

**Lessons Learned
from the Global Agenda of the
Frontiers in Reproductive Health
Program**

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EXECUTIVE SUMMARY

This report summarizes the experience of the Frontiers in Reproductive Health Program (FRONTIERS) in implementing a coordinated set of operations research (OR) studies, collectively referred to as the Global Agenda. Its goal was to carry out comparable studies in diverse settings to answer important policy questions with global, rather than local, relevance. By asking the same questions, testing the same hypotheses, applying similar designs, and using core indicators and instruments, it was expected that more comprehensive answers to the original questions would be reached than if a single study were done in one setting.

The three core sets of studies selected were:

- Improving the Reproductive Health of Youth
- Involving Males in their Partners' Antenatal and Postpartum Care: Impact on Family Planning Use and the Prevention of Sexually Transmitted Infections at Six Months Postpartum (Men in Maternity Care)
- Impact of Improved Client-Provider Interaction on Women's Achievement of Fertility Goals

Key findings of the studies are reported; readers are referred to the final report of each individual study site for detailed information about research design, implementation of interventions, and findings. Challenges to conducting the cost component of the studies are also documented.

Lessons Learned

Feasibility: These studies demonstrated that it is feasible to investigate the same questions in different locations.

Comparability: While application of a common research design across countries was possible, the components of the interventions varied. Differences in sites, implementation of interventions, and variations in the interventions render the study findings not directly comparable on all key variables.

Generalizability: The studies are generalizable; each may be viewed as a cluster of similar, but not identical, efforts to test interventions on a common theme.

Replicability: The Global Agenda, as a research program, does not warrant strict replication as it was implemented. However, as noted above, lessons have been learned about carrying out a cluster of studies on a common theme, at a similar moment in time.

Challenges Faced by the Global Agenda Studies

Responsiveness to Local Conditions: The local conditions within which each site implemented the studies affect both the timing and the pace of the interventions.

Coordination to Ensure Adherence to Common Design, Data Collection Protocols and Timeline: The researchers did not have an established culture of coordination. Timelines varied, and some projects required longer start up times. Data collection instruments were sometimes modified, reducing the comparability of findings.

External Influences and Contamination: Virtually all the GA studies faced challenges to their interventions due to local developments.

Technical Capacity of Local Researchers: In a few cases, application of the research design and data analysis exceeded the technical capacity of local researchers. Staff would have benefited from more systematic support.

Many Researchers Cannot Implement Interventions: It is difficult, at best, for many researchers to be responsible for the implementation of interventions. They are too invested in demonstrating success, and are sometimes too willing to interpret small changes positively.

Recommendations

Continued Research to Understand Multi-Sectoral Influences on Youth Reproductive Health (YRH): More work is warranted to disentangle the additive effect of a school-based reproductive health education program on community and health service delivery efforts.

Limit Future Work on Client-Provider Interaction: One direction to consider in future research is more intensive investigation of the factors affecting immediate discontinuation, occurring within the first one to three months after adopting a method.

Greater Emphasis on Process Monitoring and Reporting: Process monitoring is essential in conducting operations research in order to determine what elements of the system can be manipulated, and with what effect. All of the projects would have benefited from more systematic process monitoring and reporting.

Continued Consideration of the Cost of Interventions: Additional opportunities to apply the cost analysis methodology should be investigated, and further efforts made to integrate cost data collection from the onset of interventions, rather than as an add-on study, should be a priority.

More Resources for Technical Assistance: Future projects, when several are clustered on a single theme, would benefit from the attention of a single coordinator able to provide leadership in that specific topic or theme. Technical support should be included in work plans in the future.

Use Critical Criteria for Study Locations: Research needs to be conducted where opportunities are available: willing local partners are present, trained researchers and good quality data collection firms are available, there are opportunities for expansion or replication, and there is donor interest in the issue.

ABBREVIATIONS

BCC	Behavior Change Communication
BCS	Balanced Counseling Strategy
CA	Cooperating Agencies
CEA	Cost Effectiveness Analysis
CPI	Client Provider Interaction
DHS	Demographic and Health Survey
ESIC	Employee State Insurance Corporation
FHI	Family Health International
FRONTIERS	Frontiers in Reproductive Health Program
GA	Global Agenda
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IEC	Information, Education, Communication
IR	Intermediate Result
IUD	Intra-Uterine Device
LAM	Lactational Amenorrhea Method
MiM	Men in Maternity
MIS	Management Information System
MOH	Ministry of Health
OR	Operations Research
QoC	Quality of Care
RH	Reproductive Health
STI	Sexually Transmitted Infection
USAID	United States Agency for International Development
YRH	Youth Reproductive Health

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INTRODUCTION

This report summarizes the experience of the Frontiers in Reproductive Health Program (FRONTIERS) in implementing a coordinated set of operations research (OR) studies, collectively referred to as the Global Agenda. The Global Agenda was undertaken to maximize the inter-regional collaboration that became possible when USAID merged three previously separate regional operations research projects into a single, global program commencing in June 1998. This ten-year Cooperative Agreement is implemented by the Population Council, in collaboration with Family Health International (FHI), and for Years 1 through 6, Tulane University's School of Public Health and Tropical Medicine.

OBJECTIVES

Typically, operations research studies address important local issues and are tailored to local settings. However, in order to be able to make more general, and generalizable, conclusions, the Frontiers in Reproductive Health Program added a global agenda component under its first Intermediate Result, "Innovative solutions to global and regional reproductive health service delivery problems will be experimentally developed and tested" (IR1). The goal was to carry out comparable studies in diverse settings to answer important policy questions with global, rather than local, relevance. By asking the same questions, testing the same hypotheses, applying similar designs, and using core indicators and instruments, it was expected that more comprehensive answers to the original questions would be reached than if a single study were done in one setting.

The FRONTIERS partners recognized the Global Agenda as a unique opportunity to answer several important questions that affect family planning and reproductive health programs worldwide. It was recommended that not more than three or four global OR topics be selected, and that for each of those topics, there be a small number of large, multi-site intervention studies with a common protocol, rather than many small, site-specific, descriptive or diagnostic studies. The studies were to apply strict rules about what constitutes operations research – namely that it measures the impact of interventions. The studies were to employ rigorous research methods and experimental and quasi-experimental designs. Another unique feature of the studies, in addition to their global reach, was the inclusion of a cost component in each. This was planned in order to measure the potential costs of the interventions should the research produce positive findings that would support scaling up or expanding the interventions.

TOPIC SELECTION PROCESS

In order to make an informed selection of the topics for the global agenda, FRONTIERS staff invited knowledgeable colleagues to prepare position papers on eight possible global agenda topics. Authors were asked to consider the following criteria:

- worldwide significance of the issue
- important researchable question(s)
- identifiable intervention(s)
- potential public health impact of the proposed intervention
- sufficient prior research on which to base hypothesized outcomes
- potential of the intervention for sustainability and scaling up
- interest among stakeholders (consumers, providers, host countries, women's advocates, USAID, FRONTIERS staff and partners, CAs)
- feasibility of doing comparative research in diverse settings
- does not duplicate the work of others
- financial feasibility

Over a six-month period (March through August, 1999), concept proposals were prepared, reviewed, and finalized. Countries were selected and prime monitors drafted proposals for review and implementation. The three core sets of studies selected were:

- Improving the Reproductive Health of Youth
- Involving Males in their Partners' Antenatal and Postpartum Care: Impact on Family Planning Use and the Prevention of Sexually Transmitted Infections at Six Months Postpartum (Men and Maternity Care)
- Impact of Improved Client-Provider Interaction on Women's Achievement of Fertility Goals

Resources were not a constraint to answer the basic questions selected. Using core funding from the Global Bureau's Office of Population and Reproductive Health (G/PRH), budgets were sufficient to allow the design of robust research protocols, with longer time frames to allow change to occur and to be detectable.

Efforts were made to select study sites in diverse regions. The countries chosen for the youth study included Bangladesh, Kenya, Mexico, and Senegal. The quality of care study was undertaken in Egypt, Peru, and Uganda. Finally, the men and maternity care (MIM) study was conducted in India and South Africa. While the study sites maintained sufficient commonality to allow data comparability, differences persisted. Among the sites selected for the youth study, religious conservatism was common; the dominant religion varied by country. Three of the four countries selected urban sites for their work, but even these varied given the level of national development among the countries.

Urban sites were selected in India and South Africa for the MiM work, but they were marked by different access to household resources, and very different socio-demographic conditions, i.e., whether marriage is a stable and unchallenged institution (India), compared with a context in which it is a fragile, less common state (South Africa). The situations in which the quality of care studies were implemented were also diverse. Both Egypt and Peru have relatively well organized public health systems delivering family planning services, while the physical and personnel infrastructure in Uganda is weak. Political change took place in several countries during the course of the studies.

Readers are referred to the final reports for each country participating in the studies for detailed information about implementing organizations and partnerships, descriptions of the interventions, identification of study sites, and the full analysis, findings and recommendations for each study.

Final report titles are listed in Appendix 1, and full reports and summaries are available on the Population Council/FRONTIERS website, <http://www.populationcouncil.org/frontiers/frontiersfinalrpts.html>.

The next sections of this report summarize the objectives, implementation and key findings of the three Global Agenda studies.

KEY STUDY FINDINGS

Improving the Reproductive Health of Youth

Goal, Objectives and Research Question

The Global Agenda youth study was launched to examine the benefits gained by a complementary system of community, school and health service interventions. The goals of the youth study were to determine the feasibility, effectiveness and cost of a systematic intervention to foster a supportive environment to address adolescent reproductive health, to make existing services more accessible to youth, and to provide information and skills on reproductive health, gender attitudes, and utilization of health services in schools and communities.

This multi-sectoral project had the following objectives:

- To improve knowledge about reproductive health and encourage a responsible and healthy attitude towards sexuality among adolescents;
- To delay the onset of sexual activity among younger adolescents; and
- To decrease risky behaviors among sexually active adolescents.

Research Design, Interventions and Data Collection

The study used a pre and post-test control group design. Three study sites were selected to investigate the relative effectiveness of two interventions, comparing one to the other and to a control group. Site A received two components of the intervention: a community-based intervention that consisted of community awareness activities and peer education, and a health services-based intervention intended to improve the quality of services offered to young people. Site B received three components of the intervention: the community-based intervention, the health services-based intervention and a school-based intervention, with a new reproductive health curriculum taught variously by teachers, guidance counselors, or local health providers. Site C was used as a control

group and did not receive any of the intervention components. It was hypothesized that both intervention sites would show greater improvements in the community environment and in the delivery of youth friendly services than would the control site, and additionally, that Site B would show greater improvements than either Site A or the control site in reproductive health knowledge, attitudes and behavior among youth.

In Bangladesh, Mexico and Senegal the interventions were conducted in small cities in different regions of the country. In Kenya, the interventions were implemented and evaluated in two of eight districts in rural Western Province. The interventions were implemented with a variety of governmental and non-governmental partners, depending on country context. Regardless of partners, sites shared some common strategies. Staff worked with community leaders and peer educators to create a supportive environment within which educational and service delivery activities could be implemented. (The peer education component for out-of-school youth was added after the study was initially planned, when it was realized that most communities were already supportive of youth reproductive health programs.) Teachers educated in-school adolescents about reproductive and sexual health through a life-skills and development curriculum, supported by school-based peer educators. Curricula were developed locally, but shared common topics and themes. Health professionals addressed information and service needs, primarily (but not exclusively, particularly in Bangladesh) of sexually active adolescents, by increasing access within health facilities through training staff, creating adolescent-friendly spaces, and hosting peer educators.

The project was conducted in three phases. Following a diagnostic study, a baseline population-based survey of youth and parents was carried out. The interventions were developed and implemented, in most cases over an 18-month period, during which the key activities and outputs were recorded on reporting forms and entered into a management information systems (MIS). Following the intervention period, an endline population-based survey was undertaken in the same communities to measure change in knowledge, attitudes and behavior. Findings were subsequently disseminated at district, provincial, national and international levels.

Large pre- and post-intervention community-based surveys were carried out in all sites (see Table 1). The assumption was that a diffusion effect might occur, with exposure to the interventions spreading through the local community through natural social networks, and changes would subsequently be detected in a population-based survey. Bivariate and multivariate analyses were done to measure the effects of the interventions.

Table 1: Global Agenda Youth Study: Sites and Youth Sample Sizes		
	Baseline Sample Size	Endline Sample Size
Bangladesh	2971	3102
Kenya	3653	3774
Mexico	2191	1915
Senegal	2893	2738

Study Findings

The youth reproductive health study yielded diverse findings among the individual study sites, between boys and girls, and between the younger (10-14 years) and older (15 to 19 years) cohorts. Each country merits careful examination within its own setting to understand the variations that were observed. Table 2 presents a summary of the overall results of the research. A positive change is noted if either Site A, with two interventions, or Site B, with three interventions, showed improvements among any of the subgroups. In some cases, the control areas also showed improvements, but for the majority of indicators, the performance of the intervention sites exceeded that of the control sites. The minus sign indicates a decline in the indicator; in the cases of Kenya and Senegal significant declines in sexual activity were observed for several subgroups, which is a positive effect of the intervention. Bangladesh and Mexico saw no significant change among the very small proportion of sexually active youth.

	Bangladesh	Kenya	Mexico	Senegal
Knowledge				
HIV/AIDS	+	+	+	+
Contraception	+	+	+	+
Sexual and reproductive health	+	+	+	+
Condoms	*	+	+	+
Parental communication	+	+	+	+
Attitudes				
Approval of contraception	+	+	+	+
Behavior				
Sexual activity	N/C	-	N/C	-
Use of health facilities	+	N/C	-	+

+ indicates increase in indicator value associated with intervention; - indicates decrease in indicator value associated with intervention; N/C indicates no change; * indicates data not available.

Contamination and External Influences

All four study sites had to contend with the effects of contamination that frequently threaten field-based operations research. Changes that occurred in control sites may reflect a wide array of activities that were underway in most countries focusing on adolescent reproductive health. In virtually all the countries, other projects focusing on adolescent reproductive health, HIV/AIDS, or maternal and child health were functioning in the control areas, and frequently in the intervention sites as well, making it all the more difficult to isolate the effect of these interventions.

When it became clear that results derived from the population-based surveys alone were often ambiguous, the research team conducted further analyses to isolate the adolescents who reported direct exposure to the intervention. These analyses generally showed that those who had been exposed to program interventions had significantly better knowledge, attitudes, and behaviors compared with those who were not exposed. Information providers, such as teachers and facilitators, varied in their skill and ability to convey accurate and objective reproductive health information to adolescents. Indirect evidence points to the conservative bias of some educators, which may influence their choice of topics to present, and the manner in which they do so.

Conclusions

This study demonstrated that reaching adolescents with reproductive health information is feasible despite the sensitive nature of this issue in the prevailing socio-cultural contexts. The interventions seem to have had an effect on limiting sexual activity but not on protection through the use of contraceptive methods or a condom. This study showed that values like abstinence are the main reference and source of protection among young people. In the majority of cases among sexually active youth, secondary abstinence and being faithful to one partner was more used than were condoms or contraception.

Involving Males in their Partners' Antenatal and Postpartum Care: Impact on Family Planning Use and the Prevention of Sexually Transmitted infections at Six Months Postpartum (MiM)

This study explored the feasibility, acceptability and cost-effectiveness of incorporating men as active partners in the prenatal and postpartum care of their partners. The study investigated the effect of shifting the health care service's focus to couples (as opposed to women alone) on male and female reproductive health and selected infant health indicators. Research was conducted in India and South Africa.

Goal, Objectives and Research Questions

The goal of this study was to improve pregnancy outcomes and male and female reproductive health by reducing the prevalence of STIs, and by increasing postpartum family planning use to help couples better achieve their reproductive goals.

The objectives were to increase the participation of men in their partners' antenatal and postpartum care, so as to:

- Increase family planning knowledge and appropriate use of contraceptives among antenatal clients and their partners six months postpartum; and
- Promote STI preventive practices by women and men during antenatal and postpartum periods, and increase self-referral and the timely treatment of symptomatic men and their partners.

The study design and the interventions were developed to investigate the hypotheses that exposure to the intervention would positively affect:

1. Men and women's knowledge of family planning and contraceptive practices at 6 months postpartum
2. Men and women's STI preventive behaviors at 6 months postpartum
3. Male and female syphilis testing and management, and treatment of male urethritis and genital ulcer disease
4. Inter-spousal communication and support on reproductive health matters
5. Selected indicators of infant health (e.g., immunizations, breastfeeding practices)
6. Satisfaction of service providers and clients

Study Design, Interventions and Data Collection

The study utilized a pre-test/post-test design with women attending experimental and control clinics for antenatal visits. In India, the MiM study used a non-equivalent control group study design to examine the effects of the intervention. The study was undertaken with the Employees State Insurance Corporation (ESIC), the largest insurer of private sector workers in the country. Six of the 34 ESIC dispensaries in Delhi with the highest antenatal clinic attendance and with on-site lab facilities were purposively selected as study sites. Three were designated as intervention sites, and three as controls, based on the geographic proximity of each control and intervention dispensary pair.

In India the interventions included:

- individual or group counseling session in the antenatal clinic, separately for men and women
- couple counseling sessions during antenatal and postnatal clinics
- screening of all pregnant women for syphilis
- syndromic management of men reporting urethral discharge and men and women reporting genital ulcers as part of the individual counseling

Counseling included information on: postpartum family planning practices and contraceptive methods; STI prevention practices; symptoms of genital ulcer disease and male urethritis; and benefits of immunizations and breastfeeding for infants.

In South Africa, a randomized cluster, matched pair design was used with six clinics implementing the intervention and six control clinics providing services following the current practices of the Department of Health. Both rural and urban clinics were included. The intervention included two broad strategies: improving antenatal care services by strengthening the existing antenatal package and service monitoring and supervision; and introducing couple counseling by training health providers, inviting partners of antenatal women to attend counseling twice during pregnancy and once post delivery, and providing information to couples using a new antenatal booklet.

Women were recruited into the study when they visited the clinics for a prenatal visit. If they agreed to participate, and were willing to invite their partners' participation, they were interviewed and enrolled in the study. Male partners of control group women were not interviewed, so as to avoid influencing their knowledge, attitudes or behavior. Women were contacted for a second interview at approximately six months post-partum at their homes. In India, the decision was made to only interview women and men if both partners were available. In South Africa, because so few of the women were married or lived with their partner, all women and men who agreed to the interview were included.

	Baseline Sample Size		Endline Sample Size	
	Females	Males	Females	Males
India				
Intervention	581	488	327	327
Control	486		302	302
South Africa				
Intervention	995	584	729	608
Control	1081		694	558

In India, loss to follow-up was due to couples not being home (often because the wife returned to her natal home following delivery) and to difficulties locating addresses. Actual refusals to take part in the study were negligible. In South Africa, 69 to 82 percent of loss to follow-up was due to respondents having provided incorrect addresses, or having changed residence since the time of first contact. Between 15 and 27 percent of loss was due to refusal.

Findings

Findings in India were encouraging, and results fostered additional change within ESIC. Unlike South Africa, marriage in India was virtually universal, and most husbands accompanied their spouses to their antenatal visits, albeit frequently waiting outside the clinic. When presented with the opportunity to accompany their spouse, and to take advantage of group counseling on prenatal planning, antenatal family planning use, and STI diagnosis and prevention, many men accepted.

There were a number of actionable findings from India.

- Women's knowledge of family planning was not significantly different between the two groups, although knowledge of condoms for dual protection increased in both intervention women and men.
- Intervention men and women showed increased knowledge that breastfeeding can prevent pregnancy, but there was no change in knowledge of the three conditions of lactational amenorrhea (LAM).

- Postpartum family planning use was significantly higher among couples in the intervention group, with the largest increase in condom use.
- STI awareness and knowledge did not increase significantly. STI knowledge was lower in women than men. There were few self-reported STI risk behaviors and symptoms.
- Knowledge of pregnancy danger signs was significantly higher among the intervention group women, but remained low at 25 percent. There was no difference in knowledge of danger signs among men; only 8 percent knew any symptoms.
- The establishment of a universal syphilis screening program yielded a significant increase in testing pregnant women; service statistics showed that more than 90 percent of intervention women compared with 16 percent of those in control clinics were tested.
- Husbands' involvement was significantly higher in the intervention group during antenatal and family planning consultations, postpartum visits and during labor and delivery. Presence during physical examination remained low in both groups. Intervention women and men reported more communication on baby's health, breastfeeding, and family planning issues. Communication on STIs remained low.
- Significantly more men and women from the intervention group reported client-provider discussions during maternity care, and more reported antenatal discussions on family planning. Intervention group clients who received couple counseling reported satisfaction with services. Qualitative data from focus groups and in-depth interviews revealed that providers were more satisfied with the new package of maternal child health services and would like to continue it.

In South Africa, few differences were found between the control and intervention groups to support the hypothesized effects of the intervention, likely due in part to the very weak implementation of the intervention, and to little change in the supervision offered to providers. Significant differences were found only in changing communication, partner assistance during pregnancy emergencies, and knowledge of the condom as a method of dual protection. About one-third of the couples invited for counseling attended, a positive outcome in a community where male participation has been limited, and where domestic arrangements are tenuous. The new antenatal book was given to most women attending the clinics, and many shared it with their partners.

The situation in South Africa is unique in many regards. Fewer than ten percent of women in the study were married, and only about one-quarter lived with their partner. Unemployment in Kwa-Zulu Natal, where the study was conducted, is high, and men are reluctant to risk any opportunity for work, including the obligation to accompany their partner for antenatal care and counseling. Women have grown accustomed to long waiting times at health clinics, and do not complain about the quality of care provided. Partner shifting is not uncommon, and in a number of cases relationships had dissolved by the time of the endline study.

Challenges and Contamination

All participants who were interviewed post-intervention were included in the analysis, regardless of actual exposure to the intervention. The size of the impact of exposure to the couple counseling, when reported by experimental group, may have been diluted by those couples who were not exposed. This is especially the case in South Africa, where the exposure of men to the intervention was extremely low.

In both countries, all women, regardless of their attendance at couple counseling, were exposed to the strengthened clinical service package in the intervention sites. In both India and South Africa, the hospitals where most women deliver (as well as laboratory services in South Africa) were the same for both control and intervention groups. Each would have experienced similar exposure to conditions surrounding delivery and any immediate postpartum counseling. In South Africa, the same supervisors were responsible for both intervention and control clinics, and there may have been some contamination in terms of improved monitoring and supervision and its effect on service delivery.

Conclusions

The intervention was feasible in both settings, although its relevance and effectiveness differed. While the concept of increasing male participation in pre-and post-natal care in South Africa is relevant, particularly in the current conditions of high HIV/AIDS prevalence, appreciable change needs to take place in the wider social context concurrent with changing this aspect of couple relationships. In India, men accompanied their wives to the clinics and participated actively in the intervention. There were significant changes in family planning knowledge and behaviors of both men and women. Clients who participated in the intervention reported more discussions with providers and more satisfaction with family planning methods. The services were feasible and sustainable for ESIC in terms of provider time and increase in materials costs.

Though perhaps an accurate assessment of personal conditions, there was little acknowledgement of STI risk although knowledge and use of dual protection did increase. In view of global concerns about the rising risk of HIV/AIDS and other STIs in India, this issue merits further attention and research.

Impact of Improved Client-Provider Interaction on Women's Achievement of Fertility Goals

Goals, Objectives and Research Questions

The goal of the quality of care study was to determine whether client-provider interaction (CPI) improvements could enhance family planning knowledge, method continuation rates, client satisfaction and achievement of fertility goals. The study was undertaken in two phases. It was assumed that it would not be feasible to test changes of women's

intentions to achieve fertility goals if it could not be first shown that quality of care, measured through CPI, had itself improved. Implementation of the second phase of the research was contingent on improvements in client-provider interaction.

The sites chosen for this study formed perhaps the most diverse set among the three global studies. In part, this reflects the widely varying differences in the social, economic and political contexts of the participating countries: Egypt, Peru and Uganda. Both Egypt and Peru have long established, relatively well functioning health systems that serve a high volume of clients nation wide. However, both countries face challenges with high levels of contraceptive discontinuation within the first year of method adoption. Uganda, by contrast, supports a more fragile system, challenged by limitations in both physical and manpower resources. Efforts are underway to improve the system, but many clinics are poorly maintained and underutilized.

The global CPI study was designed to answer the following questions:

- How much can client-provider interaction be improved by introducing practical systems-oriented, provider-oriented, and client-oriented interventions?
- Will the intervention package improve job satisfaction of providers?
- If CPI is improved, will there be measurable improvements in:
 - ✓ Continued use of any method
 - ✓ Knowledge about available contraceptive choices
 - ✓ Prompt switching to another method
 - ✓ Ability to achieve fertility goals

Findings

During Phase 1, baseline and post-intervention data were collected using facility audits, interviews with providers and clients, observation of client-provider interactions, and time-motion studies. Both Egypt and Peru demonstrated positive change in the quality of client-provider interactions following their initial interventions. In Egypt, providers were trained to use new counseling materials, and to be more proactive in soliciting information about clients' fertility intentions. In Peru, providers were trained to use a new "Balanced Counseling Strategy" (BCS) that emphasized quickly eliminating methods that were clearly not well suited to client needs, and to use the rest of the counseling session to provide full and informed choice about the remaining options. Data collected at the end of Phase 1 showed significant improvements in providers' performance in both countries, and the decision was made to proceed to Phase 2.

Findings in Uganda were less positive, and the study there was curtailed after Phase 1. Researchers developed a package of seven "readiness" interventions to achieve a comparable ability to offer basic family planning services; these were introduced in all clinics. Three study interventions were introduced in 20 experimental clinics, targeting provider motivation and client empowerment.

Services improved in all clinics in Uganda, but were not significantly better than baseline levels. The interventions had little effect on providers' knowledge of family planning

methods, or their ability to gather relevant information from clients. Time-motion studies revealed that the pattern of provider time use remained unaffected, with up to 40 percent of time in the clinic spent unproductively. Supervision improved significantly, with supervisors being more thorough, visits being more frequent, and increased appreciation by supervisees' of the benefits of supervision. The study interventions, though weak, significantly improved providers' job satisfaction and motivation. There was no change in client empowerment. While the quality of client-provider interactions improved significantly after the interventions, the difference with the comparison clinics was small. Researchers concluded the study interventions in Uganda had only a limited effect on CPI.

During Phase 2 in Egypt and Peru, new-event family planning clients were recruited as they exited counseling sessions at treated and control clinics. The clients had chosen a contraceptive method and stated intentions to use contraception for at least one year. A questionnaire that included the calendar module of the Demographic and Health Survey (DHS) was applied twice in home interviews to assess six and 12-month outcomes. In Egypt, the study sample included 300 women in each of the intervention and control groups for the seven-month interview, and 295 for each study group for the 12-month follow-up. In Peru, twelve-month data from 215 clients were analyzed in depth.

Table 4: Changes in Key Indicators due to Improved CPI		
	Egypt	Peru
Continued use of any method	N/C	N/C
Knowledge of contraceptive choice	+ for IUD, hormonals	+ for IUD, hormonals
Prompt switching	N/C	+
Ability to attain fertility goals	+	+

+ indicates increase in indicator value associated with intervention; - indicates decrease in indicator value associated with intervention; N/C indicates no change.

Programs in both countries rely greatly on long-acting contraceptive methods, particularly the IUD, but injectable contraceptives constitute an important share of the methods distributed. Most women received a long-acting method. Intervention group women using the IUD and hormonal methods showed improvement in general knowledge about that method. Women in the intervention group were more likely to know about method side effects, to experience them, and to tolerate them.

Patterns of method switching were similar in both experimental and control groups. Switching was in part related to changes in reproductive intentions; sizeable proportions of women in both countries changed their intentions after the initial visit, at which they had reported wanting no more children. In Peru, when contraceptive needs were adjusted for changing perceptions, the experimental cohort showed greater use. Attainment of reproductive goals was significantly greater in the experimental cohort than the control cohort.

Life table cumulative continuation rates did not differ significantly between cohorts. In Egypt, multiple regression analysis showed that women who were satisfied with the method and had more knowledge about correct use were more likely to continue method use. Also, women who continued visiting the index clinic continued method use longer.

Conclusions

The intervention caused consistent, yet small, improvements in client outcomes in both countries. In Peru, findings suggested that better impacts could be achieved in provincial primary health facilities than in larger settings like clinics or hospitals in capital cities. Greater impacts might be expected when the CPI improvement strategy is correctly and consistently applied; research in other countries is showing evidence for this.

Egyptian researchers made several recommendations based on results there, including the provision of continuous training to providers to enhance their understanding of women's contraceptive needs and fertility preferences. They also suggest widening the audience for improved CPI among providers in other programs, given that women frequently shift among service facilities.

COSTING INTERVENTIONS OF THE GLOBAL AGENDA

What did we aim to achieve?

The original goal of the cost analysis for the global agenda studies was to determine the cost-effectiveness of the interventions. The intention was to provide information on the incremental costs of an intervention compared to the costs of a different intervention, a base case, or the *status quo*. The information would then be used to answer the following question: what does it cost to achieve the outcome of the intervention? Policymakers would use the findings to decide if the effect of the intervention was worth the cost to expand or replicate interventions.

Why didn't we achieve our goal?

The cost analysis was hampered by the following problems:

- Cost effectiveness analysis (CEA) as used in health projects relies on a single comprehensive outcome indicator such as lives saved or disability-adjusted life years gained. This allows all costs to be allocated to a single outcome indicator. In the global agenda studies, it was difficult to identify and agree upon a single outcome measure. It is not feasible to parcel out costs to match several different outcome indicators. Therefore, in two of the three studies where there were several outcome indicators (i.e., the adolescent and the MiM studies), CEA could not be carried out. There was a single outcome indicator in the Quality of Care study, but as the intervention was not effective, it was also not cost-effective.

- The costs that were calculated for the OR projects were not necessarily relevant to real-world scale-up decisions. The desired outcome of an OR project is an effective intervention, and the project budgets had adequate resources to design and implement robust interventions; but long-term implementers, such as Ministries of Health, have modest budgets for replication. Thus an approach was needed to determine how to use the information from the OR projects to calculate scale-up costs.

What were the main achievements of the economics work?

A new approach to calculating the costs of an OR project and the costs of scale-up

The project team quickly learned that they needed to develop a new methodology to determine costs in order to calculate scale-up and replication costs. This was needed to accommodate the realization that some costs are one-time only costs, others need to be repeated but at discrete intervals, while still others are ongoing costs of carrying out new or improved programs. Moreover, in a scale-up or replication, some activities will be carried out by different organizations than those responsible for the OR project, and this will affect projected costs. Achievements include the development of a new methodology to calculate intervention costs, and the application of the methodology to determine long-term costs.

A new methodology for calculating costs of interventions developed

This divided costs into three categories: planning the intervention, implementing the intervention, and carrying out new or improved programs. The first category includes mostly one-time costs associated with developing the intervention including developing IEC materials and a training curriculum. The second category mostly includes such items as training staff in the new curriculum and printing the IEC materials. The last category includes the costs of service delivery and educational programs, for example, those costs associated with higher patient loads, spending more time with clients, and teaching new courses about reproductive health. The methodology also makes a distinction between activities that could easily be absorbed into existing workloads and thus for which no cost would be incurred, and those that required either new personnel or a reallocation of workload, and therefore one for which a cost was incurred.

Methodology used to calculate scale-up and replication costs

This new methodology was used to calculate scale-up and replication costs taking into consideration the resource costs of the organization(s) that would be responsible for the long-term scale-up and maintenance of the intervention. This approach enabled the team to determine how costs would be affected, not only by differences in unit costs between organizations involved in the OR and the scale-up activities, but also how changing activities in the scale-up would affect unit costs.

For example, the OR studies used intensive supervision to ensure that interventions were carried out as designed. This level of supervision is probably not sustainable by a MOH

and could prove to be a barrier to scale-up. It is unlikely that the same impact of the intervention would be achieved with less supervision. Thus, while the project interventions with intensive supervision may have been effective, scale-up may be too costly and thus not affordable, or not even feasible because of unavailability of resources on a large scale. As an example, the additional supervision in the Quality of Care study in Egypt and the MiM study in South Africa would be very costly if scaled up, and would likely require a large increase in supervision staff.

DATA ARCHIVES

Data archives for the Global Agenda studies have been established at the Washington, D.C. offices of the Population Council. Archives include full data sets for all studies including data collection instruments and baseline and endline data. Most materials are available in English. Requests for use of the data should be made to the Program Director. Decisions regarding release of the data are made with consideration to the ongoing research and analysis program of the individual countries.

LESSONS LEARNED

Feasibility

The fields of reproductive health and HIV/AIDS continue to confront major service delivery challenges that are common across countries and cultures. These studies demonstrated that it is feasible to investigate the same questions in different locations. Internet access, e-mail communication and video conferencing facilitate sharing information and documents among projects and sites. More can be done using electronic communication; there may be benefits in establishing a small list service or users group to improve regular information exchange.

Comparability

While application of a common research design across countries was possible, the components of the interventions varied. Differences in the sites chosen for study (rural versus urban, small cities versus large, developed versus fragile infrastructures), modification in implementation of the intervention, variations in the intervention itself, and changes in the reference points in key variables due to the idiosyncrasies of local data collection instruments render the study findings not directly comparable on all key variables.

Generalizability

While the study findings are not strictly comparable, they are generalizable. That is, each study needs to be viewed as a cluster of similar, but not identical, efforts to test interventions on a common theme. Paradoxically, the studies remain most generalizable to their own regions, yet contribute to an inter-regional body of knowledge on these research topics. Another element contributing to the value of the studies is that they were

conducted simultaneously, adding a temporal commonality to their results, e.g., they were conducted at a time when there was collective interest in these topics, and results were mutually supportive in adding to the body of knowledge.

Replicability

The Global Agenda, as a research program, does not warrant strict replication as it was implemented. However, as noted above, lessons have been learned about carrying out a cluster of studies on a common theme, at a similar moment in time. The interventions of the quality of care study, particularly the Peru and Egypt sites, were best documented. The process documentation of the youth reproductive health and MiM studies was weak, and limits the precise replication of these studies.

Challenges Faced by the Global Agenda Studies

Responsiveness to Local Conditions

The local conditions within which each site implemented the studies affect both the timing and the pace of the interventions. In several cases, political conditions changed during the course of the research. In Peru, a change in government brought a more conservative administration to power, including a Minister of Health for whom family planning and reproductive health was not a priority. In contrast, the newly elected government in Senegal appointed an obstetrician-gynecologist as Minister of Health, who brought to the office a strong commitment to the well being of adolescents. The new president of Kenya vowed to bring a new openness to public discourse on HIV/AIDS and condom use.

Coordination to Ensure Adherence to Common Design, Data Collection Protocols and Timeline

The researchers participating in the Global Agenda studies were accustomed to working independently, and did not have an established culture of coordination or adaptation in order to meet the needs of the group. Timelines varied, and some projects required longer start up times in order to develop consensus and support among key stakeholders. Data collection instruments and key indicators, intended to be virtually identical across sites within each study, were sometimes modified in response to local conditions without alerting the group or the Global Agenda coordinator, reducing the comparability of findings.

External Influences and Contamination

A major challenge of operations research is maintaining an unadulterated research design and intervention. It is inevitable that the field changes. Virtually all the global agenda studies faced challenges to their interventions due to local developments. In Bangladesh, Kenya, and Senegal, new adolescent reproductive health and/or HIV/AIDS projects were introduced in control sites while the experimental interventions were underway. In the South Africa MiM study, supervisors monitored both intervention and control sites, likely transferring newly gained knowledge from the intervention to the control clinics.

Technical Capacity of Local Researchers

In a few cases, application of the research design and data analysis exceeded the technical capacity of local researchers. Technical assistance to the research teams was not carefully planned as part of the Global Agenda, and yet staff would have benefited from more systematic support. Technical visits, occasional meetings and seminars, and regular e-mail contact, particularly for guidance on biostatistics and data interpretation were valued by global agenda team members, and contributed to staff development.

Many Researchers Cannot Implement Interventions

It is difficult, at best, for many researchers to be responsible for the implementation of interventions. They are too invested in demonstrating success, and are sometimes too willing to interpret small changes positively. The opposite condition also arises, in a tendency to be too parochial, and not understand the global context of the question under investigation. Because of this, there is a reluctance to acknowledge the importance of seemingly small changes, which if viewed in an internationally comparative context, would indicate important change taking place. The tendencies of some of the research staff to provide technical assistance and supervisory support also affected the implementation of the intervention, compromising its replicability and as noted above, the potential costs of follow-on activities.

RECOMMENDATIONS

Continued Research to Understand Multi-Sectoral Influences on Youth Reproductive Health

It remains difficult to disentangle the additive effect of a school-based reproductive health education program on community and health service delivery efforts, and more work is warranted on this question. Some improvements were seen in the sites exposed to the school interventions that seem to support the hypothesis that schools are an important venue to offer reproductive health and HIV/AIDS information. However, variations in changes in knowledge and attitudes in several key topics, such as approval of condom use for unmarried youth, makes it appear that teachers serve as gatekeepers, introducing their personal biases about what is appropriate for youth of different ages to learn. More research is needed in understanding:

- the messages teachers convey;
- their choices of topics to cover or ignore in fixed curricula; and
- the accuracy of their estimation of developmental readiness of their students.

The degree to which young people use youth friendly services also merits continued attention. The health facility component of the youth study was weak, with wide variation in the amount of effort made to ensure the facilities were truly open to young clients.

There was no standard set of criteria used to define “youth friendly” across the sites. In most cases, participating clinics maintained poor quality records, and in at least two cases, there were little or no baseline data against which to assess changes in the character of services due to the intervention.

Limit Future Work on Client-Provider Interaction

The quality of care studies in Egypt and Peru demonstrated some improvements in contraceptive continuation. However, the changes were small, and in the context of programs in which the majority of users rely on long-term methods, it is difficult to argue that the brief contact with trained providers resulted in substantial change. One direction to consider in future research is more intensive investigation of the factors affecting immediate discontinuation, occurring within the first one to three months after adopting a method. Most discontinuation appears to take place during this period, and a better comprehension of factors affecting immediate discontinuation may point to elements amenable to program intervention.

Greater Emphasis on Process Monitoring and Reporting

Process monitoring is essential in conducting operations research in order to determine what elements of the system can be manipulated, and with what effect. With the exception of the Peru quality of care study, which reported research and intervention developments regularly through a series of one- or two-page bulletins, the studies did not systematically document or report the status of the interventions. In addition, the investigator in Peru used “mystery clients” to independently test the application of provider training carried out during Phase 1.

More systematic process monitoring would have greatly benefited the interpretation of results from the youth studies. Routine monitoring may have revealed the presence of competing projects earlier, as well as the variations in the messages that teachers conveyed. It would have allowed more accurate tracking of whether curricula were implemented as planned, or if local adaptations were made. It may also have provided more documentation of the different school based models employed across sites, including the use of dedicated teachers, subject matter specialists, guidance counselors, and local NGO nurses to teach different modules of the curricula. Finally, process monitoring may have provided evidence of success or failure of the multi-sectoral model.

Without documenting changes to the interventions, researchers are unable to fully explore and explain their effects on the study population. Future studies should develop a standardized report form, to be submitted to the study coordinator on a quarterly basis in order to document events as they occur.

Continued Consideration of the Cost of Interventions

The Global Agenda studies were notable in being among the very few efforts to date to assess the costs of program interventions simultaneously with implementation, and to do

so with the intention of influencing policy decisions about expansion or replication. However, due to a variety of factors, data used to operationalize the new methodology were frequently of poor quality, and many inputs to the model were imputed or extrapolated. Now that the methodology has been tested and shown to be promising, additional effort is required to standardize the data needed.

Additional opportunities to apply the cost analysis methodology should be investigated, and further efforts made to integrate cost data collection from the onset of interventions, rather than as an add-on study should be a priority.

More Resources for Technical Assistance

Future projects, when several are clustered on a single theme, would benefit from the attention of a single coordinator able to provide leadership in that specific topic or theme. Technical support visits, when made to the country teams, were appreciated and productive.

Use Critical Criteria for Study Locations

Cooperating agencies most frequently work in countries in which they have an existing infrastructure or established relationships with partner organizations, and FRONTIERS was no different; eight of the nine study sites were in countries in which the Population Council had local offices. However, this does not always result in the best match of a study site to the need for local investigation of the topic or intervention. Certainly research needs to be conducted where opportunities are available: willing local partners are present, trained researchers and good quality data collection firms are available; there are opportunities for expansion or replication if the intervention yields positive results, and there is donor interest in the issue.

APPENDIX A

GLOBAL AGENDA FINAL REPORTS

Website: <http://www.populationcouncil.org/frontiers/frontiersfinalrpts.html>

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