indicates that the provision of

contraceptive commodities by public facilities in these cities has decreased since 1999. During the last three years the proportion of current users who received their method from women's consultations, maternity houses, family planning centers, and hospital decreased by 8% in Perm and 5% in Berezniki. It did not change in Veliky Novgorod. [32]

Repeat abortion clients

Despite what appear to be improvements in contraceptive intentions and use, the cross-section of abortion clients interviewed at participating facilities were just as likely at baseline as at the time of both second round and endline surveys to have had an abortion in the previous 12 months.[iv] About 75% of all abortion clients who had been pregnant at least once before reported a previous abortion, and about 17% of those abortion clients reported having a previous abortion in the past year (Table 19). These proportions hardly changed over the three years.

Table 19: Prevalence of repeat abortions among abortion clients coming to facilities

	BASELINE	2ND ROUND	ENDLINE
Percent of abortion clients with more than one pregnancy who had a previous abortion (N)	76.2	80.0	74.6
N (of clients at risk (2 or more pregnancies))	383	415	421
Percent of repeat abortion clients who terminated a pregnancy by abortion within previous year	17.2	17.5	17.2
N (of clients, those with previous abortion)	291	332	314

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

There are several possible explanations for the lack of change in the repeat abortion rate. Some of these women may not have received contraceptive counseling at the time of their previous abortion, even if they attended the same participating facility. Some women may have been previous clients who for some reason were unable to use their chosen method or were using it inconsistently. Some may have been women who had not previously attended these facilities for abortion. From our survey data, we do not know which of the repeat abortion clients interviewed in the follow-up surveys were actually exposed to WIN interventions—counseling and information—after their prior abortion, nor even if their prior abortion had been obtained in the participating facility.[33]

Table 20 compares the group of women who came for a repeat abortion within a year of the previous abortion with all abortion clients responding to the three surveys. Although only between 50 and 60 women in each survey had had a previous abortion within the year, the proportion of these 'rapid repeaters' who were in a current union rose from 71% at baseline to 78% at 2nd round and to 82% at endline. (Caution should be taken in interpreting these differences, due to the small number of these women in each survey.)

But fewer 'rapid repeaters' reported that they were actually using contraception when the unwanted conception occurred. The proportion of rapid repeaters who reported they were using contraception when the pregnancy occurred declined quite markedly (Table 20), and more markedly than among abortion clients as a whole. By the 2003 survey, only slightly more than half of repeaters said that the conception was a result of contraceptive failure as opposed to non-use, compared with 83% at baseline. This finding suggests that these women were not able to obtain a method when they needed it, or were less motivated to use it than abortion clients in general.

[iv] These surveys are cross-sectional, that is, they capture different clients in each survey from year to year. These are the abortion clients attending the facilities during a three-week period in early 2000, 2002, and 2003. The profiles of each group of abortion clients are found in Annex Tables 6,7, and 8.

Table 20: Profile of women with a previous abortion within one year, compared to all abortion clients

ONE YEAR REPEAT ABORTION CLIENTS WHO:	PERCENT RESPONDING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Were using contraception when conception occurred (all abortion clients)	83.3 (69.6)	64.9 (61.4)	53.1 (61.9)
Want no more children (all abortion clients)	23.5 (26.6)	34.5 (31.8)	31.5 (38.0)
Plan to use medical method in future	89.6	81.7	81.3
Discussed chosen method with medical staff	47.9	53.1	62.2
Were not in union	29.4 (29.0)	22.4 (28.6)	18.5 (24.6)
Were in a current union	70.6 (71)	77.6 (71.4)	81.5 (75.4)
N (of repeat clients within one year)	50	58	54
N (of all abortion clients gravida 2+)	291	332	314

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Rapid repeaters increasingly said that they want no more children, but in succeeding surveys fewer say they plan to use a medical method. These findings suggest that a group of 'hard core' women exists, most living in a current union, who have a greater propensity to abort an unwanted pregnancy than to try to prevent it. Since about one-third of 'rapid repeaters' said they want no more children, permanent contraceptive methods may be a safer and more acceptable alternative, if offered.

Taken together, these findings suggest that the majority of 'rapid repeaters' are likely to be married women who have completed childbearing, likely to be repeatedly exposed to the risk of conception, who may be in need of permanent methods, or need consistent access to the most effective (medical) contraceptive methods.

If they cannot achieve their intention to use an effective method of contraception, and become pregnant again, it appears that they continue to use abortion as a means to control their family size or the timing of births. (As seen in WIN Project and other household surveys in Russia, the probability that an unwanted pregnancy will be terminated is more than 90%.[34])

Client satisfaction with services

The WIN interventions promoted a 'client-centered' approach to all types of women's health care, encouraging providers to include women in decisions regarding their own care. One important indicator of the success of project activities in improving the quality of services is the change in women's perspectives or attitudes toward the care that they received. Satisfaction, however, is notoriously difficult to estimate from direct questions to clients such as 'how satisfied are you with the service you received today?' In addition to the direct question, we asked several alternative questions to elucidate client attitudes toward facility care.

All women interviewed in participating facilities were asked if they would recommend that a friend come to the facility for the kind of care the respondent had just received. The data in Table 21 show that overall, women do indeed have more positive assessments of the services post-intervention, as measured by their responses to this question.

Using this as an indicator, large gains in client satisfaction were evident, but not evenly spread across all cities. At the second round survey, almost 90% of antenatal clients in Perm reported that they would recommend the facility to a friend, compared with less than 70% at baseline. This

was sustained at endline, with more than 90% responding positively. In Berezniki, this proportion rose from 58% at baseline to almost 80% in the second round and nearly 90% at endline. In Veliky Novgorod, however, this proportion stayed steady at 70% in the second round, and fell to less than 65% of antenatal clients at endline.

Table 21: Percent of clients who would recommend the services at the facility to a friend

SERVICE CLIENT TYPE:	PERCENT OF CLIENTS WHO WOULD RECOMMEND A FRIEND TO COME TO THE FACILITY		
	BASELINE	2ND ROUND	ENDLINE
Antenatal clients in women's consultations			
• Perm	69.8	88.0	92.0
• Berezniki	56.7	78.9	88.4
• V. Novgorod	71.2	70.6	64.2
Total percent (**N**)	66.6 (491)	81.2 (533)	83.0 (518)
Postpartum women in maternities			
• Perm	63.0	82.6	84.7
• Berezniki	57.8	78.7	72.2
• V. Novgorod	98.0	83.8	81.7
Total percent (**N**)	69.2 (240*)	82.1 (446)	81.1(423)
Abortion clients in gynecology units			
• Perm	76.7	92.1	90.5
• Berezniki	53.5	73.4	82.9
• V. Novgorod	94.5	78.5	82.6
Total percent (**N**)	75.9 (489)	84.1 (559)	86.3 (527)

Source: WIN Project Facility Survey Reports 2000, 2002, 2003. *In the baseline survey of postpartum clients 124 clients were interviewed up to two months postpartum at children's polyclinics about care received while in the maternity hospital. Only those postpartum women interviewed at the maternity hospital were asked in these questions.

Among postpartum women a similar pattern was observed. Large gains in this measure of satisfaction with services were evident in Perm and Berezniki. However, there was a steep decline in Veliky Novgorod from almost 100% who would recommend the facility to a friend at baseline to only around 80% at second round and endline, although this decline brings facilities in Novgorod only down to the level of satisfaction achieved in the other cities. These data suggest declining satisfaction with all types of services in Veliky Novgorod, and increasing satisfaction in Perm and Berezniki.

Again, for abortion clients, large gains were seen in Perm, and gains that were substantial but not as large in Berezniki where WIN services were implemented rather evenly in all participating facilities. In Veliky Novgorod, the initial high level of satisfaction thus measured fell from a baseline level of 95% to only around 80% at second round and endline surveys.

We have no evidence except this correlation, but we might infer that the results for Veliky Novgorod are due to declining satisfaction with the services in the maternity hospital that did not take up all the new practices enthusiastically. As women hear reports of the 'woman-friendly' services provided in the other maternity, their regard for services in Maternity No. 1 appear to decline.[35] It seems that women were in favor of the new services, and responded positively to the changes.

Reports from women in the community

Direct questions about satisfaction with contraceptive counseling services that women received were also asked in the household surveys. Data displayed in Table 22, from women who had ever

used a medical method of contraception, show that about 80% of medical method users were somewhat or very satisfied with family planning counseling; 13% to 20% were not satisfied at all. Those who reported that they were 'not at all satisfied' declined between baseline and endline surveys, and those who said they were 'very satisfied' increased. The smallest increase—only two percentage points—in those 'very satisfied' occurred in Veliky Novgorod, with increases in Perm and Berezniki of five percentage points each. Note that the experience of these women could have taken place at any time prior to each survey, and may mask true post-intervention changes.

Table 22: Reports about satisfaction with contraceptive counseling received among ever users of medical methods*, by city of residence

SATISFACTION WITH CONTRACEPTIVE COUNSELING	PERM		BEREZNIKI		V. NOVGOROD	
	2000	2003	2000	2003	2000	2003
Level of satisfaction with services received (among those who received services):						
Very satisfied	15.2	19.2	11.1	16.4	12.9	15.1
Somewhat satisfied	61.0	64.8	63.7	60.9	60.7	60.1
Not at all satisfied	18.5	13.0	20.5	19.7	20.5	16.8
Don't remember	5.3	3.0	4.7	3.0	5.9	8.0
N (of clients)	675	568	686	622	696	684

Source: WIN Project Household Survey Reports 2000, 2003.
* Oral contraceptives, IUD, injectables, implants and sterilization

Provider assessment of their own facilities

Providers were asked to rank their facilities on three measures, indicating their satisfaction with the services provided there. Little change was observed in the proportion of providers that ranked hygiene in their facility as 'good' in Perm and Veliky Novgorod, but in Berezniki, this rose from 56% at baseline to nearly 70% three years later (Table 23). These opinions appeared to fluctuate quite markedly from survey to survey, following no clear pattern except perhaps showing improvement in Berezniki.

Rankings for 'comfort' provided in Berezniki facilities also rose markedly, from only 12% of providers giving their facility a ranking of 'good' to more than 40% at endline. These rankings for comfort decreased in both Perm and Veliky Novgorod.

A similar pattern was observed in the ranking of 'privacy for clients,' with big gains in Berezniki (12% to almost 60%) and little change in Perm and Veliky Novgorod.

Table 23: Provider opinions of care in their facilities (all types of facilities combined)

INDICATOR	PERCENT OF PROVIDERS RANKING THEIR FACILITY AS 'GOOD': BASELINE	2ND ROUND	ENDLINE
Hygiene in facility			
• Perm	48.9	58.6	49.6
• Berezniki	55.9	45.6	68.8
• V. Novgorod	56.2	61.4	50.5
Total	52.7	57.9	52.8
Comfort in facility			
• Perm	27.5	31.1	20.5
• Berezniki	11.8	29.4	41.3
• V. Novgorod	36.6	24.5	29.6
Total	28.9	28.4	26.8
Privacy for clients in facility			
• Perm	27.0	30.0	25.7
• Berezniki	11.8	32.4	58.8
• V. Novgorod	25.3	22.3	26.9
Total	24.2	27.5	31.1
N (of providers)	495	503	534

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

EFFECTS OF INFORMATION, EDUCATION AND COMMUNICATION ACTIVITIES

When services provided are effective and client-friendly, (*i.e.*, of high quality) they will be used, as long as the population in need is aware of the services offered, can afford them (financial accessibility), and knows when to seek preventive and curative care. Improvement of health status in the population (the ultimate goal) also depends on improving knowledge of the risks and of ways to prevent unwanted pregnancies and illness with effective family planning and health-promoting behaviors.

The project was expected to increase demand for the new services and to stimulate practice of preventive health behaviors in the communities where WIN worked. Information, education and communication activities were an important component of the WIN Project activities. The IEC component of the project produced and disseminated appropriate health messages and materials to inform and educate the population in the three target cities, and materials and media to use in participating facilities.

These activities included two national media campaigns, the first about exclusive breastfeeding and its health benefits, and the second about consulting a medical provider about contraceptive choices. The media campaigns were supplemented by local community activities to raise awareness of the new WIN-promoted services available in the three cities, and by provision of informational brochures, posters, videos, and other IEC materials for use in participating facilities.

The messages were all aimed to promote awareness and use of new services and the adoption of improved or recommended behaviors known to improve health of mothers and their children.

Information supplied in facilities

As we see from the data displayed in Table 24, the availability of informational brochures that women could take away rose markedly after project activities got underway. Approximately three

quarters of all clients were given or took an educational brochure when they left the clinic or hospital. The main subjects of these materials were pregnancy prevention and exclusive breastfeeding. Over the same period, the proportion of women reporting that they received such informational brochures about formula feeding declined to less than 1%.

Table 24: Reports from women in facilities about materials and information received

INDICATOR	PERCENT OF WOMEN REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
Were given or took a brochure or educational material from clinic			
• antenatal clients	25.3	76.5	80.3
• postpartum clients	33.6	80.5	74.2
• abortion clients	25.2	76.4	62.6
Subject of brochure/educational material was (of those who received):			
Exclusive breastfeeding			
• antenatal clients	6.3	78	61.3
• postpartum clients	17.0	90	72.3
Pregnancy prevention			
• antenatal clients	13.4	56	56.3
• postpartum clients	8.3	51	32.8
• abortion clients	23.5	98	97.3
HIV/STIs			
• antenatal clients	14.9	21.0	51.4
• postpartum clients	3.4	12.5	7.3
• abortion clients	3.1	22.8	29.4
Child care			
• antenatal clients	5.7	10.8	7.0
• postpartum clients	4.3	36.8	49.4
Formula feeding			
• postpartum clients	13.0	0.6	0.6
N (of antenatal clients)	491	533	518
N (of postpartum clients)	324	446	423
N (of abortion clients)	489	559	527

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

This educational effort was reinforced by providers, as can be seen from the data in Table 25 showing increases in the proportion of clients who reported that their provider discussed various topics with them. These discussions centered around the availability and content of new services, such as childbirth preparation for women and their partners, the option to have 'maternity care oriented to family participation' (the literal Russian translation of Family-Centered Maternity Care), and components of that care, such as availability of 'rooming-in' for mother and baby.

Table 25: Client reports of provider discussions on family-centered maternity care topics (on day of interview)

INDICATOR	PERCENT REPORTING 'YES'		
	BASELINE	2ND ROUND	ENDLINE
POSTPARTUM CLIENTS			
• Preparations for delivery during antenatal care	55.4	74.3	75.1
• Received information about FCMC option during antenatal care	24.7	81.4	77.3
N (of postpartum clients)	324	446	423
ANTENATAL CLIENTS			
• Family participation during childbirth	20.8	70.4	64.5
• Rooming-in option	15.5	66.0	59.7
N (of antenatal clients)	491	533	518

Source: WIN Project Facility Survey Reports 2000, 2002, 2003.

Another indicator of changes in the demand for services is measured by responses to questions posed to both women and providers interviewed in participating facilities regarding attitudes toward provision of reproductive health services for men. As we can see from the data in Table 26, clients were very positive about this. Even at baseline, nine out of ten clients thought that women's health facilities should expand their reproductive health services to men, and this level remained about the same throughout the period of the project. Providers were less positive about such access for men at baseline (except in Berezniki), but this changed markedly by the time of the endline survey in 2003. Ninety percent of providers in Perm and Berezniki replied that men, as well as women, should have access to their services. Providers in Veliky Novgorod were the exception—only one third agreed, down from 46% at baseline.

Table 26: Changes in provider and client attitudes toward providing services to men

	PERCENT RESPONDING 'YES'		
MEN SHOULD HAVE ACCESS TO SERVICES AT THIS FACILITY*	BASELINE	2ND ROUND	ENDLINE
PROVIDERS, ALL COMBINED			
• Perm	65.8	79.3	93.8
• Berezniki	86.8	100	88.1
• V. Novgorod	46.4	32.4	33.9
Total (**N** of providers)	61.1 (497)	65.0 (500)	70.1(534)
ANTENATAL CLIENTS			
• Perm	94.7	80.9	76.9
• Berezniki	90.6	94.3	89.1
• V. Novgorod	75.5	70.6	88.1
Total (**N** of clients)	88.2 (491)	81.2 (533)	83.2 (518)
ABORTION CLIENTS			
• Perm	91.1	81.9	90.9
• Berezniki	88.4	89.5	88.4
• V. Novgorod	91.8	60.8	81.9
Total (**N** of clients)	90.6 (463)	77.6 (559)	87.7 (527)

Source: WIN Project Facility Survey Reports 2000, 2002, 2003
*Question not asked of postpartum women in maternities

Media campaign about exclusive breastfeeding

To assess the coverage and effects of the media campaigns, we asked women interviewed in baseline and endline household surveys whether they had seen the messages promoted by WIN and recognized the WIN breastfeeding logo. This campaign clearly reached a large proportion of the intended audience, with four out of five women saying that they saw the messages and the breastfeeding logo (Table 27).

The breastfeeding campaign appears to have had a major impact on knowledge of the best age to supplement breast milk with other feeds for babies. The media campaign transmitted only that simple message. More comprehensive knowledge about the benefits of breastfeeding do not appear to be limited to women who recognize that breastfeeding can decrease risk of becoming pregnant. Improvements in this knowledge may reflect the increased provision of information by providers in facilities.

Table 27: Reports from women in the community about media campaign elements

	PERCENT OF WOMEN REPORTING 'YES'	
	BASELINE	ENDLINE
Exposure to messages		
Saw WIN breastfeeding logo		
Perm	N/A	72
Berezniki	N/A	79
V. Novgorod	N/A	85
Total	N/A	79
*Saw messages on TV about exclusive breastfeeding**		
Perm	20	57
Berezniki	28	59
V. Novgorod	26	71
Total	25	62
Knowledge		
Age 5-6 months is correct age to begin supplementing breast milk		
Perm	15	29
Berezniki	16	32
V. Novgorod	15	29
Total	15	29
Breastfeeding affects chance of becoming pregnant		
Perm	38	34
Berezniki	37	40
V. Novgorod	35	34
Total	37	36
Breastfeeding decreases chance of becoming pregnant		
Perm	74	74
Berezniki	67	80
V. Novgorod	63	66
Total	68	74
Breastfeeding protects baby from infection		
Perm	49	55
Berezniki	47	62
V. Novgorod	52	62
Total	49	60
Attitudes		
*Think **most** friends would breastfeed*		
Perm	10	53
Berezniki	8	50
V. Novgorod	7	56
Total	8	53
N (of women)	1300	1300

Source: Further analyses of WIN Project baseline and endline household survey data.
* Baseline: in past 6 months; endline: in past 2 years. (The breastfeeding campaign started in 2001.)

The media messages about breastfeeding were effective in changing knowledge and attitudes toward breastfeeding. We can measure this by examining changes among women who reported seeing the media messages and among those who did not see them.

Women were 1.5 times more likely to report that they think breastfeeding affects risk of becoming pregnant if they had heard a message in the media (television), and also 50% more likely if they had seen the WIN breastfeeding logo (analysis not shown).

They were 1.6 times more likely to think a child should not be given supplements to breast milk until the age of 5 to 6 months if they had heard a message about exclusive breastfeeding in the media, and 1.3 times more likely if they reported seeing the WIN breastfeeding logo.

The effects of the media campaign were probably also complemented and reinforced by messages given by health care providers and informational materials in facilities.

Women's perceptions that the prevailing norms in their community support breastfeeding (think *most* friends would breastfeed) increased almost six-fold, from 8% at baseline to 53% at endline. Women who had heard a message about exclusive breastfeeding on television were 1.5 times more likely to say that most of their friends would breastfeed.

This provides firm evidence that the media campaign had an important effect on changing attitudes toward breastfeeding and perceptions of prevailing social norms, which usually precede and lead to changes in actual behavior.

Family planning media activities

The IEC efforts surrounding family planning appear to have been less successful than those for breastfeeding, but that may be due to the fact that the earlier Women's Health Project had also promoted modern contraceptives on television and knowledge of various contraceptive methods was already very high. The family planning media campaign also began more recently than the breastfeeding campaign, starting in the autumn of 2003. Nevertheless, the specific message of the WIN Project family planning media campaign about 'seeing your doctor about family planning' appears to have reached at least 40% of the target women of reproductive age (Table 28).

We also asked women whether they had ever discussed prevention of sexually transmitted infections with a medical provider. The proportion of women in the community who reported ever receiving information about STIs from their medical provider rose to three quarters of women interviewed in both Perm and Veliky Novgorod.

Table 28: Reports from women in the community: exposure to family planning media campaign elements, counseling, and knowledge and attitudes related to modern contraceptives

CITY	PERCENT OF WOMEN REPORTING 'YES'	
	BASELINE	ENDLINE
Exposure to messages		
Saw message about modern contraceptives on television		
Perm	64	69
Berezniki	61	71
V. Novgorod	62	69
Total	62	70
Saw message on television about speaking to a doctor about family planning		
Perm	-	41
Berezniki	-	46
V. Novgorod	-	40
Total	-	42
Received counseling or information about STI prevention from medical person		
Perm	69	78
Berezniki	75	75
V. Novgorod	61	71
Total	69	74
Attitudes		
*Think **most** friends use modern contraceptives*		
Perm	51	43
Berezniki	47	42
V. Novgorod	46	53
Total	48	46
• *Of those who want to stop childbearing, think most friends use modern methods*		
Perm	52	53
Berezniki	51	54
V. Novgorod	48	62
Total	50	56
Have negative overall image of family planning method- oral contraceptives		
Perm	45	42
Berezniki	41	41
V. Novgorod	41	38
Total	42	40
Have negative overall image of family planning method- induced abortion		
Perm	97	97
Berezniki	94	94
V. Novgorod	97	97
Total	96	96
N (of women)	1300	1300

Source: WIN Project Household Survey Reports, 2000, 2003; baseline, past 6 months; endline, past one year. (Family Planning campaign began in autumn 2002.)

Attitudes toward contraception

Women's beliefs about prevailing norms on use of modern contraceptives had not changed over the three years of project activities. However, among those women who said that they want to stop childbearing altogether an overall increase in the percent of women who thought that most of their friends use modern contraceptives was observed, as seen in the data displayed in Table 28. The biggest change appears to have taken place in Veliky Novgorod, but a small increase may also have occurred in Berezniki. In Perm, no change was observed.

Women were also asked questions regarding their opinion of different contraceptive methods, in terms of safety, effectiveness, and cost, as well as their overall attitude toward each method. Overall attitudes (in terms of safety, effectiveness and cost) toward various modern methods of contraception had not improved—about 40% still had an overall negative image of oral contraceptives, more than 50% had a negative image of injections, and about 80% had a negative image of sterilization (data not shown). Abortions received the lowest ratings of all, with more than 97% of women having a negative image of abortions, overall, also virtually unchanged from baseline (Table 28).

Knowledge about contraception

Table 29 summarizes the findings on contraceptive awareness. Overall knowledge of different methods of birth control was high in all three sites. The best-known modern methods were condoms, IUDs and oral contraceptives. They are still the most advertised methods of birth control, and nearly all women in the three sites had heard about them.

Knowledge of traditional contraceptive methods was also high. Almost 95% of women were familiar with calendar method, approximately 90% said that they had heard about withdrawal, and over 80 percent were aware of lactational amenorrhea and douching methods. The least known modern methods were implants and female condoms, but knowledge of these methods had increased since the 2000 survey. Eighteen percent of women in Veliky Novgorod, 23% in Berezniki and 28% in Perm reported that they had ever heard about implants. About one-third of women in Berezniki and approximately 40% in both Perm and Veliky Novgorod were familiar with the female condom. Knowledge of the other modern methods was quite high and varied between 50% and 60% for injections and 80% and 85% for female sterilization.

Table 29: Percent of respondents in 2003 who knew of specific contraceptive methods, and percentage change from baseline survey (2000)

	CITY					
	PERM		BEREZNIKI		V. NOVGOROD	
	2003	Relative change since 2000	2003	Relative change since 2000	2003	Relative change since 2000
Modern methods		(%)		(%)		(%)
Condom	99.7	0	99.3	0	100	1 %
IUD	96.0	-2	96.5	-1	97.3	2
Pills	95.9	1	93.9	-1	96.1	2
Diaphragm	70.6	-6	62.2	-5	71.4	4
Spermicides	77.2	6	68.4	7	74.1	17
Implants	28.2	31	23.2	37	17.9	9
Post-coital pills	73.2	12	65.5	14	74.6	15
Injections	56.3	3	63.5	14	51.1	15
Female condom	42.6	24	32.9	6	38.8	-15
Female sterilization	83.9	0	81.1	3	85.2	9
Male sterilization	72.5	-3	68.0	9	73.9	7
Traditional methods						
Calendar method	95.6	0	92.9	1	95.2	3
Withdrawal	89.5	-1	86.7	0	91.0	4
Lactational amenorrhea	84.0	3	79.5	3	80.0	8
Douche	83.3	-6	87.8	-1	86.8	3
N (of women)	1300		1300		1300	

Source: Calculated from data in WIN Project Household Survey Reports, 2000, 2003.

In sum, knowledge of most modern and traditional methods of contraception is high, and has been since the start of the WIN Project. More than two thirds of women had seen messages about modern contraceptives on television, and two fifths saw a message about 'seeing your doctor' about family planning. Almost half of respondents thought that most of their friends use modern contraceptives, and this rises to more than half of those who say they want to stop childbearing. Almost all respondents reported an overall negative attitude toward induced abortion, apparently a long-standing attitude that persists in the face of heavy use of this method of birth control.

IMPACT OF CHANGES ON HEALTH AND HEALTH BEHAVIOR

USAID's *Intermediate Results* indicators focused on access to services (provision), quality of services, and demand for new services (utilization and community knowledge of when to seek care and how to promote personal and community health). We have just examined indicators of access, quality, demand for and use of new services. These indicators are useful for assessing the direct effects of the project's work. But the WIN Project was conceived to contribute to improvements in maternal and neonatal health, which depend not only on project activities but also on other factors beyond the influence of the project that affect behavior and health. The appropriate and timely use of high quality health services and practice of good health behaviors should together improve the health status of the population, and ultimately reduce the burden of illness, mortality, and unwanted pregnancies.

As a result of its activities in these three cities and model sites, the project expected to *contribute* to improvements in several indicators of these higher-level impacts, including:

- contraceptive prevalence rates;
- abortion rates;
- perinatal and infant mortality rates; and
- other measures of child health.

These indicators, identified by USAID, are the ultimate measures of the equity of service use (coverage) and changes in health behaviors and health status, and are more difficult for any single health project or program to change. Mortality and fertility measures are subject to other influences, such as socioeconomic conditions, and health-related behavior is rooted in long-term practices embedded in culture. Access to technologies that enhance health services and commodities that allow women to fulfill their fertility and family planning intentions also influence these outcomes.

Before examining these data from the household surveys, a note of caution should be sounded. Changes are measured by comparing rates from two surveys conducted three years apart. There is a noticeable shift in the proportions of women in the most educated groups in all three cities sampled in the endline survey. A larger number of women with more than a complete secondary education were interviewed at endline than at baseline, which may contribute to differences observed between baseline and endline estimates. This can happen by chance, but in further analyses these differences should also be adjusted statistically. The demographic profiles for the survey samples are found in Annex Table 15.

Contraceptive prevalence rates

We look first at contraceptive behaviour among women in union (women currently living in both formal marriages and in unregistered unions).

A modest increase occurred of between 2% and 5% in current use of any contraceptive method (Table 30). By the endline, between 70% and 78% of women in union reported current use of a contraceptive method. Moreover, in 2003 a marked increase in reported use of modern contraceptive methods (reversible medical, barrier and permanent methods) was evident. In 2003, between 54% and 63% of women in union reported current use of a modern contraceptive method, as compared with only about 48% to 52% interviewed in the 2000 survey.[36]

In Perm, 5% more women reported use of these more effective methods, in Berezniki 9% more, and in V.Novgorod 10% more women reported using these methods. Almost four out of every five women in union reported currently using modern methods in early 2003. Use of modern methods is even higher among women who report sexual activity in the past 30 days. Almost 60% of all sexually active women in Perm, 62% in Berezniki, and 64% in Veliky Novgorod report current use of a modern contraceptive.[v]

We also compared our baseline survey estimates with those from another survey conducted in the city of Perm in 1999, just six months prior to the WIN Project survey. Our baseline survey in Perm almost exactly replicated the overall proportion of women using and not using any contraceptive method (Table 30).

[v] The question on sexual activity in past 30 days – current sexual activity – was not asked at baseline.

Table 30: Changes in contraceptive prevalence rates among women in union, baseline and endline household surveys

CURRENT USE OF CONTRACEPTIVES AMONG MARRIED WOMEN	CITY		
	PERM	BEREZNIKI	V. NOVGOROD
	USING ANY METHOD		
BASELINE – 2000 (1999)	70.5 (70.2)	68.3	73.5
ENDLINE – 2003	72.2	70.7	78.2
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	76.6	73.8	80.3
	USING A MODERN METHOD		
BASELINE – 2000 (1999)	49.6 (49.3)	48.0	51.7
ENDLINE – 2003	54.4	57.2	62.5
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	58.7	61.8	64.1
	USING A TRADITIONAL METHOD		
BASELINE –2000 (1999)	20.9 (20.9)	20.3	21.8
ENDLINE – 2003	17.7	13.4	15.8
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	17.9	11.9	16.0
	NOT USING ANY METHOD		
BASELINE – 2000 (1999)	29.6 (29.8)	31.7	26.5
ENDLINE – 2003	27.9	29.3	21.8
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	23.4	26.2	19.7

Percent using any method and not using any method total 100%. Within those using a method, the distribution of baseline estimates of modern and traditional method use have been re-calculated according to the distribution estimated from the CDC/VCIOM 1999 survey in Perm (estimates from that 1999 survey for Perm are shown in parentheses. See endnote 36 for explanation.

Source: Further analyses of WIN Project Household Survey data, 2000, 2003.

From the data in Table 30 we can detect a small decline in non-users (a decline of about 2% in Perm and Berezniki and 5% in Veliky Novgorod). The data also indicate a small decline in use of traditional methods (3%)—a shift from traditional to modern contraceptive use among previous contraceptive users. The increase in proportions of women using modern methods appears to come in part from this shift in traditional method use, as well as from adoption of modern methods by new users.

It appears that women are using more effective methods of contraception than they were at the start of the WIN Project. Still, about one quarter of all sexually active women reported not using any contraceptive method. Targeting these women, who may rely solely on abortion to meet their need for birth control, should be an urgent priority. [37]

When contraceptive use increases, the abortion rate should decline. Over a short period of time, however, inconsistent use and/or use of less effective methods of contraception may still lead to unintended pregnancies. If cultural prohibitions on abortion are not present, or do not outweigh the perceived need to terminate pregnancy, the abortion rate may remain stable, or even rise when inconsistent contraceptive use leads to more unwanted pregnancies. In the next section, we examine changes in population-based indicators of abortion rates (from the household surveys) and also abortion ratios based on official reports of abortions and live births in these three cities.

Abortion rates in the population

The data displayed in Table 31 provide a comparison of abortion and fertility rates estimated for the three-year period preceding the baseline survey (January 1997 to December 1999) and rates estimated from the endline survey for the two-and-a-half-year period preceding the endline survey. This provides us with a view of abortion rates for 30 to 36 month periods before and after WIN interventions began to take effect.

According to these survey data, total abortion rates and general abortion rates have fallen consistently since the three-year period before WIN Project activities began. Perm and Berezniki had the highest abortion rates prior to the start of the project, as measured by the general abortion rate (GAR) and the total abortion rate (TAR), although both the total abortion rate and general abortion rate have fallen considerably.

In Perm, the baseline estimate of the abortion rate was 2.2 abortions per woman, and in the post-intervention period this rate fell to 1.7 abortions per woman or 58 abortions per 1000 women of reproductive age. Total fertility also fell slightly, from 1.4 children per woman to 1.3.

In Berezniki, the total abortion rate fell form 2.2 to 1.4 abortions per woman or 48 per 1000 women of reproductive age, while the total fertility rate rose from 1.5 to 1.6 births per woman.

In Veliky Novgorod, which had the lowest level of abortions at baseline, 1.7 per woman, a decline similar in magnitude to that in Perm occurred, driving the abortion rate to 1.2 abortions per woman or 39 per 1000 women of reproductive age in the post-intervention period.

Table 31: Abortion and fertility indicators for periods before and after WIN Project implementation

PERIOD AND CITY	ABORTION AND FERTILITY LEVEL INDICATORS			
	TAR[vi]	GAR[vii]	Ratio[viii]	TFR[ix]
PERM				
1/1997-12/1999	2.2	72	145	1.4
7/2000 – 2/2003	1.7	58	127	1.3
BEREZNIKI				
1/1997-12/1999	2.2	73	130	1.5
7/2000 –2/2003	1.4	48	83	1.6
NOVGOROD				
1/1997-12/1999	1.7	58	143	1.2
7/2000 – 2/2003	1.2	39	103	1.1

Source: Further analysis of WIN Project baseline and endline household survey data, 2000, 2003.

[vi] Total abortion rate – based on age-specific abortion rates. Provides an estimate of the number of abortions a woman would have in her lifetime if the rates prevailing for the specified period remained constant.
[vii] General abortion rate (number of legally performed abortion per 1000 women 15 to 44)
[viii] Abortion ratio (number of legally performed abortion per 100 live births)
[ix] Total fertility rate – based on age-specific fertility rates. An estimate of the number of live births a woman would have in her lifetime if the rates prevailing for the specified period remained constant.

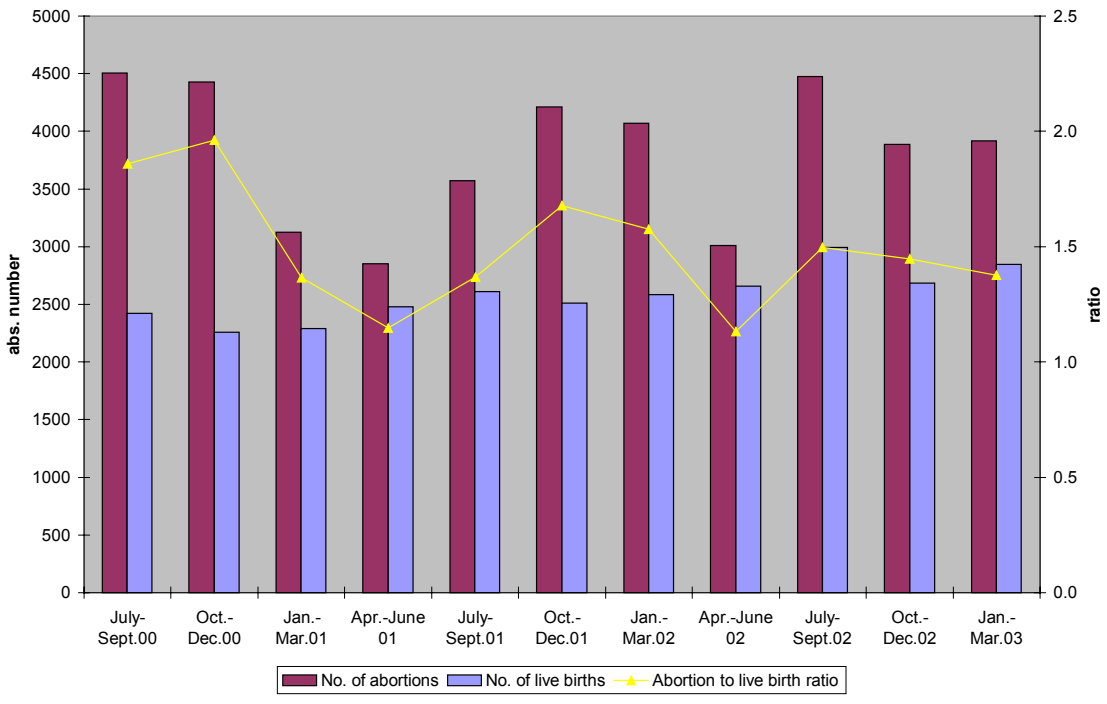
The abortion ratio—the number of abortions per 100 live births—depends not only on abortion prevalence but also on the level of fertility. An increase in this ratio can be caused either by an increase in the number of abortions or by a decrease in live births; and a decrease in the abortion ratio can be caused by the opposite circumstances. The effect of fluctuations in the birth rate on the abortion ratio is evident in the data for Berezniki, where the abortion ratio fell by 36%, while it fell by 28% in Novgorod and only 12% in Perm (Table 31). The dramatic decrease in Berezniki is probably a product of both the decrease in the number of abortions and an increase in the number of live births (reflected in the rise in the total fertility rate (TFR)).

The abortion ratio also fluctuates dramatically when small numbers of births and abortions are involved, and when the number of births is not constant. Reports from sample surveys may not provide a sufficient number of events to calculate a stable ratio. This relationship between the abortion ratio and changing numbers of abortions and live births can also be seen in the data displayed in Figure 7, based on quarterly reports from Perm's city health administration to the WIN Project's Facility Monitoring System.[38]

Perm is a city of almost one million people, but we can see from the data shown in Figure 7 that even here, the number of births and abortions fluctuates considerably from quarter to quarter. There is even a barely visible seasonal effect on births, with slightly more births in the summer (July – September) in each year for which we have reports. Abortions also appear to rise in the summer and autumn quarters. A longer time series would be necessary to verify that such seasonality is real.

We were able to obtain complete official statistics for the general abortion rate (induced and mini-abortions combined) for the cities of Perm and Berezniki, shown in Table 32, but only for

Figure 7. Abortions and live births in Perm



induced abortions for Veliky Novgorod. These statistics, too, suggest that the abortion rate has fallen considerably since the mid-1990s in Perm and Veliky Novgorod, while abortion rates in Berezniki have fluctuated erratically over the period of the WIN Project implementation. Estimates of the number of fertile-age women were provided only by Berezniki and Veliky Novgorod health authorities, and show that these rates were based on very rough estimates of the population at risk in Berezniki.[39] It is unclear how authorities estimated these population data, since the denominator estimates for Veliky Novgorod and for the latter years for Berezniki were very precise.

Table 32: General Abortion Rate (abortions per 1000 women of reproductive age), by type of abortion, Perm City

TYPE OF ABORTION	YEAR						
PERM	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Induced and mini-abortions/1000 WRA	73.2	69.7	65.3	63.5	62.5	62.9	60.3
N (of women)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
BEREZNIKI							
Induced and mini-abortions/1000 WRA	56.9	57.2	56.1	62.7	58.3	58.9	60.4
N (of women)	60000	60000	60000	50000	50000	48381	46822
V. NOVGOROD							
Induced abortions/1000 WRA	51.8	48.9	51.6	37.7	40.5	37.4	n/a
N (of women)	70339	68560	68197	70988	68373	67704	

Source: Reports to WIN Project by city health administrations. n/a = estimate not available

Our data and data from official statistics generally point to a decline in abortions since the project began, continuing a secular decline that has been described since the beginning of the 1990s. Until recently, some explained the decline as the result of a shift to abortions performed in the private sector, and a consequent under-reporting to authorities. However, analysts have recently investigated possible biases in both survey data and official statistics, and conclude that the apparent decline in abortion rates evident in Russian official statistics is not a result of statistical artifact, but a real change in contraceptive behavior and culture.[40]

Perinatal deaths and infant health

Over the long term, improvements in the health of pregnant women and improvements in care during labor and delivery should improve neonatal birth outcomes. While three years is probably too little time to detect a change in impact indicators such as neonatal health, we examined several indicators of birth outcomes in the three cities: stillbirth[x] rates, early neonatal mortality[xi] rates, and perinatal mortality[xii] rates.

Little change in these indicators can be detected. From data aggregated across participating WIN maternity hospitals, there appears to be a slight but sustained decline in death rates in Perm facilities, while in the other two cities rates have been erratic (Table 33).

[x] The number of *stillbirths* (defined by WHO as 'the birth of a baby showing no sign of life,' only stillborn infants weighing 1000g or more are included) divided by the number of still and live births for a given period.

[xi] For any given period, the neonatal mortality rate is calculated as the number of *early neonatal deaths* (the death of a newborn within the first 7 completed days of life (*i.e.*, occurring at any time up to and including 6 days, 23 hrs, 59 minutes, 59 seconds after birth).

[xii] The perinatal mortality rate is calculated as the number of stillbirths plus the number of early neonatal deaths in a given period (usually a year) divided by the number of still and live births in the same period.

Table 33: Stillbirth, early neonatal, and perinatal mortality rates per thousand (reported by participating facilities, aggregated by city) for periods after project implementation

City and rate	July 2000 – June 2001 Quarters 1-4	July 2001 – June 2002 Quarters 5-8	July 2002 –March 2003 Quarters 9-11
Perm			
Stillbirth	8.5	7.4	7.3
Early neonatal mortality	3.7	2.3	2.3
Perinatal mortality	12.1	9.7	9.6
Berezniki			
Stillbirth	5.6	9.9	6.2
Early neonatal mortality	3.9	5.3	4.2
Perinatal mortality	9.5	15.2	10.4
V.Novgorod			
Stillbirth	7.5	10.1	8.1
Early neonatal mortality	2.1	3.0	4.1
Perinatal mortality	9.5	13.1	12.1

Source: Further analysis of WIN Project Facility Monitoring System data.

The entire decline in the perinatal death and stillbirth rates in Perm appears to be due to a decline in one facility—Perm Maternity Hospital No. 9 (data shown in Table 34) and most of the decline reflects statistics for year two of the WIN Project activities. This hospital is the regional perinatal center where high-risk births from surrounding areas as well as the city of Perm are delivered.

Table 34: Stillbirth, early neonatal, and perinatal mortality rates per thousand in Perm Regional Perinatal Center (Maternity No. 9) for periods after project implementation

Perm No. 9	July 2000 – June 2001 Quarters 1-4	July 2001 – June 2002 Quarters 5-8	July 2002 –March 2003 Quarters 9-11
Stillbirth	10.6	7.9	7.3
Early neonatal mortality	4.6	2.4	3.0
Perinatal mortality	15.1	10.2	10.3

Source: Further analysis of WIN Project Facility Monitoring System data.

However, we cannot be confident that these indicators are measured in a comparable fashion, from city to city and facility to facility. When the WIN Project's Facility Monitoring System was instituted, we found that facilities were not using the standard definition of a stillbirth, as given by the World Health Organization (WHO). Despite providing the WHO definition to all facilities and training staff to fill in these reports, we cannot be sure that the new definition was adopted consistently across all hospitals (which report to the city authorities). The early neonatal mortality rate is probably the most reliable indicator of the three we present, but in each city so few deaths occurred that this rate, too, could fluctuate widely from year to year. Data for this short period is probably not sufficient to describe a trend, especially in the smaller cities of Berezniki and Veliky Novgorod. A longer period of observation, starting before project activities began and going on for several more years is needed in order to discern trends.

Authorities in Perm also supplied the project with the perinatal, neonatal, and infant mortality rates for the period beginning in the mid-1990s ending in 2002, *only for mothers and infants residing in the city.* (Our data shown above from participating facilities only includes all events occurring in those facilities, regardless of the residence of the mother). The data for the entire city

of Perm show a fairly steady decline in all indicators except perinatal mortality, which appeared to increase in 2002 (Table 35).

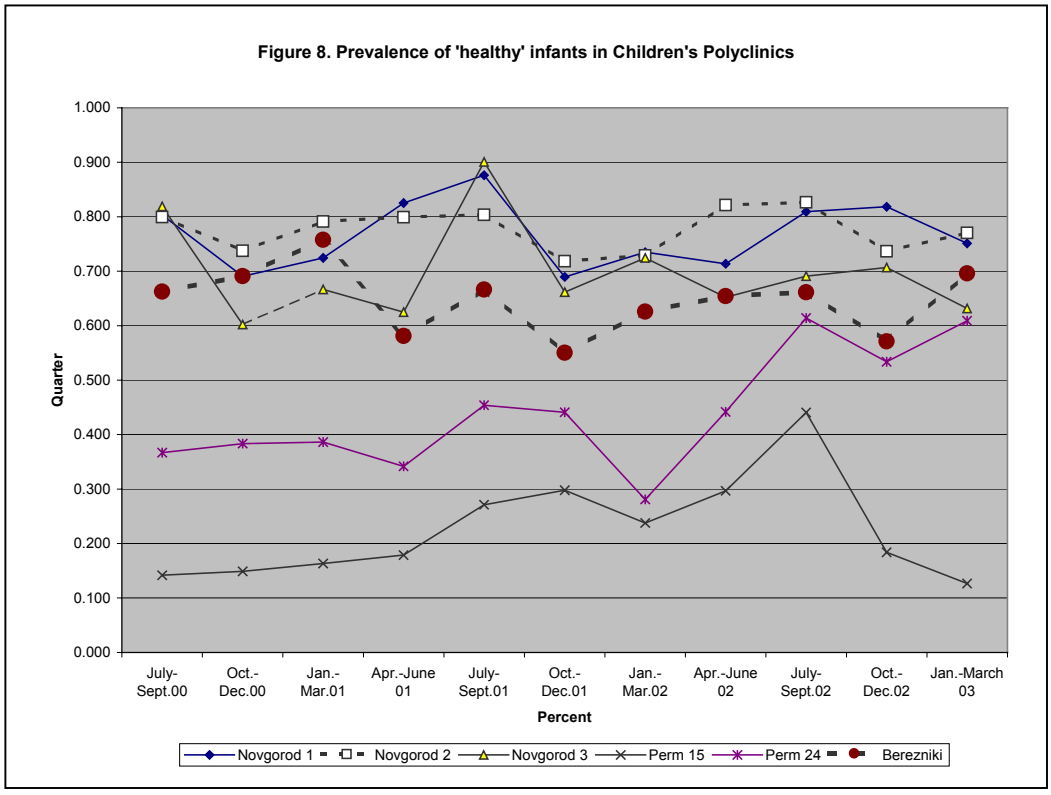
Table 35: Infant, perinatal and neonatal mortality rates per thousand, Perm city 1996-2002

RATE	YEAR						
	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Infant mortality rate	18.0	14.2	13.0	14.8	11.9	10.4	9.4
Perinatal mortality rate	14.1	14.5	13.9	14.3	12.1	8.0	10.1
Neonatal mortality rate	9.2	13.3	10.5	12.7	8.7	6.1	5.6

Source: Perm city health administration report to WIN Project.

Indicators of infant health

One final measure of impacts on child health is a measure taken from our Facility Monitoring System: the prevalence of 'healthy' infants. Children's polyclinics are mandated to see all infants



under age one at least once per quarter, and to record present illnesses, feeding mode, and other key health items. We asked participating polyclinics to provide this information to the project's FMS, and calculated the prevalence of healthy infants. [xiii]

The results for participating polyclinics are shown in Figure 8 (and summarized for yearly periods in Table 36). These data show large differences between polyclinics in the percent of children deemed 'without diagnosis of illness.' No downward trend in this indicator (or other morbidity indicators measured in the FMS) is discernible from the graphed quarterly data; the data points

[xiii] The number of infants aged 0 – 5 completed months of age without any illness episode in the quarter divided by the number of infants aged 0 – 5 completed months of age at end of quarter X 100.

appear to be influenced by seasonality of different illness conditions. We think the sharp rise in diagnoses of illness in Berezniki is probably caused by a change in diagnosing practices (or doctors) practicing in the polyclinic there.

Table 36: Prevalence of healthy infants, three cities for periods during WIN intervention (N of child visits)

	JULY 2000 – JUNE 2001	JULY 2001 – JUNE 2002	JULY 2002 – MARCH 2003
CITY	QUARTERS 1-4	QUARTERS 5-8	QUARTERS 9-11
Perm	0.11 (3295)	0.08 (3350)	0.09 (2853)
Berezniki	0.03 (4780)	0.09 (5240)	0.10 (4380)
V. Novgorod	0.02 (2901)	0.02 (3068)	0.01 (2339)

Source: Further analysis of WIN Project Facility Monitoring System data.

When these data are summarized in annual rates shown in Table 36, we can see that changes are negligible, and we cannot draw firm conclusions from these data.

CONCLUSIONS AND RECOMMENDATIONS

Our evaluation of the WIN Project has demonstrated that many important changes in women's health care have occurred as a result of project activities, and the likelihood that these will be sustained is high because they have been adopted so enthusiastically by both providers and the populations they serve. Some practices in facilities appear to be easier to implement than others, but changes in facility policies and strong leadership from facility and health administration have resulted in institutional changes. New guidelines for care that are necessary to continue to make evidence-based practices more widely available have been adopted in the model sites and are now being considered for adoption at national level.

While some healthy behaviors changed rapidly, most notably exclusive breastfeeding among new mothers, others were slower to change. Replacement of abortion with the use of modern contraceptives for achieving reproductive intentions may need to be promoted even more vigorously, among physicians as well as women. Abortion as a means of birth control is not liked by most women, but appears to be more readily available and easier for them to implement than effective and consistent use of modern contraceptive methods. A longer time frame is probably necessary to detect the impact of changes promoted by the WIN Project. The combined evidence from this evaluation suggests that the project activities have contributed to the decline in abortion rates and, to some extent, improvements in perinatal health.

Quality of care

When providers are trained in evidence-based medical care, and they recognize that there is a demand by clients and their families to be involved in their own care, they can and do change their practices. We have much anecdotal evidence of the rewards that facilities reap from their patients, in terms of their happiness and gratitude, and from their colleagues and other hospital staff in terms of their improved morale.

Our quantitative data demonstrate positive changes in the proportion of clients receiving the new services and practices and the proportion of clients who were satisfied with services. Provider and client perceptions of the care that was delivered became more congruent. Lacking quantitative data from observations of care, we must rely on these reports from clients and providers, which show an increase in the prevalence of evidence-based practices, to demonstrate that the intended changes occurred.

The frequency and content of discussions about exclusive breastfeeding between providers and antenatal clients has improved, and by 2003 nearly seven out of ten antenatal clients could correctly define exclusive breastfeeding. The proportion of antenatal clients who said that their provider discussed contraception more than doubled between 2000 and 2003, but room for improvement remains. At the end of the project, only four out of ten antenatal clients reported having received contraceptive counseling.

Care of mother and neonate

Family-centered maternity care training for providers was successful in changing many ineffective or potentially harmful practices in maternities. Mobility and choice of positions during labor have increased, and uncomfortable and unnecessary or harmful procedures such as perineal shaves, enemas and induction of labor have decreased. Most women are now allowed to bond with their baby through skin-to-skin contact immediately after delivery, and to continue close contact through rooming-in with their infant, apparently one of the most popular WIN-supported innovations among both women and medical staff. Counseling and support for exclusive breastfeeding appears to be strong, because the prevalence of supplementing breast milk with other drinks in hospitals has declined markedly. By 2003, only 12% of breastfed infants were given supplements, down from 74% of breastfed infants at baseline.

Practices that support women to exclusively breastfeed, such as immediate skin-to-skin contact and immediate breastfeeding, 'rooming-in,' and the ability to feed on demand, have clearly increased, with over 80% of women reporting experiencing all of these. About 25% of all neonatologists reported at endline that they know no contraindications for breastfeeding, an increase from nearly zero at baseline. 'Rooming-in' is a practice that can change very quickly, once facilities make the necessary physical arrangements. Changes to outdated infection prevention directives are necessary, and the WIN Project has worked with the sanitary epidemiology service to develop a new protocol for infection prevention in maternities to make these changes possible.

Breastfeeding counseling and the above-mentioned changes in supporting practice appear to be extraordinarily effective, as nine out of ten postpartum women at endline reported exclusively breastfeeding their infants throughout their hospital stay. Our data provide strong evidence of how quickly infant feeding practices can change. Facility Monitoring System data demonstrate how changes in 'rooming-in' moved in tandem with increased exclusive breastfeeding, reductions in neonatal jaundice, and increases in the duration of exclusive breastfeeding to the age of six months. Four out of five participating maternity hospitals achieved Baby Friendly Hospital Initiative certification during the life of the WIN Project. However, gains made in at least one maternity hospital appear to be waning, and corrective action needs to be taken if they are not to be lost.

Support for exclusive breastfeeding also seems to be provided effectively in children's polyclinics. At the end of Quarter 11, between 65% and 85% of all infants under six months of age were exclusively breastfed, compared with only 45% to 55% when the Facility Monitoring System began functioning in July 2000. This practice can foster better infant health and decrease susceptibility to illness, and should be promoted even more vigorously by pediatricians. It would be worth investigating the reasons for early cessation of breastfeeding among mothers coming to polyclinics, to identify any obstacles to exclusive breastfeeding that may experienced by, for example, working mothers.

Some practices are harder than others for facilities to implement; these should be given closer attention in future to ensure that no deterioration occurs. One example is allowing the presence of a support person—someone close to the woman—during labor and delivery. Our data from the Facility Monitoring System indicate a slight decline in the proportion of women reported to have such support, and is only around 40% of women in three of the five maternities. This probably reflects some reluctance on the part of women to have their partner or a family member present, but the practice is shown to improve delivery outcomes. Our data also indicate that women have taken an increasingly positive attitude toward having such support during childbirth. Family support is one practice that facilities may find hard to implement because it requires medical staff to accommodate their own work to the presence of the family member in the delivery room, and needs to be more vigorously promoted. There is still room for improvement in some other indicators of evidence-based care, such as routine use of an intravenous line and artificial rupture of membranes which, although declining, still appear to be quite common.

Quality of contraceptive counseling

The frequency of counseling of all types of clients about their contraceptive needs has more than doubled since the project began, and there is evidence that the quality of the information provided has improved and reaches larger numbers of women.

About half of all postpartum women now report that their medical provider discussed postpartum contraception with them, up from only 20% at baseline, and almost half reported discussing the lactational amenorrhea method (LAM), increasing from 10% at baseline. This is still lower than the 80% of providers who report discussing LAM with their postpartum clients, but is a substantial increase. One result of this counseling is that more women (about 65%) at endline reported that at the time of discharge from the maternity they know what method they will use as postpartum contraception; at baseline, only about half of these women knew what method they would use. This early planning should be an advantage in preventing an unwanted conception soon after a birth. By the time of the two follow-up facility surveys, almost a quarter of postpartum women who knew what contraceptive method they would use named LAM as their method of choice. We also noted an increase in women interviewed in the household surveys who reported discussion about postpartum contraception with a medical provider, with an increase of more than 15% in Perm, and about half that in the other two cities.

However, we found that both women's and providers' knowledge about when this method becomes ineffective is inadequate. Only 7% of women planning to use LAM know all the conditions that must be met for LAM to be effective, and only 37% of providers themselves could state all three conditions (exclusively breastfeeding, no menses, infant less than six months old). This finding indicates that training for providers on this method has not been completely effective, and must be reinforced immediately, so that they are able to convey this important information to their clients who choose to use this method.

Another apparent effect of the counseling training was to broaden the number of providers giving contraceptive counseling and to extend the coverage of such counseling to a nearly all abortion clients. The frequency of counseling for post-abortion women more than doubled from baseline, with more than 90% of abortion clients reporting that they discussed contraception with their provider before discharge. Of those women who knew what method they would choose—more than 80%—almost all had chosen a modern method of contraception, and three quarters chose a highly effective, medical method. These intentions had not changed markedly since the baseline survey, but a much larger proportion of these women also reported discussing the chosen method with their medical provider (two out of three women who had chosen a method).

Most said the provider explained the method and what to do if side effects occurred. And, because more women reported discussing their chosen method with a medical provider, this comprehensive counseling, focused on a chosen method, reached a larger proportion of all abortion clients. This increase in the reach of detailed counseling on a particular method should help to reduce the rate of discontinuation of the medical methods most desired by these women. Some other aspects of contraceptive advice also improved, with about 85% of providers reporting that they would advise a woman using the pill who was at risk of sexually-transmitted infection to continue with the pill but to use a condom for infection prevention, up about 20 percentage points from baseline.

The increase in reports from abortion clients who said they received contraception counseling was also reflected in interviews with women in the community, with increases of between 8% and 22% in the different cities. Those who reported leaving the hospital with a contraceptive or prescription also rose almost 10% in Perm and Veliky Novgorod and 20% in Berezniki, but this was still only one third to one quarter of all women who reported an abortion since 2000.

Effects on access to and use of new services

Use of new services

These reports also demonstrate that more members of medical staff are providing, and more women are receiving, 'client-centered' care than when the project began.

At endline, almost all antenatal providers reported recommending childbirth preparation for the woman and her partner, 'rooming-in,' exclusive breastfeeding, and family participation in the birth. While still somewhat lower than provider reports, the proportion of pregnant women who reported discussing these options with their antenatal caregiver more than tripled between baseline and endline facility surveys. About 60% to 65% of pregnant women said their provider had discussed these different options at the time of the endline survey. Almost 80% of postpartum women reported receiving information about family-centered maternity care during their antenatal care, and three quarters reported discussing preparations for delivery with their antenatal care provider.

Four out of five maternity hospitals instituted widespread access to 'rooming-in' and support for exclusive breastfeeding, and achieved internationally recognized status as Baby-Friendly Hospitals. These facilities offer the option of family-centered maternity care to more women, and a large proportion of their clients now choose this option, which was not offered when the WIN Project began.

Women are increasingly taking advantage of the opportunity to have a close person to support them during labor and delivery and to exclusively breastfeed their babies in hospital, and their attitude toward having such support has become more positive. Almost 90% of women breastfeed exclusively during their stay in the maternity, more than tripling from only 26% at baseline. A larger proportion of infants under the age of six months is now exclusively breastfed than in mid-2000, according to data from children's polyclinics.

More women at endline were opting to use the lactational amenorrhea method of contraception (LAM) in the postpartum period, from only two women reporting to use LAM at baseline to more than a quarter of all postpartum women. This is an appropriate method for women who want to exclusively breastfeed their infants, but must be followed with another appropriate back-up method when it is no longer likely to be effective in preventing conception. Among postpartum women and their providers we found that knowledge about when this method becomes ineffective

is inadequate. A small number of abortion clients are now reporting that they became pregnant while using LAM as a method of contraception, and this number will increase if counseling on how and when to use this method does not improve. As mentioned earlier, further training for providers on LAM is needed to prevent unwanted pregnancies among LAM users, and consequent abortions.

Most abortion clients had relied on barrier methods of birth control which had failed, and three quarters of those who knew what method they would use post-abortion chose a medical method.

These results point not to a lack of desire by these clients to use an effective method of pregnancy prevention, but instead to an inability to do so.

Client satisfaction
The WIN interventions promoted a 'client-centered' approach to all types of women's health care, encouraging providers to include women in decisions regarding their own care. Using the proportion of women who would recommend the facility to a friend as an indicator, large gains in client satisfaction were evident, but not evenly spread across all cities. Generally speaking, clients reported increased satisfaction with services provided by the facilities they attended, except among clients in Veliky Novgorod. However, there was a steep decline in Veliky Novgorod from almost 100% who would recommend the facility to a friend at baseline to only around 80% at second round and endline, although this decline brings facilities in Novgorod only down to the level of satisfaction achieved in the other cities. These data suggest declining satisfaction with all types of services in Veliky Novgorod, and increasing satisfaction in Perm and Berezniki.
While we would need to further analyze these data, we believe that reports of declining satisfaction with the services may come from Maternity No. 1 in Veliky Novgorod. As women heard reports of the 'woman friendly' services provided in the other maternity, their regard for services in Maternity No. 1, where fewer WIN-promoted changes were adopted, appeared to decline. It seems that women were in favor of the new services, and responded positively to the changes.

Effects on demand

Knowledge and attitudes in the community
We found that informational materials were distributed to 80% of clients at participating facilities, more than tripling from baseline, and that the most widely distributed were those about exclusive breastfeeding, pregnancy prevention, sexually transmitted infections, and child care. Approximately three quarters of all clients were given or took an educational brochure away when they left the clinic or hospital. The main subjects of these materials were pregnancy prevention and exclusive breastfeeding.

Providers reinforced this educational effort. Clients reported that their provider discussed various topics during their consultation, including availability and content of the new services, such as childbirth preparation for women and their partners, and the option to choose components of 'maternity care oriented to family participation' (FCMC).

Our data suggest that the media campaign on exclusive breastfeeding reached more than 60% of women in the three cities, and almost 80% could recognize the WIN breastfeeding logo, used in the campaign and on posters and materials in facilities.

The breastfeeding campaign, supported by counseling and materials in facilities, appears to have succeeded in changing women's knowledge about the optimal age for exclusive breastfeeding.

The percent of women in the community who said that 5 or 6 months was the optimal age to begin supplementing breast milk doubled, from 15% in 1999 to 29% at endline. Women who heard the message on television were 60% more likely to say that breast milk should not be supplemented by anything else than if they had not heard the television message.

Women's perceptions of prevailing norms about breastfeeding in their community were also similarly affected by exposure to the television messages: those who heard the message were 50% more likely to think that most of their friends would breastfeed than other women. At baseline only about 8% of women thought most of their friends would breastfeed, and in 2003 more than half believed this.

About 40% of the target population reported seeing the family planning media messages ('see your doctor about family planning'), but 70% reported seeing a message about modern contraceptives on television (promoted by the previous project). Overall attitudes (in terms of safety, effectiveness, and cost) toward various modern methods of contraception had not improved—about 40% still had an overall negative image of oral contraceptives, more than 50% had a negative image of injections, and about 80% had a negative image of sterilization. Abortions received the lowest ratings of all, with more than 97% of women having a negative image of abortions, overall, also virtually unchanged from baseline.

While there was no increase in the proportion of all women who thought that their friends used modern contraceptives (about 46%), we found an increase among those women who want to stop childbearing. Fifty percent of those who wanted to stop childbearing reported that most of their friends use modern contraception at baseline, and this rose to 56% at endline. The perception that modern contraception is the norm among their peers seems to be quite accurate, since between 55% and 63% of women in union in these cities reported current use of a modern method.

Impact on health and behavior

Breastfeeding

Very great changes in breastfeeding behavior were observed in our project sites. This is clearly a very popular option with women and with providers. Practices in maternity hospitals supporting exclusive breastfeeding also changed markedly. Begun at birth, it appears that this behavior is being sustained longer and longer, with increases in the proportion of infants up to six months of age exclusively breastfed, too. This new, healthy behavior may improve morbidity rates in infants, but a longer period of observation is probably necessary to detect such an association. Ideally, a special study that collects individual-level data should be conducted. That study might provide evidence to confirm in the Russian context what has been shown repeatedly worldwide: exclusive breastfeeding reduces child morbidity and improves child health. Cost savings to facilities have also resulted from the reduction in bottle feeds they buy. Maternity No. 2 in Veliky Novgorod documented savings of more than 100,000 rubles in bottle-feeding costs, which was used to remodel their delivery area. [41]

Contraceptive use

As mentioned earlier, the prevalence of contraceptive counseling provided to women by physicians in facilities more than doubled over the course of the project. By the time of the endline facility survey, more than nine out of every ten abortion clients reported receiving such counseling. A very large proportion of abortion clients said they intended to use a contraceptive method, and of the more than 80% who knew what method they would choose at the time of discharge, more than three quarters intended to use a medical method, the most efficacious. There

was also a large increase in the proportion of all abortion clients who received focused counseling on a contraceptive method.

One puzzling finding from the facility surveys is the apparent increase in the proportion of abortion clients who reported that they were not using a contraceptive when they conceived the pregnancy just aborted. Those who said they got pregnant while using a method declined from 70% at baseline to about 60% in the succeeding surveys, even though there was a slight increase in the percent who reported prior use of a medical method. Forty percent reported that they were not using a contraceptive when they became pregnant. This may simply reflect a deficiency in the way questions were asked. Nevertheless, all three surveys demonstrated that a large proportion of women—between 30% and 40%—with a perceived need to avoid an unwanted conception either use contraception inconsistently, or do not use it at all. Further analysis may provide information on the characteristics of these abortion client 'non-users,' which may help to target them to provide additional contraceptive advice.

Among women interviewed in the community, current contraceptive prevalence rose only slightly, but a shift to modern methods was observed: an increase in those using a modern method of between five and ten percentage points in the three cities. Our data suggest that women are increasingly using more effective methods of contraception, and have a negative image of induced abortion as a means of birth control. However, in our endline household survey, about one quarter of all sexually active women reported not using any contraceptive method. Targeting these women, who may rely solely on abortion to meet their need for birth control, should be an urgent priority.

Overall negative attitudes against induced abortion were very high. Ninety-six percent of all women interviewed had an overall negative image of this method of birth control at baseline and in 2003.

It appears that women are using more effective methods of contraception than they were at the start of the WIN Project. Still, about one quarter of all sexually active women reported not using any contraceptive method. Targeting these women, who may rely solely on abortion to meet their need for birth control, should be an urgent priority.

When contraceptive use increases, the abortion rate should decline. Over a short period of time, however, inconsistent use and/or use of less effective methods of contraception may still lead to unintended pregnancies. If cultural prohibitions on abortion are not present, or do not outweigh the perceived need to terminate the pregnancy, the abortion rate may remain stable, or even rise when inconsistent contraceptive use leads to further unwanted pregnancies.

Abortion

Abortion rates declined during the course of the WIN Project, continuing a trend already evident. According to our household survey data, total abortion rates and general abortion rates have fallen consistently since the three-year period before WIN Project activities began. Perm and Berezniki had the highest abortion rates prior to the start of the project, as measured by the general abortion rate (GAR) and the total abortion rate (TAR), although both the total abortion rate and general abortion rate have fallen considerably. We think that the changes demonstrated by our data in regard to increased provision of contraceptive counseling in facilities, as well as increased provision of information through brochures distributed to facility clients and through the mass media, provide evidence that the Project activities contributed to the increase in the use of modern contraceptives in the project sites, and to the concomitant decline in abortion rates.

Despite what appear to be improvements in contraceptive intentions and use, the cross-section of abortion clients interviewed at participating facilities were just as likely at baseline as at the time of both second round and endline facility surveys to have had an abortion in the previous 12 months. About 75% of all abortion clients who had been pregnant at least once before reported a previous abortion, and about 17% of those abortion clients reported having a previous abortion in the past year. These proportions hardly changed over the three years, but our data indicate that over time fewer 'rapid repeaters' were actually using contraception when the unwanted conception occurred. Our findings suggest that these women were not able to obtain a method when they needed it, or were less motivated to use it than abortion clients were in general. About one third of these 'rapid repeaters' said they want no more children.

Taken together, these findings suggest that the majority of 'rapid repeaters' are more likely women repeatedly exposed to the risk of conception, who are in need of permanent methods, or need consistent access to the most effective (medical) contraceptive methods. If they cannot achieve their intention to use an effective method of contraception, and become pregnant again, it appears that they continue to use abortion as a means to control their family size or the timing of births. As seen in WIN Project and other household surveys, the probability that an unwanted pregnancy will be terminated by abortion is around 90%.

Our data and data from official statistics generally point to a decline in abortions since the project began, continuing a secular decline that has been described since the beginning of the 1990s, yet women are still using abortion repeatedly as a means to control their fertility. All elements—dislike of abortion as a contraceptive method, a desire to use an effective method to prevent an unwanted conception, more women receiving timely counseling and specific information about their chosen method, and an increase in reported use of modern contraceptives—would now seem to be in place to prevent more unwanted conceptions. What is missing that leads to the continuing rate of repeat abortions? Three conditions may still be lacking:

1. provider motivation to reduce the number of abortions performed
2. consistent and affordable access to supplies, or to the most effective long-term methods
3. adequate knowledge and strong motivation to use a contraceptive method consistently over the long term.

In Russia, abortion is widely available and accessible, both psychically and financially, reducing the pressure on women to practice consistent, effective contraception. And, the propensity to abort an unwanted or ill-timed pregnancy is very high. Women are willing to undergo some discomfort and take some risk to avoid an unwanted birth. The culture does not prohibit abortion; on the contrary, abortion has been an acceptable, if undesirable, method of birth control for most of the 20th century.

Perinatal mortality

While three years is probably too little time to detect a change in impact indicators such as neonatal health, we examined several indicators of birth outcomes in the three cities. Little change in indicators of perinatal death rates can be detected in WIN Project data. From data aggregated across participating WIN facilities (maternity hospitals), there appears to be a slight but sustained decline in death rates in Perm facilities, while in the other two cities rates have been erratic.

The entire decline in the perinatal death and stillbirth rates in Perm appears to be due to a decline in one facility, the regional perinatal center where high-risk births from surrounding areas as well as the city of Perm are delivered. Most of the decline occurred in year two of the WIN Project activities.

However, we cannot be confident that these indicators were measured in a comparable fashion, from city to city and facility to facility. Facilities were not using the standard definition of a stillbirth, as given by the World Health Organization (WHO). Despite providing the WHO definition to all facilities and training staff to fill in these reports, we cannot be sure that the new definition was adopted consistently across all hospitals (which report to the city authorities). Furthermore, data for the short period covered by WIN Project activities is probably not sufficient to describe a trend, especially in the smaller cities of Berezniki and Novgorod. A longer period of observation, starting before project activities began and going on for several more years is needed in order to discern any trends.

Recommendations for further study

Despite the large number of women who request induced abortions, most women and gynecologists say that they would prefer to prevent unwanted pregnancies through the use of modern contraception. Factors that contribute to the disparity between women's desire to use modern contraception to prevent unwanted pregnancies and their practice of having induced abortions to prevent unwanted births are probably multiple, but little information on what these factors are is available.

Questions worthy of investigation include:

- What financial, social, or psychological obstacles may contribute to the inability of women to choose and obtain the most effective methods and use them consistently?
- How important a factor is the relative ease of access (financial and physical) to abortion when conception occurs due to method or user failure? How might the relative ease of access to abortion contribute to such failures?
- How important is the lack of cultural restraint on the use of abortion (*i.e.*, the propensity to abort), in delaying a shift to reliance on safer, less expensive contraceptive options?
- Do providers lack motivation to reduce the number of abortions they perform, and if so, why?
- Can more be done to help women make an informed decision between enduring the risks and discomfort of induced abortion and making the effort required to obtain and to effectively use modern or medical methods of contraception?
- For Russian women, would increased access to permanent methods of contraception be a better, more acceptable alternative to abortion?

Given the dislike of abortion that women expressed, more information is also needed about women who rely almost exclusively on abortion to meet their family planning needs, and on the benefits to providers of performing abortions. What are the characteristics of the sexually active women who reported not using any contraceptive method? Are they relying solely on abortion for their birth control needs and if so, why? What are the obstacles that may exist to enlisting the full support of physicians to reduce the rate of repeat abortions?

A larger study of 'rapid repeaters' should be conducted in future, to understand the motivations and the reasons why these women returned for an abortion so soon. The surveys conducted by the WIN Project evaluation aimed only to estimate the prevalence of this behavior, and captured too few of these women to provide information about them. A larger sample of such women and more detailed questioning is needed to learn more about the reasons underlying their behaviour.

In sum, the combined evidence presented in this evaluation suggests that the WIN Project activities contributed to widespread implementation of evidence-based practices in women's

health care facilities and adoption of more healthy behaviors by women. The success of these project interventions has probably also contributed to declining abortion rates and, to some extent, improvements in perinatal health. However, some of the WIN practices appear to have been easier for facilities to implement than others, regardless of facility policies supportive of the new, evidence-based guidelines and strong leadership from facility and health administration on behalf of institutional changes. And, some of the WIN practices have produced outcomes less dramatic than hoped and expected. Barriers can range from the simple 'domino effect' that a new practice can have on the regular, smooth functioning of a health care facility—as in the case of introducing family members into the delivery room—to a complex set of financial, physical, and cultural factors that may help to explain the persistence of abortion's use as a birth control method among Russian women.

ANNEX ONE: SUPPLEMENTARY TABLES

Table A1. Facility Monitoring System: Percent of women given pain medication during labor/delivery

	NOVGOROD 1	NOVGOROD 2	PERM 9	PERM 21	BEREZNIKI
July-Sept.00	83.0	14.0	84.9	37.6	100.0
Oct.-Dec.00	79.0	6.0	92.3	8.6	100.0
Jan.-Mar.01	74.0	7.0	80.0	10.1	100.0
Apr.-June 01	86.2	10.0	52.2	12.6	6.4
July-Sept.01	64.4	4.9	32.4	12.2	24.8
Oct.-Dec.01	53.1	5.9	25.1	13.6	17.8
Jan.-Mar.02	55.2	9.1	16.3	10.2	10.4
Apr.-June 02	76.2	9.1	19.8	12.4	2.6
July-Sept.02	59.9	4.5	13.6	20.8	2.8
Oct.-Dec.02	57.8	11.0	11.6	19.3	2.4

Table A2. Percent of maternity clients who had family support during labor/delivery

	NOVGOROD 1	NOVGOROD 2	PERM 9	PERM 21	BEREZNIKI
July-Sept.00	8.9	19.8	0.6	1.9	0.6
Oct.-Dec.00	14.4	24.2	4.7	3.7	0.0
Jan.-Mar.01	22.3	31.1	7.2	6.7	0.4
Apr.-June 01	30.0	47.6	10.3	13.0	3.8
July-Sept.01	27.5	43.6	4.8	25.0	27.9
Oct.-Dec.01	46.2	51.0	7.5	37.0	22.8
Jan.-Mar.02	45.7	41.1	8.2	37.5	33.6
Apr.-June 02	39.5	51.5	13.8	40.6	77.1
July-Sept.02	37.4	42.9	12.0	43.5	76.7
Oct.-Dec.02	32.4	35.0	26.0	47.5	53.4

Table A3. Percent of women choosing rooming-in

	NOVGOROD 1	NOVGOROD 2	PERM 9	PERM 21	BEREZNIKI
July-Sept.00	8.9	91.2	89.5	99.1	21.9
Oct.-Dec.00	38.0	97.5	90.0	82.6	35.2
Jan.-Mar.01	11.2	97.6	98.5	97.7	75.8
Apr.-June 01	14.8	98.9	90.9	96.0	97.6
July-Sept.01	13.6	97.4	98.9	99.0	98.7
Oct.-Dec.01	19.6	96.4	97.1	98.0	96.3
Jan.-Mar.02	17.5	94.7	97.3	99.2	99.3
Apr.-June 02	18.2	95.3	86.9	99.2	94.5
July-Sept.02	17.5	96.0	96.4	98.6	95.2
Oct.-Dec.02	19.4	96.6	91.8	98.8	95.6

Table A4. Percent of newborns exclusively breastfed throughout hospital stay

	NOVGOROD 1	NOVGOROD 2	PERM 9	PERM 21	BEREZNIKI
July-Sept.00	83.7	79.3	72.8	93.6	21.9
Oct.-Dec.00	85.3	87.8	72.7	96.6	30.6
Jan.-Mar.01	78.4	91.1	77.6	88.4	58.1
Apr.-June 01	79.9	91.5	81.1	95.6	93.9
July-Sept.01	69.9	89.1	85.1	95.0	89.5
Oct.-Dec.01	74.9	80.2	95.2	96.5	91.6
Jan.-Mar.02	74.4	87.2	70.8	99.1	87.2
Apr.-June 02	72.5	87.1	79.2	96.6	85.9
July-Sept.02	71.0	87.1	78.5	93.6	87.8
Oct.-Dec.02	71.6	90.6	72.8	97.8	85.1

Table A5. Percent of 0-5 month olds exclusively breastfed (Children's Polyclinics)

	NOVGOROD 1	NOVGOROD 2	NOVGOROD 3	PERM 15	PERM 24	BEREZNIKI
July-Sept.00	57.9	58.6	47.5	11.7	44.1	46.7
Oct.-Dec.00	61.2	63.7	49.3	12.1	54.5	50.3
Jan.-Mar.01	59.7	68.0	49.5	16.3	56.5	57.0
Apr.-June 01	63.1	73.9	55.9	21.9	64.5	67.5
July-Sept.01	72.7	73.1	58.7	30.6	69.5	78.5
Oct.-Dec.01	70.7	73.6	61.7	44.4	69.7	79.5
Jan.-Mar.02	73.0	74.4	66.8	58.3	74.2	80.4
Apr.-June 02	74.5	78.8	66.6	62.8	72.5	77.6
July-Sept.02	76.2	72.4	69.4	67.6	71.6	82.3
Oct.-Dec.02	75.3	71.0	65.5	66.3	78.0	83.3

Table A6. Demographic profile of baseline facility survey clients (2000)

	PERCENT OF CLIENTS		
	ANTENATAL	POSTPARTUM	ABORTION
CITY			
Veliky Novgorod	28.3	31.8	29.9
Perm	45.8	46.0	43.8
Berezniki	25.9	22.2	26.4
AGE DISTRIBUTION			
15–24*	60.3	50.6	47.0
25–34	36.7	43.5	39.3
35–45	3.1	6.9	13.7
EDUCATION			
Less than complete secondary	7.1	6.5	7.2
Completed secondary	32.0	37.3	35.2
Any higher post-secondary	60.9	56.2	57.7
MARITAL STATUS			
Married	60.7	69.8	49.1
In unregistered marriage	33.8	22.2	21.9
Single, never married	3.7	7.1	22.5
Divorced/separated/widowed	1.8	0.9	6.5
TOTAL PERCENT	100	100	100
NUMBER OF RESPONDENTS	491	324	489

* Includes three 14-year old abortion clients.

Table A7. Demographic profile of 2nd round facility survey clients (2002)

	Percent of Clients		
	Antenatal	Postpartum	Abortion
City			
Veliky Novgorod	26.8	26.2	28.3
Perm	50.1	52.7	49.6
Berezniki	23.1	21.1	22.2
Age Distribution			
15-24*	53.8	51.3	46.7
16-34	41.5	41.9	37.6
35-45**	4.7	6.7	15.7
Education			
Less than complete secondary	4.1	6.1	6.1
Completed secondary	33.8	35.9	41.0
Any higher post-secondary	62.1	58.1	51.1
Missing	0.0	0.0	1.8
Marital Status			
Married	60.2	67.5	45.6
In unregistered Marriage	33.2	25.6	25.8
Single, never married	5.6	6.5	23.6
Divorced/separated/widowed	0.9	0.4	5.0
Total Percent	100	100	100
Number of Respondents	533	446	559

* Includes one 14-year old abortion client. ** Includes one 49-year-old abortion client

Table A8. Demographic profile of endline facility survey clients (2003)

	Percent of Clients		
	Antenatal	Postpartum	Abortion
City			
Veliky Novgorod	29.2	31.0	29.4
Perm	45.9	47.8	46.1
Berezniki	24.9	21.3	24.5
Age Distribution			
15-24	57.1	49.6	42.9
25-34	38.0	43.5	41.0
35-45	4.8	6.9	16.1
Education			
Less than complete secondary	3.9	6.4	5.7
Completed secondary	27.8	26.2	34.2
Any higher post-secondary	67.4	66.9	60.0
Missing	1.0	0.5	0.2
Marital Status			
Married	59.5	63.8	51.2
In unregistered Marriage	34.7	30.5	24.1
Single, never married	5.2	5.2	19.7
Divorced/separated/widowed	0.6	0.5	4.9
Total Percent	100	100	100
Number of Respondents	518	423	527

Table A9. 2000 Current use of contraceptives among women in union (formal or unregistered)

CURRENT USE OF CONTRACEPTIVES AMONG MARRIED WOMEN	CITY		
	PERM	BEREZNIKI	V. NOVGOROD
USING ANY METHOD	70.5	68.4	73.5
USING A MODERN METHOD	38.2	41.8	41.0
IUD	18.1	22.6	17.7
Condoms	10.3	9.9	12.9
Oral Contraceptives	4.2	5.5	7.6
Female Sterilization	1.3	0.5	0.6
Vaginal methods	1.7	0.2	0.8
Morning-after pill	0.1	0.1	0.0
Injectables	0.4	0.0	0.0
Condoms and other modern	1.1	1.3	1.4
Other combinations	1.1	1.6	0.1
USING A TRADITIONAL METHOD	14.8	12.0	15.7
LAM	0.9	0.2	0.1
Periodic abstinence	5.9	2.2	5.0
Withdrawal	4.3	2.5	5.5
Douching	3.7	7.1	4.3
Other	0.1	0.0	0.6
USING BOTH TRADITIONAL AND MODERN METHOD	17.5	14.6	16.8
NOT USING A CONTRACEPTIVE METHOD	29.6	31.7	26.5
TOTAL	100.0	100.0	100.0
NUMBER OF RESPONDENTS	819	831	785

Table A10. 2003 Current use of contraceptives among women in union (formal or unregistered)

CURRENT USE OF CONTRACEPTIVES AMONG MARRIED WOMEN	CITY		
	PERM	BEREZNIKI	V. NOVGOROD
USING ANY METHOD	72.15	70.69	78.20
USING A MODERN METHOD	54.43	57.16	62.45
IUD	14.5	23.9	22.1
Condoms	23.3	15.5	19.8
Oral Contraceptives	6.0	7.6	9.7
Female Sterilization	2.3	1.3	1.3
Vaginal methods	3.8	1.2	1.7
Morning-after pill	0.6	0.0	0.1
Injectables	0.3	0.5	0.1
Condoms and other modern	0.1	0.3	0.0
Other combinations	3.5	6.9	7.6
USING A TRADITIONAL METHOD	17.72	13.40	15.75
Lactational amenorrhea	0.8	2.1	0.4
Calendar method	8.9	4.1	7.6
Withdrawal	5.6	3.8	5.8
Douching	2.0	2.5	1.3
Other	0.4	0.8	0.7
NOT USING A CONTRACEPTIVE METHOD	27.85	29.31	21.80
TOTAL	100.0	100.0	100.0
N OF RESPONDENTS	711	754	711

Table A11. 2003 Current use of contraceptives among sexually active women (have had sexual intercourse in the last 30 days)

CURRENT USE OF CONTRACEPTIVES AMONG SEXUALLY ACTIVE WOMEN	CITY		
	PERM	BEREZNIKI	V. NOVGOROD
USING ANY METHOD	76.6	73.8	80.3
USING A MODERN METHOD	58.7	61.8	64.1
IUD	12.1	22.0	19.1
Condoms	28.7	21.3	22.7
Oral Contraceptives	7.1	8.5	10.7
Female Sterilization	2.1	1.2	1.2
Vaginal methods	4.3	1.2	1.9
Morning-after pill	0.5	0.1	0.2
Injectables	0.2	0.5	0.2
Condoms and other modern	0.2	0.5	0.4
Other combinations	3.4	6.5	7.7
USING A TRADITIONAL METHOD	17.9	11.9	16.0
LAM	0.6	1.5	0.4
Periodic abstinence	8.7	4.0	6.8
Withdrawal	6.2	3.5	7.0
Douching	1.8	2.2	1.5
Other	0.5	0.7	0.4
NOT USING A CONTRACEPTIVE METHOD	23.4	26.2	19.7
TOTAL	100	100	100
N OF RESPONDENTS	812	827	842

Table A12 Changes in contraceptive prevalence rates among women in union, baseline and endline household surveys, omitting invalid responses from baseline data

CURRENT USE OF CONTRACEPTIVES AMONG MARRIED WOMEN	CITY		
	PERM	BEREZNIKI	V. NOVGOROD
		USING ANY METHOD	
BASELINE – 1999 AND 2000	70.5 (70.2)	68.3	73.5
ENDLINE – 2003	72.2	70.7	78.2
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	76.6	73.8	80.3
		USING A MODERN METHOD	
BASELINE – 1999 AND 2000	47.8	48.9	49.3
ENDLINE – 2003	54.4	57.2	62.5
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	58.7	61.8	64.1
		USING A TRADITIONAL METHOD	
BASELINE –1999 AND 2000	17.9	14.1	18.8
ENDLINE – 2003	17.7	13.4	15.8
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	17.9	11.9	16.0
		NOT USING ANY METHOD	
BASELINE – 1999 AND 2000	29.6 (29.8)	31.7	26.5
ENDLINE – 2003	27.9	29.3	21.8
ENDLINE – ALL SEXUALLY ACTIVE WOMEN	23.4	26.2	19.7

Percent using any method and not using any method total 100%. The percent using modern and traditional methods do not total the percent using any method, due to omission of invalid responses for these estimates. When calculating the distribution of use by type of method in Table 12, we omitted invalid responses from baseline data (those women reporting current use of BOTH modern and traditional methods), and obtained the results shown. This is an alternative to the method used to compare baseline and endline survey data used in the main text.

Table A13. Percent of women at least somewhat satisfied with the quality of the contraceptive counseling services, by age and education

SATISFACTION WITH QUALITY OF SERVICE	CITY					
	PERM		BEREZNIKI		V. NOVGOROD	
	2000	2003	2000	2003	2000	2003
AGE						
15-24	71.4	74.7	57.4	71.9	69.8	64.2
25-34	67.1	68.3	73.7	61.4	74.7	62.4
35-44	61.3	68.7	53.3	61.5	68.5	57.6
EDUCATION						
Incomplete Secondary	51.4	64.0	45.1	53.3	33.3	51.9
Secondary	62.5	70.3	60.7	62.3	70.0	59.6
Beyond secondary	76.9	68.4	78.3	67.1	76.8	62.1
N	675	568	686	622	696	684

Table A14. Repeat Abortion Results from Facility Surveys

Endline. Repeat abortion rates among abortion clients by city

KEY INDICATOR	CITY			
	V. NOVGOROD (%)	PERM (%)	BEREZNIKI (%)	TOTAL (%)
Within one year	16.3	21.1	10.7	17.2
Within two years	37.0	43.5	29.3	38.2
Number of respondents	92	147	75	314

Round Two. Repeat abortion rates among abortion clients by city

KEY INDICATOR	CITY			
	V. NOVGOROD (%)	PERM (%)	BEREZNIKI (%)	TOTAL (%)
Within one year	16.3	20.9	10.3	17.5
Within two years	33.7	47.7	33.8	41.0
Number of respondents	92	172	68	332

Baseline. Repeat abortion rates among abortion clients by city

KEY INDICATOR	CITY			
	V. NOVGOROD (%)	PERM (%)	BEREZNIKI (%)	TOTAL (%)
Within one year	6.0	21.1	19.4	17.2
Within two years	29.9	44.1	38.9	39.5
Number of respondents*	67	152	72	291

* Excludes one client who did not report the date of last abortion.

Table A15. Demographic and Social Characteristics of respondents – Baseline household survey 2000 and endline household survey 2003 (percent distribution)

	CITY					
	PERM		BEREZNIKI		V. NOVGOROD	
	1999/2000	2003	2000	2003	2000	2003
AGE						
15-19	13.3/12.3	19.5*	15.9	16.5	14.6	12.2
20-24	17.9/18.3	17.0	17.6	18.1	18.8	18.6
25-29	16.3/18.8	17.3	18.3	21.7*	15.6	18.6*
30-34	14.4/15.1	17.1	15.5	16.8	16.1	14.9
35-39	20.6/17.6	13.8*	15.7	11.7*	18.6	16.2
40-44	17.7/17.9	15.2	16.9	15.2	16.3	19.4*
EDUCATION LEVEL						
Less than complete secondary	10.1/8.4	12.5*	13.8	13.3	9.5	9.5
Complete secondary	64.7/65.7	57.8*	71.1	65.7*	59.2	52.8*
More than secondary	25.5/25.9	29.6*	15.2	21.0*	31.4	37.8*
MARITAL STATUS						
Married	49.5/50.6	43.4*	45.6	40.5*	52.8	46.2*
Unregistered marriage	13.2/12.4	13.8	18.3	20.6	7.5	10.0*
Divorced or separated	13.1/13.5	13.5	13.5	13.5	13.8	14.7
Widowed	2.4/2.5	1.2*	1.8	2.1	2.1	1.8
Never married	21.7/20.9	28.2*	20.8	23.2	23.7	27.3*
Number of Respondents	2000/1300	1300	1300	1300	1300	1300

1999 survey is CDC/VCIOM survey in Perm; 2000 is WIN Baseline survey.
(* denotes p<.05, a statistically significant difference from proportion at baseline)

Table A16. Absolute number of abortions and live births by city,* and abortion: live birth ratios

	QUARTER										
	July-Sept. 00	Oct.-Dec. 00	Jan.-Mar. 01	Apr.-June 01	July-Sept. 01	Oct.-Dec. 01	Jan.-Mar. 02	Apr.-June 02	July-Sept. 02	Oct.-Dec. 02	Jan.-Mar. 03
	1	2	3	4	5	6	7	8	9	10	11
	V. NOVGOROD										
ABORTIONS	991	1075	1011	980	996	993	961	800	945	885	865
LIVE BIRTHS	710	706	727	775	789	797	844	846	892	961	886
ABORTION: LIVE BIRTH RATIO	1.4	1.5	1.4	1.3	1.3	1.2	1.1	0.9	1.1	0.9	1.0
	PERM										
ABORTIONS	4506	4428	3124	2850	3574	4213	4069	3008	4476	3885	3918
LIVE BIRTHS	2422	2258	2289	2481	2612	2511	2583	2655	2992	2683	2846
ABORTION: LIVE BIRTH RATIO	1.9	2.0	1.4	1.1	1.4	1.7	1.6	1.1	1.5	1.4	1.4
	BEREZNIKI										
ABORTIONS	909	571	735	739	704	775	713	796	896	787	794
LIVE BIRTHS	489	386	484	423	475	382	562	476	498	429	465
ABORTION: LIVE BIRTH RATIO	1.9	1.5	1.5	1.7	1.5	2.0	1.3	1.7	1.8	1.8	1.7

Table A17. Prevalence of healthy infants

	NOVGOROD 1	NOVGOROD 2	NOVGOROD 3	PERM 15	PERM 24	BEREZNIKI
July-Sept.00	80.3	79.9	81.9	14.2	36.7	66.3
Oct.-Dec.00	69.1	73.7	60.2	14.9	38.3	69.1
Jan.-Mar.01	72.4	79.1	66.7	16.3	38.6	75.8
Apr.-June 01	82.5	79.9	62.5	17.9	34.2	58.1
July-Sept.01	87.6	80.4	90.1	27.1	45.4	66.7
Oct.-Dec.01	69.0	71.8	66.2	29.8	44.1	55.0
Jan.-Mar.02	73.5	72.9	72.4	23.8	28.1	62.6
Apr.-June 02	71.4	82.2	65.2	29.7	44.2	65.4
July-Sept.02	81.0	82.6	69.1	44.1	61.4	66.1
Oct.-Dec.02	81.8	73.7	70.7	18.4	53.4	57.1

Table A18. Number of infants under 6 months of age

	NOVGOROD 1	NOVGOROD 2	NOVGOROD 3	PERM 15	PERM 24	BEREZNIKI
July-Sept.00	178	384	282	698	578	747
Oct.-Dec.00	152	377	274	672	574	725
Jan.-Mar.01	196	388	222	662	533	739
Apr.-June 01	206	364	272	716	547	690
July-Sept.01	194	372	242	723	544	735
Oct.-Dec.01	174	341	266	685	578	756
Jan.-Mar.02	200	369	283	761	566	770
Apr.-June 02	192	415	302	815	568	807
July-Sept.02	210	438	317	819	570	774
Oct.-Dec.02	198	448	290	860	633	779

ENDNOTES

[1] David, PH, Bodrova, V, Avdeev, A, Troitskaia, I, and Boulay, M (2000) Women and Infant Health Project Household Survey 2000: Report of Main Findings, Boston: John Snow, Inc.
[2] David, PH (2001), Women and Infant Health Project Facility Survey 2000: Report of Main Findings, Boston: John Snow, Inc.
[3] David PH and Vartapetova, N (2003) Women and Infant Health Project Facility Monitoring System Report: July 2000 – December 2002, Boston and Moscow: John Snow, Inc.
[4] David, PH and Potemkina, R (2002) Women and Infant Health Project Facility Survey 2002: Report of Main Findings, Boston: John Snow, Inc.
[5] David, PH and Potemkina, R with assistance of Natalia Kisseleva (2003) Women and Infant Health Project Facility Survey 2003: Report of Main Findings, Boston: John Snow, Inc.
[6] The data sources employed by the WIN Project were mandated by JSI's contract with USAID. For this pilot project, establishing and managing all of these methods of data collection were extremely demanding tasks. The household surveys were quite costly compared with the other two sources, but were essential to obtain population-based measure of the abortion rate, the contraceptive prevalence rate, measures also mandated by the contract and knowledge and attitudes about various health behaviors that project IEC activities aimed to affect.

The facility surveys, by contrast, were very useful (and relatively less costly) for measuring many of the direct effects of the project's training activities (which were a major element of project activities). We were unable to carry out observations of provider practices during these surveys, due to the limited number of knowledgeable individuals in Russia available to conduct such observations as well as time and resource limitations. Nevertheless, the interviews with providers and clients were successful in providing information on changes in the quality of care in participating facilities. The client perspective was especially important, since it gave a view of discrepancies between what providers reported (because they knew the "right answer," but did not always practice it) and what clients said they experienced. Presenting these data to participating staff and administrators was a useful way to stimulate discussion and promote adoption of the evidence-based practices.

The Facility Monitoring System built upon the routine statistics reported by each facility to the health administration, but in the past, the punitive nature of the system had promoted falsification of such reports. It was essential to supplement this information from facilities and providers with information collected by interviewing clients about their experience of care. The facility interview surveys are difficult to manage and are not cost effective to replicate. In the interest of providing a sustainable system to collect data from clients' perspective, a more concise, easy to use set of tools for obtaining information from clients – questionnaires filled in by the clients themselves – was devised, but not tested, near the end of the WIN Project. These tools are described in Vartapetova, N. ed. (2003) *WIN Project Handbook*, John Snow, Inc.: Moscow and Boston.
[7] Vartapetova, N (2003) Final Report of the WIN Project, Moscow and Boston: John Snow, Inc.
[8] Vartapetova, N., ed. (2003) *WIN Project Handbook: A guide for planning and implementing essential practices in women's and infants' health*, John Snow, Inc.: Moscow and Boston.
[9] David, Bodrova, *et al.* (2000), *op cit.*
[10] Goldberg, H. Correlation between CPR and Abortion Rates in Europe and Eurasia (2001), unpublished note.
[11] Ibid.
[12] Enkin, *et al.*, *op cit.*
[13] It reduces the likelihood that the newborn will have a five-minute Apgar score of baby below 7. (Apgar is an immediate assessment of the physical well being of the newborn, and is a predictor of outcome. The score ranges from 0 to 10, which is the best score.)
[14] Among first-time mothers from disadvantaged backgrounds, restriction of mother-infant contact in hospital has been shown to increase the subsequent risk of child abuse and neglect. (Enkin, *et al.*)
[15] Enkin, *et al.*, p. 430-432.
[16] WHO *Expert Consultation on the Optimal Duration of Exclusive Breastfeeding: Conclusion and Recommendations*, Geneva: 2001.
[17] Enkin, *et al.*, *op cit*, p. 447.

[18] Peterson, AE (2000) *et al.*, Multi-center study of the lactational amenorrhea method (LAM) III: effectiveness, duration, and satisfaction with reduced client-provider interaction, C*ontraception*, 62: 221-230.
[19] Personal Communication and Trip Report, Pauline Glatleider, WIN consultant midwife and trainer. In Maternity 1 in Novgorod, 'rooming-in' is not common. Newborns are bottle-fed in the nursery, and the feedings are not recorded in the charts.
[20] Children's polyclinics are mandated to see all infants under 6 months of age for a monthly check-up.
[21] Gartner, Lawrence M. and Kwang-sun Lee (1999) "Jaundice in the Breastfed Infant," *Clinics in Perinatology*, 26(2): 431-443. Jaundice is low when frequent exclusive breastfeeding is practiced. A decline in the jaundice rate indicates improvements in practices that promote exclusive breastfeeding, and are beneficial to the newborn, and a decrease in practices potentially harmful (supplementation with water and over-prescribing of medication).
[22] Enkin, *op cit*, p.448.
[23] Population Reference Bureau (1996) *Family Planning Saves Lives*, Washington, DC, p.12.
[24] Population Reference Bureau, *op cit*, p. 12, and Rahman, M., Davanzo, J., and Razzaque (2001) Do better family planning services reduce abortion in Bangladesh?, *The Lancet,* Vol. 358, 9287.
[25] US Department of Health and Human Services and Centers for Disease Control and Prevention (1999) *Vital and Health Statistics*: Maternal and Child Health Statistics: Russian Federation and United States, Selected Years 1985-95, p. 17.
[26] Ministry of Health, Russian Federation: *Maternal and Child Health Care Services in 2002*.
[27] David, PH, Bodrova, V., Avdeev, A., Troitskaia, I, and Boulay, M (2000), *Women and Infant Health Project Household Survey 2000: Report of Main Findings,* Boston and Moscow, December, 2000; David, PH, Bodrova, V, Avdeev, A., Troitskaia, I (2003) *Women and Infant Health Project Household Survey 2003: Report of Main Findings*, Boston and Moscow: June 2003.
[28] David, PH (2001), *op cit.*, p. 33.
[29] Savieleva, I, Pile, J., Olenina-Sacci, I., Loganathan, R. (2003) Postabortion Family Planning Operations Research Study in Perm, Russia, draft report, New York: EngenderHealth and Research Center of Obstetrics, Gynecology and Perinatology, Russian Academy of Medical Sciences, May.
[30] The project polled facilities in mid-2001 to obtain information on the current stock of contraceptives, to supplement FMS reports with information about this potential constraint to increased provision of contraceptives. We will also obtain reports from our post-intervention facility survey to assess changes in contraceptive availability in participating facilities. Facilities in Veliky Novgorod report that no contraceptives are provided at participating facilities. The Family Planning Centre in Berezniki reported stocks of 492 cycles of combined OCs, 218 IUDs, and 153 injectables, the latter having been out of stock at least once in the preceding 6 months. The Oblast Family Planning Center in Perm reported "miserably small" stocks of Combined OCs and IUDs, but said that this small supply was provided only for groups considered socially disadvantaged (teenagers, high parity women and unemployed women).

The information provided by Berezniki Maternity is that both combined and progesterone-only OCs were currently out of stock. Fifty IUDs were currently in stock, but a stock-out had occurred in the last 6 months. Only 200 condoms were in stock, but no stock-out of condoms had occurred in the last 6 months. The report from other facilities is similar, with less than 100 IUDs and 10 units of spermicide in stock in Maternity 9 in Perm; Maternity #21 in Perm had 40 combined OC units in stock and 30 IUDs. Neither of the maternities in Perm had any condoms in stock at the time of inventory and both reported previous stock-outs of condoms in the preceding 6 months. No other contraceptives were provided (or available) at WIN – participating facilities.
[31] David, PH and Potemkina, R with assistance of Natalia Kisseleva (2003*) Women and Infant Health Project Facility Survey 2003: Report of Main Findings*, Boston: John Snow, Inc.
[32] David, PH *et al.* (2003) *WIN Project Household Survey 2003: Report of Main Findings*, Boston and Moscow: John Snow, Inc.
[33] The relevant questions were not asked in the second and third round surveys, but should be added to future investigations to provide more information about how to reach and effectively assist 'rapid repeaters' to prevent unwanted pregnancies.
[34] David, PH, Bodrova, V., Avdeev, A., Troitskaia, I, and Boulay, M (2000), *Women and Infant Health Project Household Survey 2000: Report of Main Findings,* Boston and Moscow, December, 2000; David, PH, Avdeev, A., Troitskaia, I, Bodrova, V. (2003) *Women and Infant Health Project Household Survey*

2003: Report of Main Findings, Boston and Moscow: June 2003; CDC/*VCIOM 1999 Russia Women's Reproductive Health Survey: A follow-up of 3 sites* Preliminary Report: March 2000.

[35] We intend to re-analyze these data, removing this maternity hospital's data from the analysis, to investigate the level of satisfaction only in maternities where changes took place.

[36] To permit comparison with endline survey estimates, we compare the distribution of traditional and modern contraceptive use to results from the CDC-VCIOM survey conducted in Perm in 1999. Respondents to the WIN Project baseline survey were permitted – in error – to answer the question about what method they were currently using with multiple answers. Between 15 and 18 percent of respondents reported using a combination of modern and traditional methods, rendering comparisons meaningless. The actual percents from the CDC/VCIOM 1999 survey in Perm are shown in parentheses. Highlighted figures use the CDC/VCIOM distribution of modern vs. traditional methods to allocate respondents in WIN baseline survey who state that they are using a method to one of these two groups. Table A12 in the Annex shows the same data, and in addition provides the calculated estimates of current modern and traditional method use omitting invalid responses from the baseline data.

[37] Further analyses of these survey data may yield more information about the demographic profile of this group, which may help future programs to better target them with information about contraceptive methods.

[38] Complete Facility Monitoring System data for the abortion ratio are found in Annex Table 16.

[39] For 1996-1998, the city estimated that there were 60,000 women in the 15-44 age range. For 1999-2000, they used a figure of 50,000 women, and for 2001, appear to have made downward projections resulting in only 48,381 women in 2001 and 46,822 women in 2002.

[40] Demographers have recently analyzed abortion reports from survey data available for Russia, including the WIN Project baseline survey and 1996 CDC/VCIOM survey, to investigate claims that have been made that official reports underestimate the true level of abortion in Russia. They found that survey estimates and provider statistics for the general, total and age-specific abortion rates were very close to each other for about two years preceding each survey. Survey rates progressively deviated from official statistics the further back in time the reports went, and their conclusion was that the declining trend of abortions in Russia shown in the official statistics is likely to be real, and that survey reports suffer from under-reporting of abortions for periods earlier than two to three years before the survey date. (Philipov, D., Andreev, E., Kharkova, T., Shkolnikov, V (2003) Recent trends in induced abortions in Russia and under-reporting in surveys, unpublished manuscript.

[41] See also Abdallah, H. (2003) *Assessing the cost benefit of WIN Interventions in Russia,* Boston and Moscow: John Snow, Inc.