

Results of a Government and NGO Partnership for Provision of Safe Abortion Services in Uttarakhand, India

A Pre and Post-intervention Evaluation of
Increasing Access to Safe Abortion
Services (IASAS) Program

► Sushanta K. Banerjee ► Kathryn Andersen Clark ► Janardan Warvadekar



Ipas works globally to increase women's ability to exercise their sexual and reproductive rights and to reduce abortion-related deaths and injuries. We seek to expand the availability, quality, and sustainability of abortion and related reproductive health services, as well as to improve the enabling environment. Ipas believes that no woman should have to risk her life or health because she lacks safe reproductive health choices.

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Ipas India
P.O. Box 8862
Vasant Vihar
New Delhi 110 057, India
phone: 91.11.4166.2006
fax: 91.11.4166.1711
e-mail: ipasindia@ipas.org

Ipas
P.O. Box 5027
Chapel Hill, NC 27514, USA
1.919.967.7052
ipas@ipas.org

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Sushanta K. Banerjee
Kathryn Andersen Clark
Janardan Warvadekar



Foreword

Unsafe abortion among underprivileged women is a major contribution to maternal mortality and morbidity in India. Each year, almost 12,000 Indian women die from abortion-related complications, and thousands more are affected by long-term morbidity and disability. Every tenth maternal death in India is reported as the consequence of unsafe abortion.

The maternal mortality ratio (MMR) in the state of undivided Uttarakhand has declined substantially from 517 per 100,000 live births in 2001-03 to 440 per 100,000 live births in 2004-06. However, the current MMR is still high and the Government of Uttarakhand (GoUK) is committed to reducing it further to achieve the millennium development goals. We recognize that addressing unsafe abortion would significantly affect maternal mortality rate in the state. Therefore, in recent years, GoUK has undertaken efforts to reduce unsafe abortion by increasing access to safe and quality abortion services.

Within this context, GoUK collaborated with Ipas to ensure safe abortion services in public health facilities and introduced the increasing access to safe abortion services (IASAS) program in July 2006 as part of the initiatives included in the reproductive and child health project (RCH-II). During the first phase of implementation (July 2006 to June 2009), a model of comprehensive abortion care (CAC) was initiated throughout the state. A systematic evaluation of the program initiatives was conducted to understand the efficacy of the pilot initiative and to translate the findings into future action. The pre and post-intervention evaluations played an important role in guiding the next phase of action.

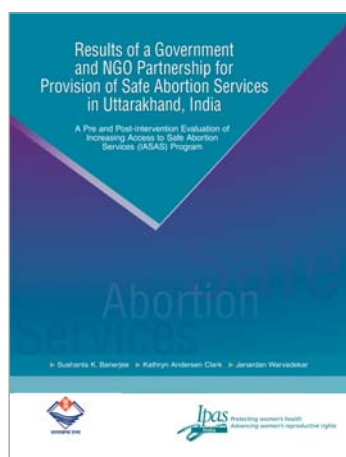
The follow-up evaluation study was conducted in 135 health facilities, ranging from primary health facilities to district hospitals. The study attempted to explore access to medical termination of pregnancy (MTP) services, quality of service provision, and knowledge and attitudes of health care providers towards abortion issues. The study found that the percentage of rural facilities providing regular MTP services increased substantially from 19% in 2007 to 38% in 2009. With increased service access, almost half (48%) of the total estimated induced abortions in Uttarakhand occur at public health facilities. However, this research further emphasizes the need to inform women that abortion is legal up to 20 weeks gestation, and that abortion care should be sought from the nearest public health facility, where a trained abortion provider is available.

I hope the findings of this evaluation study will prove useful to the state government and Ipas in scaling-up the next phase of interventions to address unsafe abortion. I believe this implementation model will have relevance beyond Uttarakhand, and will contribute to shaping programmatic and policy work around this issue.

Mr. Piyush Singh (IAS)

Executive Director

Uttarakhand Health and Family Welfare Society
State Government of Uttarakhand



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✓ Executive Summary

The intervention has demonstrated that it is possible to decentralize access to safe abortion services, particularly among rural health centers. Additionally, collaborative and strategic actions that increase access to safe abortion care will have positive public health impact by expanding service access in rural areas.

Almost 10% of all maternal mortality in India is due to unsafe abortions. Thus, increasing access to safe abortion services was considered an important component of the Government of Uttarakhand's strategy to reduce maternal mortality and morbidity under the RCH-II project. The state believed it was urgent to strengthen safe abortion care services which were weak and fragmentary and did not reach much beyond urban areas. Not only was the number of trained (MTP-certified) providers too grossly inadequate, the trained providers who were available were not familiar with the WHO/GoI recommended modern technologies (such as Manual Vacuum Aspiration and medical abortion).

Recognizing these challenges and constraints in increasing access to safe abortion care services across the state, especially in the rural and remote areas, the state partnered with Ipas, an international non-profit organization, to provide technical support for operationalizing the safe abortion component of the RCH-II program. Since July 2006, Ipas has been working closely with the

state government of Uttarakhand, and embarked on a series of activities designed to implement and ensure comprehensive abortion care (CAC) service provision in public health facilities.

The implementation began with strategic guidance from the baseline facility assessment conducted from December 2006 to January 2007 in 135 health facilities of the state, including rural health centers (101 PHCs and CHCs) and urban hospitals (34 sub-district and district hospitals) spread throughout all 13 districts of the state. The baseline findings not only helped identify instrumental and psychological barriers to service provision at the macro level, they also identified medical doctors and nursing staff who needed to be trained in CAC services and modern technologies. The implementation started in the second half of 2006 with the identification and development of CAC training centers, followed by the training of master trainers. Provision of MTP (medical termination of pregnancy) services began with the training of medical doctors and nursing staff, followed by post-training follow-up of the

trained medical doctors to ensure the quality of services provided.

It was imperative to get an insight on the efficacy of this intervention at the end of the first phase (July 2006-February 2009). A mid-term follow-up evaluation study was launched in January 2009, with the specific objective of assessing post-intervention progress measured through changes in service provision and quality of service provision during baseline (January 2007) and follow-up (January 2009) assessments. To enable us to compare baseline and follow-up results of the two cross-sectional surveys, the follow-up evaluation was conducted in the same 135 rural and urban health facilities used at baseline, with outcomes analyzed separately for rural and urban hospitals.

The findings of the follow-up assessment indicated substantial improvements in the availability and accessibility of trained providers, essential equipment, and pointed to improved accessibility and quality of MTP services in public health facilities throughout the state. Rural health facilities with all equipment essential for providing MTP increased significantly from 15% at baseline to 47% at the follow-up assessment survey. In urban hospitals, essential MTP equipment was in place in 71% of facilities at follow-up, compared to only 35% at baseline.

Access to a trained provider, which was recognized as the major constraint in ensuring the option of MTP, has markedly increased in rural health centers. Sites with at least one MTP trained doctor increased from 36% to 52% at baseline and follow-up respectively. Due to caseloads and other reproductive health priorities, however, the implementation was focused on training multiple

doctors in urban hospitals as opposed to rural health centers. The follow-up evaluation indicates that urban hospitals with at least four MTP trained doctors increased from 18% in early 2007 to 50% in 2009.

While the intervention helped sustain service provision in urban hospitals with multiple numbers of trained doctors, access to MTP services in rural health centers increased significantly as well, from 19% to 38% over the last two years. At the follow-up assessment of 135 facilities, 68 (38 rural and 30 urban) facilities reported providing routine MTP as well as post-abortion complication-related services. The improvement in availability of MTP service options in rural areas not only increased service access for rural women, but also helped reduce the extent of unsafe abortion in the state. During baseline (early 2007), one-third (33%) of the annual abortions of the state were being performed at public sector health facilities, and increased significantly to almost one-half (48%) at the follow-up assessment in 2009.

Along with ensuring improved access to services, the most crucial implementation challenge was to introduce safer uterine evacuation (UE) technologies, such as vacuum aspiration and medical abortion. During the pre-intervention phase, almost three-fourths of women reported receiving MTP services via an inappropriate method, primarily by D&C. However, the CAC training of medical doctors and post-training follow-up of trained doctors helped substantially in services provided using appropriate technologies. The percentage of women who received MTP services with appropriate technology (EVA, MVA, or MA) increased significantly from 32% to 91% in rural health

centers and from 26% to 78% in urban hospitals at baseline and follow-up assessments respectively.

Post-intervention follow-up assessment also showed improvement in post-abortion contraceptive services. In urban hospitals, the percentage of women who received a modern method of contraception immediately after the pregnancy termination increased from 53% at baseline to 75% at follow-up assessment. In the rural health facilities, the acceptance of post-abortion contraceptives increased from 75% to 93% during the same time period.

Although the post-intervention follow-up assessment identified substantial changes in service provision and quality of services offered, there was limited progress in knowledge and attitudes towards abortion among the providers and other healthcare professionals. Strategic actions are needed that will help healthcare providers change their current attitudes through improved knowledge about the legal aspects of abortion services and reproductive rights.

In conclusion, the findings of the post-intervention evaluation indicated that the first phase of the pilot initiative, which was conducted in collaboration with the state government, was feasible and acceptable to service providers, and confirmed that the next round of intervention was warranted.

The intervention has demonstrated that it is possible to decentralize access to safe abortion services, particularly among rural health centers. Additionally, collaborative and strategic actions that increase access to safe abortion care will have positive public health impact by expanding service access in rural areas.

Although the number of women served by rural health centers is lower compared with urban hospitals, the potential exists to increase rural caseloads by increasing community awareness of service availability. This project exemplifies how such awareness can be improved, and is one that can be replicated in other states in India that are interested in reducing maternal mortality and morbidity associated with unsafe abortion.

The evaluation revealed some key gaps in implementation that could not be addressed during the first phase (July 2006-February 2009) of intervention. The major recommendations, including improved community awareness on legal aspects, sustained access to essential equipment, geographic spread of approved providers to ensure equity in service access, improved record keeping, and quality monitoring, will inform programs and policies across the state. Ipas, in coordination with the state government of Uttarakhand, will need to address these issues during the second phase of intervention.

Status of Select Priority Indicators in Rural Health Centers and Urban Hospitals in Baseline (December 2006-January 2007) and Follow-up (January-February 2009) Surveys, Uttarakhand

Select Indicators	Rural Health Centers (N=101)			Urban Hospitals (N=34)		
	Baseline	Follow-up	Sign.	Baseline	Follow-up	Sign.
Site Preparation						
% of sites with functional MVA aspirator	10.9	49.5	**	11.8	77.1	**
% of sites with all essential equipment	14.9	46.5	**	35.3	71.4	**
% of sites displaying IEC on availability of MTP	8.9	27.7	**	52.9	58.8	NS
% of sites with at least one MTP trained doctor	35.6	51.5	**	88.2	91.2	NS
% of urban hospital with >3 trained doctors	—	—	—	17.6	50.0	**
Service Provision and Quality of Care						
% of facilities providing MTP services	18.8	37.6	**	82.4	88.2	NS
% of facilities maintaining MTP register	73.6	94.7	*	85.7	100.0	*
% of facilities keeping consent form	31.6	73.7	**	46.4	66.7	NS
Number of women who received MTP services in the 3 months preceding the survey	438	831		2,006	2,729	—
MTP average monthly caseload	8.6	7.9		23.9	30.3	
% of women who received 1st trimester MTP with appropriate technology (MVA/EVA/MA)	32.0	90.7	**	26.0	78.0	**
% of women who received post-abortion contraception	74.7	93.4	**	52.5	75.3	**
Knowledge of Facility Staff						
% of facility staff aware of the legal gestation criteria for MTP in India	75.8	83.3	NS	82.1	91.2	NS
% of facility staff aware of the legal requirement of consent of women age 18+ years	37.4	52.1	*	46.4	69.7	*

** P<.01; * P<.05; NS: Not Significant



Introduction and Context

Recognizing that almost 8 to 10% of all maternal mortality is due to unsafe abortions, increasing access to safe abortion services was considered an important component of the Government of Uttarakhand's strategy.

Background

Uttarakhand attained statehood on November 9, 2000, and became the 27th state of the Republic of India. The state has a population of approximately 9.2 million people (RGI 2006), with a low population density of 159 persons per square kilometer. With over 75% of the state's population living in the rural hinterland, the state economy relies exclusively on the agricultural sector. The state has three distinct geographical regions (Upper Himalayas, Mid Himalayas, and Foothills), and consists of 13 districts and 16,414 villages. Almost 80% of the villages have a population of less than 500 persons. These scattered human settlements, along with difficult hilly terrain, not only restrict physical mobility, but offer challenges to improving the access to primary health care and reproductive health services (DoMHFW 2005).

The overwhelming majority of women have scarce access to medical facilities, and utilization of

reproductive health services is very poor. More than three-fourths of pregnant women do not receive the recommended types of antenatal care. Around 67% of births are delivered at home and most occur with no assistance from trained health personnel. A majority of women (68%) do not receive any health check-up within the critical first two days after delivery. More than two-fifths (44%) of married women of reproductive age (15-49 years) do not use any modern contraceptive methods. Although the Uttarakhand fertility rate of 2.6 children per woman is marginally lower than the national average (2.7), approximately 30% of births are unplanned or unwanted (IIPS & Macro International 2007). Further, almost 30,000 women per year in the state have an induced abortion, and most occur in unsafe conditions, and only 6,000 take place in public health institutions (DoMHFW 2005).

These are some of the factors that contributed to a very high level of maternal mortality and morbidity. The most recent available data indicates the maternal mortality ratio (MMR) in Uttarakhand is

300 per 100 thousand live births (NRHM Uttarakhand 2008).¹ Post-partum hemorrhage, sepsis, and unsafe abortion² are found to be among the leading causes of these maternal deaths (RGI 2006).

Unfortunately, unsafe abortion is one of the most neglected health issues faced by women in Uttarakhand and in many other states of India. Lack of access to safe abortion services and treatment of abortion complications leads to as many as 11,000 to 12,000 deaths every year in India as a consequence of unsafe abortion (India Working Group 2008; Banerjee, 2007). Almost all of these maternal deaths related to unsafe abortion could be prevented by providing safe abortion services. Thus, the Indian Parliament passed the Medical Termination of Pregnancy (MTP) Act in 1971, which enables women to seek abortion for a number of indications. In practice, however, this law failed to curb unsafe abortion-related mortality and morbidity because a large number of women in a state like Uttarakhand have very limited access to safe abortion services (Banerjee & Clark 2009).

Rural women, in particular, rely on unsafe or illegal providers due to the lack of access to a safer alternative. Generally, it is not a lack of instruments and infrastructure at the rural health facilities that is of concern; rather, it is the lack of availability of a trained medical doctor who can legally provide abortion services.

According to the National Facility Survey of 2003, 95% of PHCs (primary health centers) and 44% of CHCs (community health centers) in Uttarakhand

had no MTP trained doctor, while 42% of CHCs and none of the PHCs were providing any MTP services (IIPS 2005). As a result, rural women may have to rely on an illegal/untrained provider for abortion-related services, which may increase the risk of post-abortion complications.

To address this critical gap and further to reduce the extent of maternal mortality due to unsafe abortion, the state government of Uttarakhand recognized the importance of ensuring safe abortion services in the state. The 'Increasing Access to Safe Abortion Services (IASAS)' project was the first collaborative initiative of the state government and Ipas, an international NGO working globally for more than three decades to protect women's health by reducing unsafe abortion-related mortality and morbidity and advocating for women's reproductive choice.

IASAS Intervention: Scope, Implementation, and Rollout

The state of Uttarakhand set a target of reducing MMR from 300 per 100,000 live births to 100 per 100,000 live births by the end of 2012 (NRHM Annual Action Plan 2008-09), and has identified comprehensive strategies to reduce maternal mortality and morbidity under the RCH-II project. Recognizing that almost 8 to 10% of all maternal mortality is due to unsafe abortions, increasing access to safe abortion services was considered an important component of the Government of Uttarakhand's strategy.

¹ Officially, the MMR of Uttarakhand is still being estimated jointly with the parent state of Uttar Pradesh. The latest estimate of MMR of Uttar Pradesh including Uttarakhand is 440 per 100 thousand live births (RGI 2009).

² Unsafe abortion is defined by the World Health Organization (WHO) as "a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards, or both" (WHO 1992).

Given the challenges and constraints in increasing access to safe abortion care services across the state, especially in rural and remote areas, the state partnered with Ipas, which provided technical support for operationalizing the safe abortion component of the RCH-II program. Since July 2006, Ipas has been working closely with the state to ensure comprehensive abortion care services.

During the first phase of implementation (July 2006 to June 2009) the intervention aimed to:

1. Strengthen institutional capacity to train medical doctors and nursing staff in comprehensive abortion care;
2. Expand access to safe abortion services at all levels of public health facilities, ranging from district hospitals to primary health centers;
3. Improve quality of service provision, including using appropriate technology, and providing pre and post-abortion care and counseling;
4. Monitor, evaluate, and document the project activities to facilitate the scale-up process.

To support these objectives, Ipas in collaboration with the state government of Uttarakhand, embarked on a series of activities designed to implement and ensure service provision in public health facilities. Intervention started in the second half of 2006 with comprehensive training site assessments to identify the most potential training centers and training strategy, followed by development of training sites and skill-building of master trainers (objective 1). Before initiating service provision, a baseline facility assessment was launched in December 2006 to understand the

availability and quality of MTP services at public health facilities in all 13 districts. The MTP service provision began with training medical doctors and nursing staff (objective 2), followed by post-training follow-up of trained medical doctors to ensure MTP service provision (objectives 3 and 4).

As a step toward improving the quality of MTP services, a concept of 'quality of care (QOC)' was introduced in the state. All of these project activities and their implementation strategies are briefly explained in the next section.

Training Site Assessment

Training site assessment was carried out in August 2006 at 10 large hospitals identified by the state (Banerjee 2007). The objective of the assessment was to identify potential new training hospitals, which could be upgraded to an approved MTP training center.

The assessment used five evaluation criteria, namely, i) MTP caseload ii) staff availability, iii) facility infrastructure, iv) training exposure, and v) interest and/or motivation toward MTP training. The assessment framework and site assessment tool was developed to determine the relative strength of each facility with regard to these mentioned five parameters.

The study also attempted to capture existing operational barriers to be addressed in future training of medical doctors.

Based on the results of the training site assessment survey, two regional health and family welfare training centers and two district women hospitals were identified as theoretical and practical training institutes, respectively.

Baseline Assessment of Healthcare Facilities in the State

In order to assess the impact of the program strategy on increasing access to safe abortion care in the state, it was imperative to have data regarding current accessibility of safe abortion services. Unfortunately, information on availability of safe abortion care services was not available, as no specific surveys had been conducted in the state.

A baseline study was commissioned in December 2006 and January 2007, and was designed to assess MTP service provision, the results of which informed the implementation strategy and subsequent course of actions. To initiate the baseline survey, the state provided Ipas with a list of 135 health facilities (including PHCs, CHCs in rural areas, and sub-district and district hospitals in the urban areas) spread across the state's 13 districts. The findings of the baseline survey not only helped set benchmarks for key processes and outcome indicators, but also helped identify medical doctors and nursing staff who required MTP training.

Program Rollout: Training of Medical Doctors and Nursing Staff

The training needs of providers differed across categories, Ob-Gyns (obstetrician-gynecologist), MBBS (Bachelor of Medicine & Bachelor of Surgery), and nursing staff; thus, Ipas developed specific training curricula for each category. For example, a six-day training curriculum was prepared for the Ob-Gyns whereas a 12-day curriculum was developed for the MBBS doctors. A six-day curriculum was also developed for the nursing staff. The curriculum and training

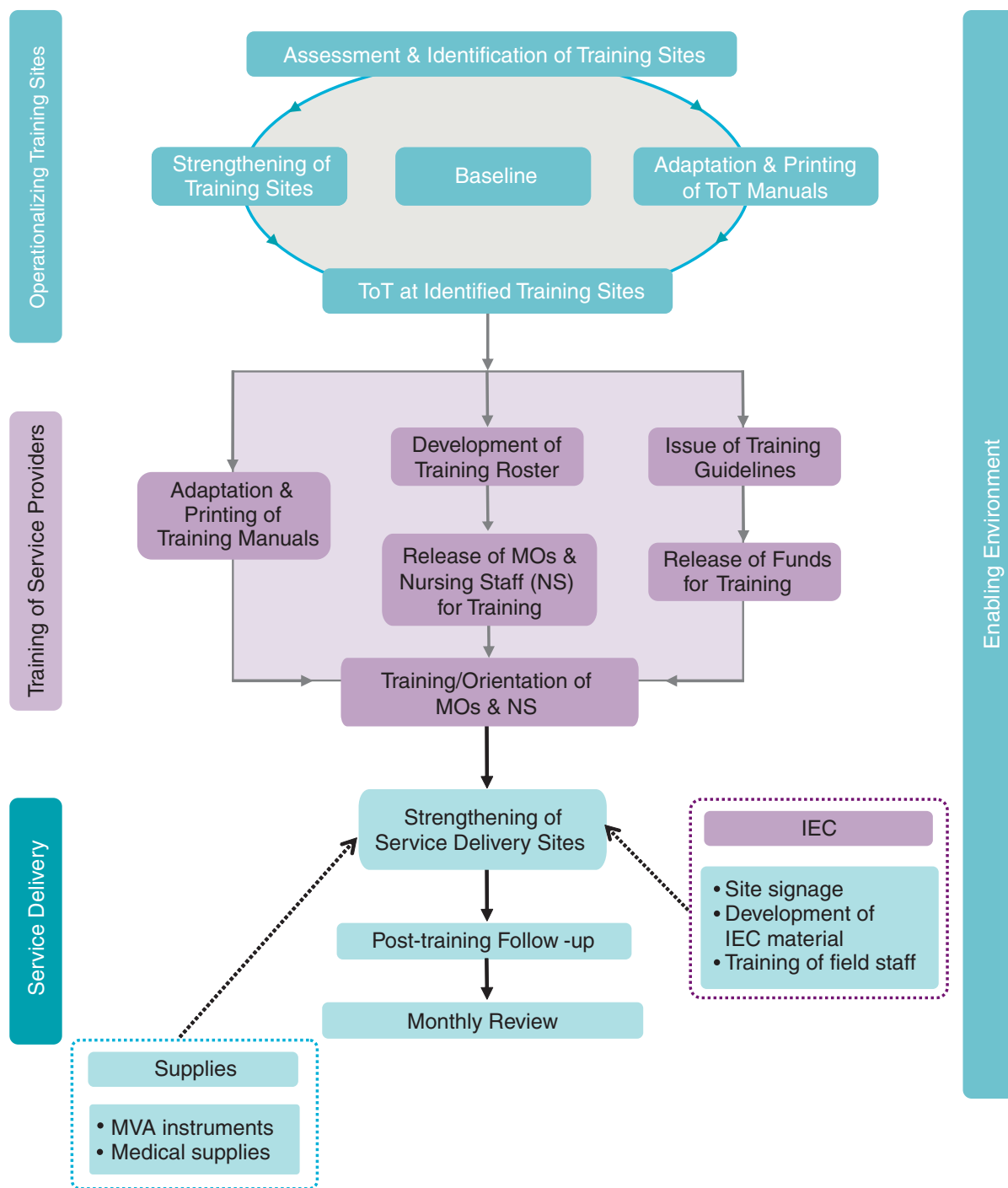
methodology represented a marked departure from other clinical trainings in that the emphasis was on training the doctor and nursing staff as a team. Operationalizing post-training service provision is easier when the doctor and nursing staff are trained together, as both are then able to clearly understand each other's roles and responsibilities.

This 'training as a team' approach was derived from Ipas's experience in other states, including Bihar, Jharkhand, and Maharashtra.

Another aspect of the training methodology was its participative nature and use of a 'hands-on approach'. Hands-on sessions are engaging and tend to have better retention quotient as compared with classroom lecture-based sessions. The topics covered in the curriculum include the abortion scenario, MTP Act, reproductive rights, infection prevention, current abortion technologies for first and second trimester abortions, complications and their management, post-abortion care and counseling, contraceptive services, community linkages, and team work.

To facilitate trainees initiating CAC services at their worksites immediately after completion of training, Ipas provides trainees with the following materials: training manuals and skill checklists, manual vacuum aspiration (MVA Plus) kit with cannulae, site signage and posters about the MVA procedure and instrument processing, facility log-books for recording MTP cases and demographic backgrounds of women requesting abortion services, consent forms, and CDs containing information on MVA and medical abortion. The program rollout schema is summarized in Figure 1.

Figure 1: A Schematic Representation of the Activities in Program Rollout



Trained Medical Doctors and Nursing Staff

In all, 16 doctors and nine nursing staff have been trained as master trainers in the two identified training sites. These master trainers provide MTP trainings to doctors and nursing staff from other health facilities in the state. As of February 2009, the master trainers conducted 37 MTP trainings and trained 123 doctors (including 57 obstetrician-gynecologists and 66 MBBS doctors) and 94 nursing staff from 73 different health facilities across the state.

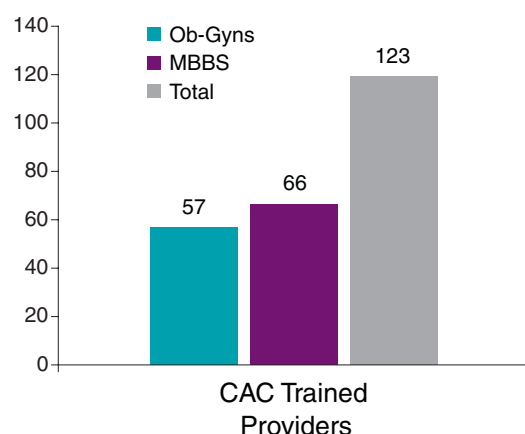
Post-training Follow-up of Trained Providers

The concept of post-training follow-up was introduced by Ipas on the basis of our global learning and guidance that is part of the CAC training program. The underlying objective of tracking the trained provider is to assess the translation of training efforts into service delivery. In instances where trainees were not providing services, attempts were made to identify the reasons for non-provision of services and steps were taken to address them. For tracking purposes, all trainees who successfully completed the CAC training program were followed-up thrice during one, three, and six months post-training.

Quality of Care Intervention

The objective of the Quality of Care (QoC) aspect of the intervention was to ensure that healthcare services achieve and maintain a standard of service provision that is satisfactory both to the women who obtain them and the healthcare workers who provide them. Provision of high quality CAC services includes not only use of safe and updated technology for the abortion procedure, but also the existence of appropriate physical infrastructure and an environment that is supportive of the woman seeking abortion services.

Figure 2: Number of Doctors Trained During July 2006 and February 2009



Operationalizing District Level Committees (DLCs)

It is well recognized that a large number of abortions take place outside the public sector. Under the MTP Act, it is mandatory for all private health facilities and their providers to become certified and submit periodic reports to the government on the number of MTPs performed. The MTP Act provides for MTP certification of private health facilities through the District Level Committees (DLCs). While all the districts in Uttarakhand had constituted the DLC under the chairpersonship of the Chief Medical Officer (CMO), none of them were operational. Lack of clarity on roles and responsibilities of the DLC was cited as the primary barrier to their establishment. Thus, Ipas organized a series of DLC Orientation Workshops in four districts where private providers were predominant. MTP-District Level Committee workshops were conducted in Dehradun, Haridwar, Nainital, and Udham Singh Nagar districts to establish the committees. A total of 59 private sites have since been approved as legal sites by the DLC.



Post-intervention Evaluation

The main purpose of this evaluation was to report results from a prospective assessment of the initiative to improve access to safe abortion care in the public health system of Uttarakhand with the underlying goal of reducing maternal mortality and morbidity.

At the end of the first phase of intervention (July 2006-February 2009), it was imperative to evaluate intervention efficacy to identify any necessary corrective measures and actions required for the next phase of intervention (July 2009-June 2012).³ Therefore, a follow-up evaluation was conducted to assess post-intervention progress based on changes in service provision and quality of service provision at baseline (December 2006-January 2007) versus follow-up (January-February 2009) assessment periods.

Objectives

The main purpose of this evaluation was to report results from a prospective assessment of the initiative to improve access to safe abortion care in the public health system of Uttarakhand with the underlying goal of reducing maternal mortality and morbidity.

The specific objectives of this evaluation were to answer the following questions:

1. What was the availability and quality of MTP services at all rural and urban health facilities surveyed in early 2007 and 2009?
2. How did the intervention affect the quality of MTP services with regard to geographical access, use of appropriate technology, record maintenance, pre and post-procedure counseling, and post-abortion contraceptives?
3. What was the extent of providers' knowledge and attitudes about safe abortion services during the pre and post-intervention periods?

Answers to these questions are expected to shed light on the strengths and weaknesses of the first phase of intervention, with particular attention being paid to how these findings can be applied in the next phase of intervention.

³ A Memorandum of Understanding (MoU) will be signed between the State Government of Uttarakhand and Ipas to expand the intervention throughout the state during July 2009 and June 2012.

Study Design

The study employed a pre-post comparison design with selection of all health facilities (PHC onwards) in the state. Prior to implementation, the State Government provided Ipas with a list of 135 hospitals (including PHCs, CHCs, Sub-district and District Hospitals) spread throughout the 13 districts in Uttarakhand. This information was used to facilitate initiation of the baseline study to assess current practices and set a benchmark against which post-intervention practices would be compared. Given the relatively small number of public health facilities in the state, all health facilities that were eligible⁴ to provide MTP services were selected for the evaluation. The baseline assessment was conducted in all 135 sites from December 2006 to January 2007, and the follow-up assessment was conducted in the same facilities from January to March 2009. To examine changes in service delivery and quality of service delivery, the baseline and follow-up results were compared. Any changes in key program areas could thus be attributed to the intervention, since the public-private partnership (IASAS intervention) was the only intervention in the state working to improve access to and the quality of abortion services.

Research Tool

A semi-structured questionnaire for conducting a detailed interview with participating medical doctors or senior hospital staff was developed and pre-tested. The questionnaire included quantitative and qualitative measures and was developed in English and then translated into local language Hindi. The questionnaire was

designed to collect all information related to MTP service provision, including site infrastructure, availability and accessibility of MTP-trained medical doctors, essential equipment and medications required for MTP procedures. It also included MTP service provision questions related to use of appropriate MTP technology, pre and post-procedure counseling, post-abortion contraceptives, and instrument processing and management. In addition, the study tool included a series of questions to assess the knowledge and attitudes of facility respondents regarding the legal and clinical indications for an MTP within the Indian context, and the respondent's attitude towards provision of MTP services.

In order to allow for appropriate statistical comparison between the baseline and follow-up cross-sectional surveys the identical questionnaire was used in both.

Facility Universe

The evaluation included 101 rural health centers (52 PHCs and 49 CHCs) and 34 urban hospitals (21 Combined, Base and Female Hospitals, and 13 District Hospitals) across 13 districts of the state.

Given the differences in geography and population size, the number of health facilities per district varies from three health facilities in Bageshwar district to 21 facilities in Pauri Garhwal district (see Table 1). As expected, the plains (Foothills) have better access to health facilities (13 facilities per district) compared to the Mid Himalayan (10 facilities) and Upper Himalayan counterparts (8 facilities).

⁴ According to the MTP Act of 1971, only a trained medical doctor can provide MTP services. Since the Primary Health Centre (PHC) is the smallest public health unit with a medical doctor, other lower level facilities (e.g., sub-centers) are automatically not eligible for this assessment and are excluded from the study universe.

Table 1: Location and Type of Health Facilities Included in the Baseline (January 2007) and Follow-up Evaluation (January 2009), Uttarakhand

Region/District	Rural Health Centers	Urban Hospitals	Total
Upper Himalayas			
Uttarkashi	4	1	5
Chamoli	8	1	9
Pithoragarh	8	2	10
Mid Himalayas			
Champawat	3	1	4
Almora	13	3	16
Rudraprayag	3	1	4
Tehri Garhwal	11	2	13
Pauri Garhwal	16	5	21
Bageshwar	2	1	3
Foothills			
Udham Singh Nagar	10	2	12
Dehradun	8	4	12
Haridwar	6	3	9
Nainital	9	8	17
Total	101	34	135

Rural health centers include PHC and CHC while urban hospitals include district, base, combined, and female hospitals

Respondents

In 80% of rural health centers and 94% of urban hospitals medical doctors were the main respondents to the facility survey (Table 2). However, information related to MTP caseload, availability and accessibility of medical instruments, essential medications, and instrument processing was provided primarily by senior nursing staff.

Data Collection

Two independent external research agencies were involved in data collection activities; GFK Mode collected the baseline data, and the follow-up data were collected by CMS (Center for Media Studies). Trained investigators well acquainted with the local language and public health system interviewed the head of the health facility, medical

Table 2: Designation of the Main Respondent in Baseline (January 2007) and Follow-up (January 2009) Surveys, Uttarakhand

	Rural Health Centers (101)				Urban Hospitals (34)			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	n	%	n	%	n	%	n	%
Gynecologist	6	5.9	11	10.9	14	41.2	10	29.4
MO In-charge	46	45.6	29	28.8	10	29.4	5	14.7
Medical Officer	38	37.6	41	40.6	7	20.6	17	50.0
Non-physicians	11	10.9	20	19.6	3	8.8	2	5.9

officers, and nursing staff at each selected site. In addition to interviewing a representative at each facility, investigators collected data through personal observation using a facility checklist and through review of MTP log-books or case-registers.

Analysis

To maintain statistical uniformity and allow for comparison of results, both the baseline and follow-up surveys used an identical evaluation tool, data structure, and analysis design. Data were entered and analyzed using SPSS Version 13.0. All variables were checked for consistency and validity. Categorical responses were calculated as frequencies and percentage of non-missing data; continuous variables (such as MTP caseloads) were analyzed as means with associated standard deviations. Key facility level indicators and performance at the follow-up survey (2009) were compared with baseline (2007) estimates to assess overall progress in the previous two years. The

extent of variation between surveys was further examined using z-statistics, and differences were considered statistically significant when $p < .05$.

The characteristics of the health facilities differ substantially with regard to site infrastructure and accountability;⁵ thus statistical comparisons between baseline and follow-up were conducted separately for rural health centers and urban hospitals.

Provider's knowledge and attitudes toward abortion are described using simple bi-variate distributions, including frequencies and percentages of non-missing responses, and a composite index was then created to explore overall mean score on knowledge and attitude scores. This evaluation report consists of five broad sections: (1) the background and implementation strategy of the intervention; (2) the evaluation methodology; (3) the results of the baseline and follow-up surveys; (4) a summary of

⁵ Rural health centers (PHC and CHCs) are mainly involved in curative, preventive, promotive, and family welfare services. A PHC is expected to have one medical officer and 14 paramedical and other staff, while a CHC expects four medical specialists supported by 21 paramedical and other staff. Urban hospitals include district and sub-district hospitals, which are the apex body that provides specialized healthcare services with better infrastructure and manpower support (IIPS 2005).

the findings of the post-intervention evaluation; and (5) recommendations for the next phase of intervention.

Limitations

There are some methodological limitations to this evaluation. First, it would have been ideal to use a quasi-experimental evaluation design with a pre-determined control group. However, the primary aim of this intervention was to ensure

access to safe abortion services at all eligible public health facilities in the state, so it was operationally difficult to select control sites from within the state. Second, analysis of the quality of service provision related to appropriate MTP techniques is based on retrospective official records maintained by each of the health facilities. It was not possible, however, to deploy technical experts to prospectively observe MTP service provision in all the facilities.



Findings

Even prior to the intervention, providers uniformly preferred to counsel women, often while one of their close relatives was present. An interesting shift can be noted in the attitude of providers in rural facilities who reported preferring to counsel the woman only.

Staffing

Given that only a medical doctor (at least a MBBS) who received MTP training can provide MTP services, it is essential to have at least one medical doctor in each health facility. This is more important in rural health centers where each PHC and CHC ideally should have two and three medical doctors, respectively. As described in Table 3, rural health centers had an average of three medical doctors, compared with an average of 11 medical doctors in urban hospitals. Although there has been a uniform gap between the number of doctors who are approved and the number who are available, barring one PHC (not shown in Table 3), all other rural health facilities had at least one doctor at the time of follow-up assessment.

Requesting MTP services can be a sensitive issue, and it may thus be advantageous to have a female doctor. Just over half of the rural health centers were reported to have at least one female doctor on staff, whereas availability of a female doctor in

urban hospitals was almost universal. Some improvement was evident at follow-up with regard to availability of a specialist gynecologist in both rural and urban hospitals.

Infrastructure

As shown in Table 4, except for regular water supply, basic infrastructure has been available in most of the rural as well as urban hospitals since baseline, and has improved over time. Urban and rural health facilities were uniformly found to have electricity, toilet facilities, and seating arrangements for patients. However, functioning landline telephone connections were not available in many of the rural health facilities. Around 15% of the rural health facilities (13 PHCs and 2 CHCs) did not have a functional telephone, which can be used to contact higher levels of referral hospitals, when required.

Regular water supply was a common problem in both rural and urban health facilities; 59% of rural health centers and 65% of urban hospitals reported

Table 3: Availability of Medical Doctors and MTP-trained Doctors in Rural Health Centers and Urban Hospitals at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers (N=101)				Urban Hospitals (N=34)			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	n	%	n	%	n	%	n	%
Mean number of doctors sanctioned	101	(4.6)	101	(5.4)	34	(12.6)	34	15.6
Mean number of doctors available	101	(2.9)	101	(3.2)	34	(8.5)	34	(11.1)
Sites with at least one medical doctor on staff	99	98.0	100	99.0	34	100.0	34	100.0
Sites with at least one female doctor on staff	53	52.5	51	50.5	32	94.1	31	91.2
Sites with at least one gynecologist on staff	9	8.9	15	14.9	27	79.4	29	85.3

Note: Numbers in parentheses denote average (means) numbers

having regular water supply. Having access to regular tap water was a problem even in the operating theater of rural health centers, where 26% of rural health centers were observed to have no wash basin with running tap water.

Seating arrangements for clients, toilet facilities, and privacy during examinations were favorable, but problems were apparent in the availability of post-procedure recovery room. Although the percentage of rural health centers reported having post-recovery room increased substantially from 18% in 2007 to 36% in 2009, approximately two-thirds (64%) of the sites still had no recovery room.

Availability of IEC (posters, wall signs, hoarding) materials on the hospital premises has been

regarded as an important aspect of educating women about their reproductive rights and about the availability of reproductive health services. Lack of IEC is more pronounced in rural areas, where available safe abortion services are grossly underutilized because of lack of awareness that they are available. Investigators were therefore asked to observe whether any IEC materials related to MTP services were displayed on hospital premises. A remarkable change was observed to this end. At baseline only nine of 101 rural health centers (8.9%) had any IEC on the availability of MTP services, but at follow-up, 28 (27.7%) were observed to have IEC in hospital premises. In the case of urban hospitals, however, message promotions were not uniform and 14 hospitals (41%) did not display any message regarding MTP service provision.

Table 4: Availability of Basic Infrastructure in Rural Health Centers and Urban Hospitals at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers (N=101)				Urban Hospitals (N=34)			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	n	%	n	%	n	%	n	%
Electricity	98	97.0	100	99.0	34	100.0	34	100.0
Functional generator	73	72.3	81	80.2	30	88.2	33	97.1
Telephone	81	80.2	86	85.1	33	97.1	34	100.0
Regular water supply	68	67.3	60	59.4	23	67.6	22	64.7
Seating arrangement for clients	98	97.0	101	100.0	34	100.0	34	100.0
Toilet facility for clients	97	96.0	97	96.0	34	100.0	34	100.0
Wash basin with running water	73	72.3	75	74.3	30	88.2	32	94.1
Privacy in examination room	77	76.2	83	82.2	32	94.1	33	97.1
OT/Labor table	94	93.1	97	96.0	34	100.0	34	100.0
Post-procedure recovery room	18	17.8	36	35.6	27	81.8	27	81.8
IEC on availability of MTP	9	8.9	28	27.7	18	52.9	20	58.8
IEC on family planning	95	94.1	93	92.1	33	97.1	31	91.2

Essential Equipment and Medication

Availability of essential equipment and medication was recommended for surgical MTP procedure and post-abortion care services, and was one of the most crucial pre-intervention challenges. At baseline, only 15% of rural health centers and 35% of urban hospitals reported having all essential equipment⁶ required to

perform MTP. However, at the post-intervention follow-up, these percentages increased significantly ($p < .01$) to 47% and 71% in rural and urban health facilities respectively.

These changes occurred primarily because of increased supplies of MVA aspirators and cannulae. Almost half of the rural health centers (50%) and three-fourths (77%) of the urban hospitals reported having functional MVA

⁶ Essential equipment includes the availability of functional suction machine or MVA/MR syringe, SIM's speculum, Valsellum, and Cannulae (Banerjee 2007).

Table 5: Availability of Essential Equipment and Medication in Rural Health Centers and Urban Hospitals at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers (N=101)				Urban Hospitals (N=34)			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	n	%	n	%	n	%	n	%
Essential Equipment (functional)								
Suction machine	17	16.8	38	37.6	19	55.9	21	61.8
MVA aspirator/MR syringe	11	10.9	50	49.5	4	11.8	27	79.4
Speculum	82	81.2	90	89.1	32	94.1	32	94.1
Valsellum	82	81.2	91	90.1	33	97.1	32	94.1
Suction cannulae	28	27.7	68	67.3	15	44.1	27	79.4
All 4 essential equipment	15	14.9	47	46.5**	12	35.3	25	73.5**
Other Supporting Equipment								
Dilator set	72	71.3	80	79.2	31	91.2	29	85.3
Uterine curette	70	69.3	79	78.2	33	97.1	31	91.2
Autoclave	90	89.1	91	90.1	34	100.0	31	91.2
Boiler/Steam sterilizer	98	97.0	93	92.1	34	100.0	32	94.2
Sponge holder	100	99.0	99	98.0	34	100.0	34	100.0
Essential Drugs/Disinfectants								
I/V fluids	95	94.1	96	95.0	34	100.0	34	100.0
Atropine injection	96	95.0	95	94.1	34	100.0	34	100.0
Methergin injection	73	72.3	80	79.2	30	88.2	25	73.5
Hydrocortisone injection	80	79.2	70	69.3	30	88.2	26	76.5
Prostodin injection	7	6.9	12	11.9	12	35.3	15	44.1
Calmpose injection	75	74.3	70	69.3	31	91.2	27	79.4
Diazepam injection	93	92.1	79	78.2	32	94.1	27	79.4
Xylocaine (local anaesthesia)	95	94.1	94	93.1	33	97.1	33	97.1
2% G.D./Cidex solution	71	70.3	61	60.4	30	88.2	24	70.6
Antibiotics	93	92.1	95	94.1	33	97.1	33	97.1
Betadine/Savlon solution	100	99.0	98	97.0	34	100.0	34	100.0

** : Significantly improved from baseline (P<0.01)

aspirators compared with just 11 percent overall (10.9% in rural and 11.8% in urban hospitals) at baseline.

Most rural and urban facilities had adequate stock of other supporting equipment and essential medication (see Table 5). Except for Prostodin, which is required to prime the cervix and control the post-procedure hemorrhage and atonicity, most of the essential medication were available in rural health centers and urban hospitals.

MTP-trained Medical Doctors

There were two pre-intervention concerns identified as the prime reasons for not providing MTP services in most of the public health facilities in the state. First, there was lack of trained and certified doctors, and second, the few already trained doctors were apathetic about implementing MTP services in public health sites where they worked. Thus, interventions aimed to

train a pool of doctors who had never attended any MTP training previously and to retrain doctors who were trained previously but were not providing services.

Table 6 illustrates the availability of trained doctors at baseline and follow-up. While the availability of at least one trained doctor increased significantly from 36% to 52% in rural health centers, the percentage increased only marginally in urban hospitals. However, the total number of trained doctors available in large urban hospitals increased substantially over the last two years. For example, around 50% (n=17) of urban hospitals reported having three or more trained doctors in 2009, compared with 18% (n=6) having at least three or more trained doctors in 2007.

To assess the MTP training characteristics, related data were obtained for each of the trained providers, and the results are provided in Table 7.

Table 6: Availability of MTP-trained Doctors in Rural Health Centers and Urban Hospitals at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

Availability of MTP-trained Doctors	Rural Health Centers (N=101)				Urban Hospitals (N=34)			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	n	%	n	%	n	%	n	%
Sites with at least one MTP-trained doctor	36	35.6	52	51.5**	30	88.2	31	91.2
Number of MTP-trained Doctors								
None	65	64.4	49	48.5	4	11.8	3	8.8
1	29	28.7	44	43.6	9	26.5	5	14.7
2	6	5.9	7	6.9	15	44.1	9	26.5
3 and above	1	1.0	1	1.0	6	17.6	17	50.0**

** : Significantly improved from baseline (P<0.01)

Table 7: Characteristics of MTP Training Reported by Currently Trained Doctors at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

Rural Health Centers					Urban Hospitals				
		Baseline: 2007 (N=44)		Follow-up: 2009 (N=61)		Baseline: 2007 (N=62)		Follow-up: 2009 (N=88)	
		n	%	n	%	n	%	n	%
Type of Training Attended									
12-day training	21	47.7	47	77.1	23	37.1	38	43.1	
6-day training	2	4.5	9	14.8	0	0	22	25.0	
6-month residency	4	9.1	2	3.3	2	3.2	0	0	
Already MD/DGO	7	15.9	2	3.3	26	41.9	24	27.3	
Informal	10	22.7	1	1.6	11	17.7	4	4.4	
Received the Last MTP Training									
< 2000	11	25.0	2	3.3	30	48.4	6	6.8	
2001-2003	4	9.1	3	4.9	6	9.7	2	2.3	
2004-2006	27	61.4	7	11.5	12	19.4	15	17.0	
2007-2008	—	—	47	77.0	—	—	50	56.8	
Missing	2	4.5	2	3.3	14	22.5	15	17.0	
Place of Training									
Uttar Pradesh	9	20.5	0	0	30	48.4	7	7.9	
RFPTC Dehradun	24	54.5	35	57.4	18	29.0	40	45.5	
RFPTC Haldwani	5	11.4	22	36.1	2	3.2	25	28.4	
Other states	3	6.8	3	4.9	2	3.2	3	3.4	
Missing	3	6.8	1	1.6	10	16.1	13	14.8	
Training Conducted by									
State Training Institute	28	63.6	7	11.5	24	38.7	7	7.9	
Ipas	0	0.0	48	78.7	0	0.0	55	62.5	
Medical College	12	27.3	5	8.2	24	38.7	18	20.5	
Others	2	4.5	0	0.0	1	1.7	1	1.1	
Missing	2	4.5	1	1.6	13	20.9	7	7.9	

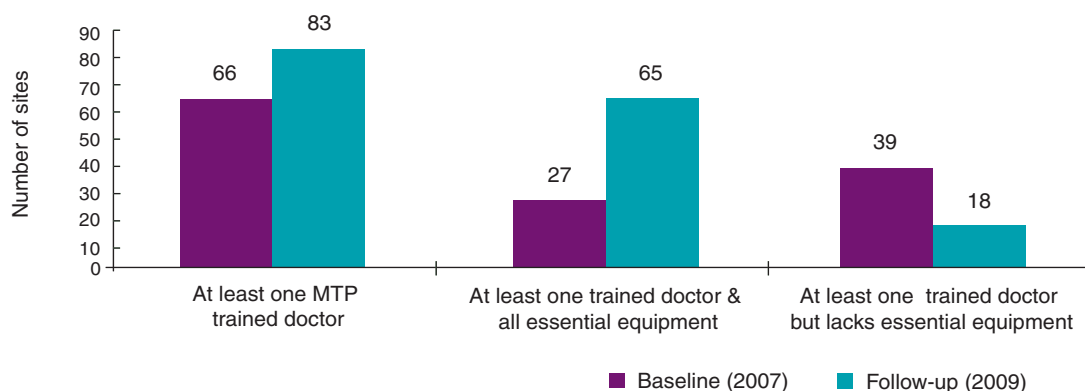
Unlike other tables in this report, analyses are based on the total number of trained doctors as opposed to the total number of respondent facilities. At baseline, 44 doctors from rural health centers and 62 doctors from urban hospitals were reported as MTP-trained, and increased to 61 and 88 in rural and urban hospitals at follow-up. It is interesting to note, however, that prior to the intervention, 21 of 44 doctors (48%) in rural facilities and 39 of 62 doctors (63%) in urban facilities either were trained in MTP informally or as part of their academic curriculum. At the follow-up assessment, however, the situation changed dramatically such that an overwhelming majority (92% in rural facilities and 68% in urban facilities) of MTP-trained doctors reported receiving either the 12-day or 6-day special training⁷ on the MTP. Thus, it is clear that many doctors who earlier reported being trained informally also attended the CAC training along with the new trainees. This was also reflected in the follow-up responses regarding the year when they last received their MTP training. A majority of the trained doctors reported receiving CAC training in 2007-2008, the two years of CAC intervention in the state.

In response to the question about where they received their training, at follow-up, most trained providers mentioned one of the two Regional Family Planning Training Centers (Dehradun and Haldwani) as their training venues. As a part of the intervention, these two training centers were identified and strengthened as MTP training centers for the state. Furthermore, 79% of trained providers in rural facilities and 63% of trained providers in urban hospitals spontaneously mentioned that the training was facilitated by Ipas.

Preparedness of Health Facilities

Availability of a trained provider in any health facility will have no major impact in terms of service provision unless the site is well equipped with essential equipment. As portrayed in Figure 3, at baseline, there were 66 of 135 (49%) facilities had at least one trained doctor, but only 27 (20%) sites had both a trained doctor as well as all essential equipment. After two years of the IASAS program intervention, the number of sites with a trained doctor and all essential equipment increased significantly from 27 (20%) to 65 (48%). Thus, at the

Figure 3: Number of Health Facilities with At Least One Trained Provider and All Essential Equipment Required to Provide MTP Services, Uttarakhand



⁷According to the CAC guidelines, a specialist Ob-Gyn doctor need to attend 6-day training while other doctors need to have 12-day training.

Table 8: Service Provision of MTP in Rural Health Centers and Urban Hospitals at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers (N=101)				Urban Hospitals (N=34)			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	n	%	n	%	n	%	n	%
Currently providing MTP services	19	18.8	38	37.6**	28	82.4	30	88.2
Ever provided MTP services	27	26.7	47	46.5**	29	85.3	31	91.2
Never provided MTP services	74	73.3	54	53.5**	5	14.7	3	8.8
Provided MTP services previously but now discontinued	8	7.9	9	8.9	1	2.9	1	2.9

** : Significantly improved from baseline (P<0.01)

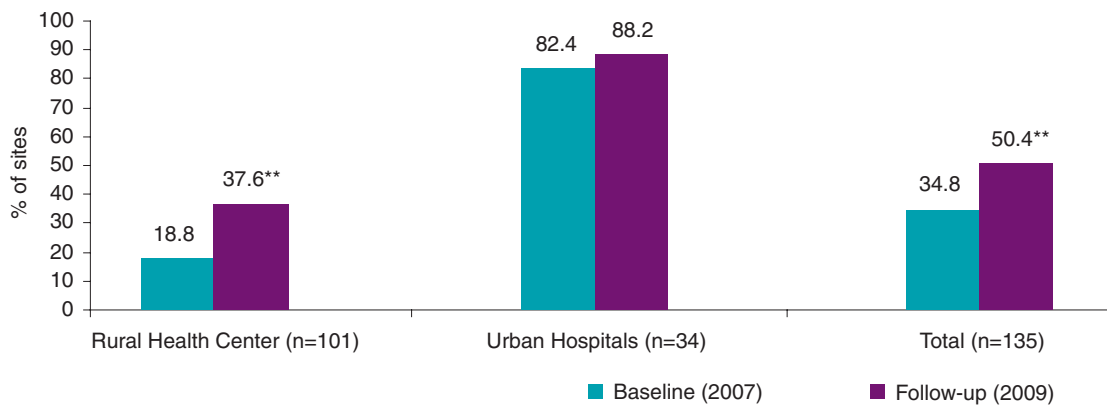
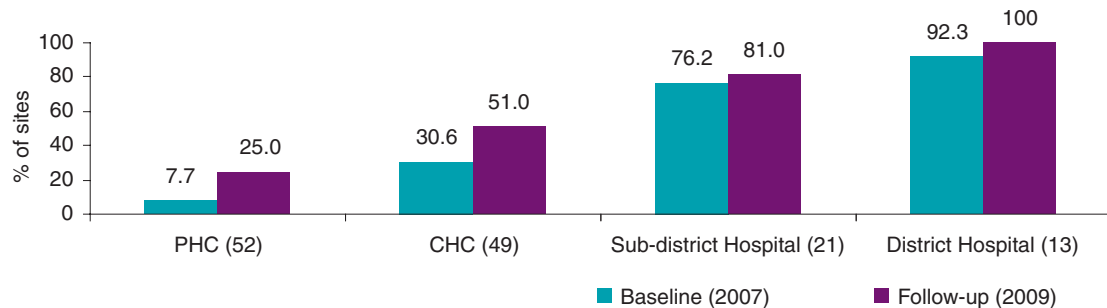
beginning of 2009, almost half of the health facilities in the state (65 out of 135) were well prepared to provide MTP services, and another 18 facilities with at least one trained doctor but lacked all essential equipment.

Provision of MTP Services

Expanding services was the most crucial intervention outcome since by early 2007, when only 19 (4 PHCs and 15 CHCs) of 101 rural health centers and 28 of 34 urban hospitals were providing MTP services. Furthermore, services were provided using mostly traditional technologies, such as sharp curettage (Dilatation & Curettage – D&C). As shown in Table 8 and Figure 4, the percentage of rural health facilities providing MTP services increased significantly ($p<.01$) from 18.8% at baseline to 37.6% at follow-up. Among urban hospitals, those providing MTP services increased from 82.4% to 88.2% at follow-up. Thus, a total of

68 health facilities (50.4%) across the state were providing MTP services in 2009 compared with only 47 (34.8%; $p<.01$) in 2007.

Service access increased maximally at the periphery as every fourth PHC (25%) and every alternative CHC (51%) began providing MTP services (see Figure 5). District and sub-district hospitals provided almost universal access to MTP services in urban areas. Nevertheless, 63 rural health centers and four urban hospitals never provided or discontinued providing MTP services. As shown in Table 9, respondents gave a variety of reasons for their facilities being unable to provide MTP services. The reason most commonly cited by these sites was the lack of an obstetrician-gynecologist or MTP-certified provider, followed by lack of essential equipment. Surprisingly, around 15 health facilities perceived during the follow-up assessment that their sites need official approval of the state authority to start providing MTP services.

Figure 4: Proportion of Health Facilities Currently Providing MTP During Baseline (2007) and Follow-up (2009) Assessment, Uttarakhand**Figure 5:** Proportion of Health Facilities Currently Providing MTP Services at Baseline (2007) and Follow-up (2009) by Type of Facilities, Uttarakhand

Factors Motivating Service Provision

In order to assess the instrumental factors that motivate service provision, we examined the associations between MTP service provision, availability of a trained provider, possessing essential equipment, and both (see Table 10). It is interesting to note that the availability of trained providers is associated with maximum service options when all essential equipment are available in the facility.

Characteristics of MTP Services

Facilities providing MTP services also were asked to share information about how long they had been offering MTP services and MTP techniques being used in their facilities. As reflected in Table 11, 23 of 38 (61%) rural facilities reported providing MTP services for the last two to three years, while most urban hospitals have been offering MTP services for more than three years.

Table 9: Reasons for Not Providing or Discontinuing Provision of MTP Services as Reported by Sites Not Providing MTP Services at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers				Urban Hospitals			
	Baseline: 2007		Follow-up: 2009		Baseline: 2007		Follow-up: 2009	
	(N=82)		(N=63)		(N=6)		(N=4)	
	n	%	n	%	n	%	n	%
Provider/Training-related Reasons								
No gynecologist	52	63.4	34	54.0	3		2	
No MTP-trained doctor	62	75.6	49	77.8	3			
Equipment-related Reasons								
Suction machine not available	15	18.3	12	19.0				
Cannuale not available	14	17.1	6	9.5	1			
Irregular supply of cannuale	3	3.7	2	3.2				
Lack other equipment	4	4.9	3	4.8				
Don't get MTP kit/MTP instrument	6	7.3	9	14.3			1	
No blood bank/OT	1	1.2	–	–				
Demand and Administrative Reasons								
Low client load	4	4.9	6	9.5				
Facility is not authorized	10	12.2	15	23.8	1		1	
No one had ever initiated	15	18.3	10	15.9	4		1	
Shortage of support staff	5	6.1	6	9.5			1	

Note: i) Because of multiple responses percentage may sum up to more than 100%

ii) For urban hospitals percentages are not included due to the small number of facilities currently not providing MTP services

In response to the question regarding gestational criteria for offering MTP services, facilities almost uniformly (100% rural and 73% urban) indicated they perform MTP only in the first trimester.

Even among urban hospitals that had the provision and capacity to provide MTP services up to 20 weeks, most did not provide any

induced abortion services beyond 12 weeks gestation.

Since dilation and curettage (D&C) methods of pregnancy termination may be associated with higher levels of complications, WHO and the Government of India (WHO 2003; NPP 2000) recommend aspiration methods (EVA & MVA)

Table 10: Percentage of Sites Providing MTP Services by Availability of Trained Providers and Possession of Essential Equipment, Uttarakhand

	Baseline: 2007			Follow-up: 2009		
	N	Provide MTP		N	Provide MTP	
		n	%		n	%
At least one MTP-trained doctor on staff	47	33	71.2	83	68	81.9
At least one trained doctor and all essential equipment required for MTP	27	26	96.3	65	59	90.8
At least one trained doctor on staff but lack all essential equipment	39	21	53.8	18	9	50.0

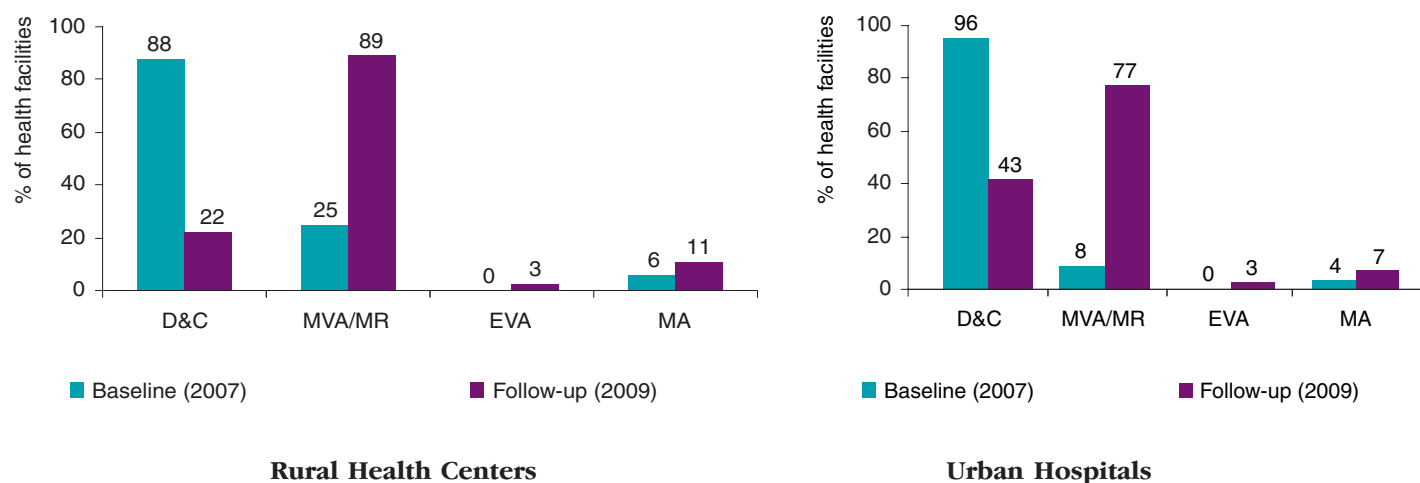
and medical abortion (MA) as appropriate methods for first trimester uterine evacuation. During the pre-intervention period, however, most of the rural (88%) and urban health facilities were

performing MTP mostly through D&C. These practices changed over time such that at follow-up, MVA was the most commonly used method in both rural (89%) and urban (77%) hospitals.

Table 11: Characteristics of Service Provision Among Facilities Who are Currently Providing MTP Services at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers				Urban Hospitals			
	Baseline: 2007 (N=19)		Follow-up: 2009 (N=38)		Baseline: 2007 (N=28)		Follow-up: 2009 (N=30)	
	n	%	n	%	n	%	n	%
Duration of MTP Service Provision								
Last two years	5	26.3	19	50.0	5	17.9	1	3.3
2 to 3 years	2	10.5	4	10.5	0	0.0	3	10.0
More than 3 years	12	63.2	15	39.5	23	82.1	26	86.7
Service Provision by Gestation								
Up to 12 weeks	18	94.7	38	100.0	20	71.4	22	73.3
Up to 20 weeks	1	5.3	0	0.0	8	28.6	8	26.7

Figure 6: MTP Methods⁸ Used up to 12 Weeks Gestation by Rural Health Facilities and Urban Hospitals at Baseline and Follow-up, Uttarakhand



Quality of MTP Service Provision

As mentioned earlier, along with decentralizing service availability, the intervention also aimed to ensure service quality with regard to record keeping, caseload (i.e., women served), use of appropriate technology, provision of post-abortion contraceptives and counseling, and equity of access (geographical spread of facilities performing MTP).

Record Maintenance

In line with CAC protocol, it was essential to keep individual records on women requesting MTP services and types of services provided by the health facilities. At baseline, 14 of 19 (74%) rural health facilities providing MTP services were

found to keep records of MTP services. However, there was no standard or formal site register at baseline. Thus, a standard log-book was developed and distributed among all trained providers. As indicated in Table 12, at follow-up, 36 of 38 rural (95%) and all 30 urban (100%) facilities were maintaining an MTP register or log-book for recording information about women who received MTP services from the respective facility.

The availability of consent form, which bears an important role to adhere with the MTP Act of India, increased from 32% at baseline to 74% at follow-up in rural health centers and 47% to 67% in urban hospitals. Even after this significant improvement, however, it is a programmatic concern that 10 rural and 10 urban hospitals are providing MTP services without any consent form.

⁸ MVA: Manual Vacuum Aspiration; EVA: Electric Vacuum Aspiration; MA: Medical Abortion; D&C: Dilatation and Curettage; MR: Menstrual Regulation Syringe.

Table 12: Record Maintenance Among Sites Providing MTP at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

Records Maintained by Facilities	Rural Health Centers				Urban Hospitals			
	Baseline: 2007 (N=19)		Follow-up: 2009 (N=38)		Baseline: 2007 (N=28)		Follow-up: 2009 (N=30)	
	n	%	n	%	n	%	n	%
Log-book or client register	14	73.6	36	94.7*	24	85.7	30	100.0*
MTP guideline	11	57.9	30	78.9**	11	39.3	22	73.3**
Consent form for woman or her guardian	6	31.6	28	73.7**	13	46.4	20	66.7

** : Significantly improved from baseline (P<0.01); * : Significantly improved from baseline (P<0.05)

Caseload of Women Who Received MTP Services

The number of women who received any MTP-related services at rural health facilities in the past three months increased from 438 at baseline to 831 at follow-up. A similar increase occurred in urban hospitals from 2006 at baseline to 2,729 at follow-up. While average monthly caseloads in rural facilities decreased marginally from 8.6 in 2007 to

7.3 in early 2009, average monthly caseloads in urban hospitals increased from 23.9 at baseline to 30.3 at follow-up, respectively (see Table 13).

Thus, almost half (48%) the total estimated 30,000 induced abortion in Uttarakhand (30,000) are currently being conducted by public health facilities. During pre-intervention time the contribution of the public health system was 33% of the total induced abortion in the state.

Table 13: Number of Women Received MTP Services in the Past Three Months and Quality of Service Provision at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

Rural Health Centers					Urban Hospitals			
	Baseline: 2007 (N=19)		Follow-up: 2009 (N=38)		Baseline: 2007 (N=28)		Follow-up: 2009 (N=30)	
	n	%	n	%	n	%	n	%
Number of women who received MTP services in the past three months	438		831		2,006		2,729	
	8.6 (9.2)		7.3 (9.2)		23.9 (36.6)		30.3 (34.9)	
Gestation at which Women Received MTP Services								
Up to 12 weeks (1st Trimester)	385	87.9	719	86.6	1,759	87.7	2,180	79.9
13-20 weeks (2nd Trimester)	1	0.1	0	0.0	48	2.4	63	2.3
Incomplete abortion	52	12.0	107	12.9	199	9.9	472	17.3
Missing information	–	–	5	0.5	–	–	14	0.5
Type of Technology Used for Women Who Received 1st Trimester MTP								
Appropriate	123	32.0	652	90.7**	457	26.0	1,700	78.0**
Inappropriate	262	68.0	67	9.3	1,302	74.0	480	22.0
Received Post-abortion Contraceptive								
Yes	327	74.7	776	93.4**	1,053	52.5	2,055	75.3**
No	111	25.3	55	6.6	953	47.5	674	24.7

** : Significantly improved from baseline (P<0.01)

Appropriate Technology

In line with WHO guidelines, women receive first trimester induced abortion either by electric vacuum aspiration (EVA), or manual vacuum aspiration (MVA), or by medical abortions are considered as the most appropriate technology (WHO 2003). Proportion of women who received first trimester abortion with appropriate technology improved significantly from 32% at baseline to 91% at follow-up assessment in rural health centers. In urban hospitals, this proportion increased from 26% at baseline to 78% at follow-up (see Table 13).

This technology transition occurred primarily due to a major fall of D&C and introduction of new and easy methods like vacuum aspiration (see Figure 7a and Figure 7b). For example, at baseline D&C was the most preferred option, as most of the medical doctors reported, due to their old training and familiarity with the D&C method. Women who received MTP services at rural facilities by D&C had decreased from 68% at baseline to just 10% at follow-up assessment, while the contribution of

MVA increased substantially from 27% to 86% during the same time (see Figure 7a). The scenario has been almost the same in case of urban hospitals.

Post-abortion Contraceptive Services

The provision of post-abortion contraceptive services was one of the most important components of the CAC model. During the IASAS program, all medical doctors and support staff were trained on contraceptive counseling with an expectation that every woman who received any abortion-related services leave the facility with one contraceptive method. To assess post-abortion contraceptive services, investigators were asked to collect contraception data from either the MTP log-book or any other record book. At baseline, 75% of women in rural health centers and 53% in urban hospitals received a contraceptive method after the MTP procedure (see Table 13). Post-abortion contraceptive acceptance increased to 93% and 75% in rural health centers and urban hospitals, respectively.

In course of Quality of Care monitoring visits, it was sometime reported that few providers perform check curettage after the MVA procedures to ensure the completion of a uterine evacuation. This is more pronounced among experienced providers who have been using D&C for a long time. As mentioned by one of the providers: *"It is our old habit and will take some time to stop using check curettage completely."*

This research, however, had a methodological limitation of determining the quantum of those MTP procedures done primarily with MVA followed by check curettage. Analysis of the quality of service provision related to appropriate MTP techniques is based on official records maintained by each of the health facilities. It was, however, not within the scope of this study to deploy technical experts to observe prospectively the MTP service provision in all facilities during the follow-up survey.

Figure 7a: Distribution of 1st Trimester Abortions by MTP Method in Rural Health Centers at Baseline (n=385 women received MTP) and Follow-up (n=719 women received MTP), Uttarakhand

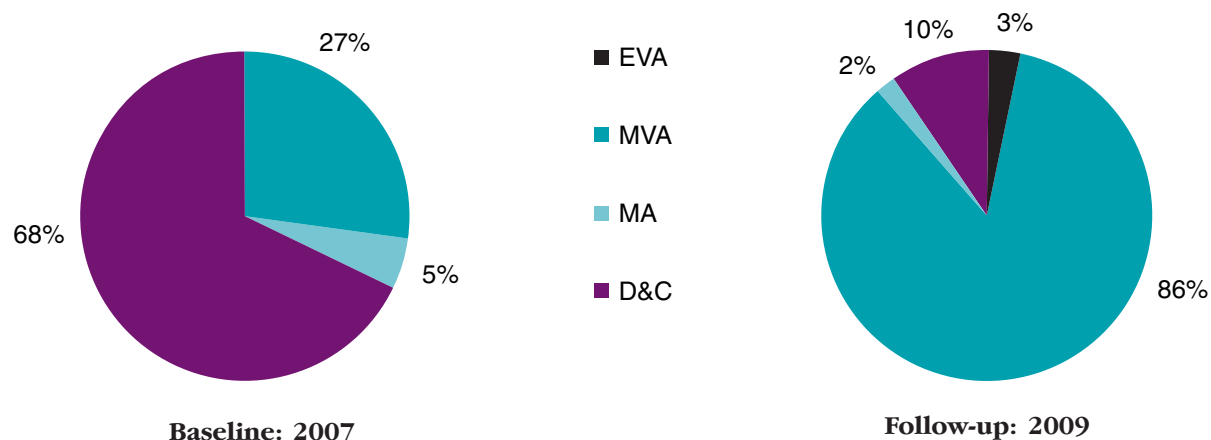
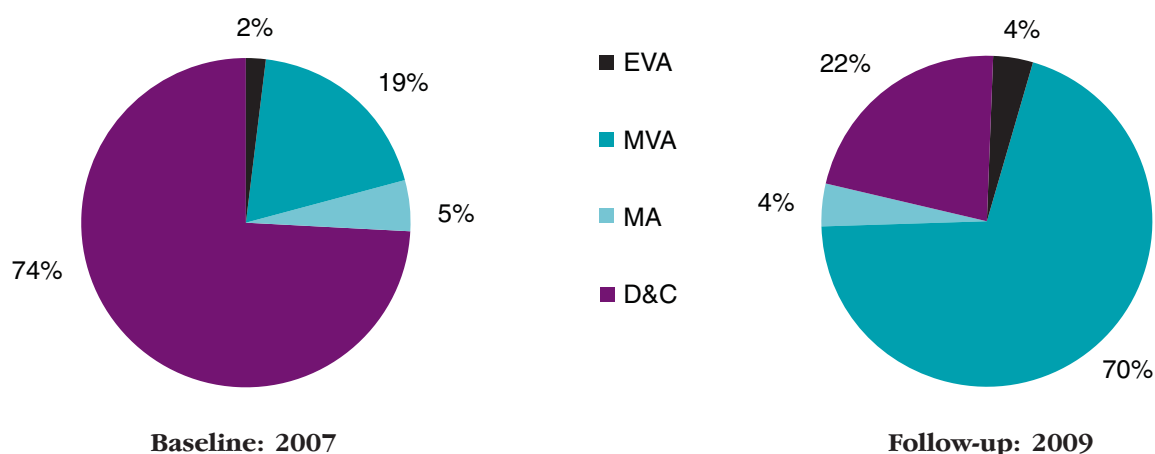


Figure 7b: Distribution of 1st Trimester Abortions by MTP Method in Urban Hospitals at Baseline (n=1,759 women received MTP) and Follow-up (n=2,180 women received MTP), Uttarakhand



Counseling: Interactions between Providers and Women

It is important that women receive accurate information from healthcare providers about their health status, clinical treatment options, and possible post-procedure complications, fertility resumption, and contraceptive options (Billings et. al., 2005). Even prior to the intervention, providers uniformly preferred to counsel women, often while one of their close relatives was present. An interesting shift can be noted in the attitude of providers in rural facilities (see Table 14) who reported preferring to counsel the woman only. However, counseling tended to focus on reproductive plans and contraceptive use, and majority of facilities did not mention to women anything regarding pain management, methods, and possible side effects.

Equity in Access (Geographical Spread of Sites Providing MTP Services)

Quality service provision assumes equity in geographical distribution of service access, which enables a woman to reach a healthcare center close to her place of residence. Having to travel a long distance to a health center has been regarded as a major barrier to using a trained provider. These sorts of barriers can directly or indirectly influence women to approach any local healthcare provider, many of whom are often not trained in providing MTP services (Banerjee and Tank 2009). Therefore, the intervention tried to penetrate the rural areas of all 13 districts. For example, at baseline, there was no site providing MTP services in the district of Bageshwar (see Appendix Table A1). Furthermore, at baseline, there were 40 of 95 existing blocks that

had at least one site providing MTP services, increasing significantly to 59 blocks in early 2009 (see Figure 8). Table 15 shows the population per functional site and provides support of the notion that barring three districts (Rudraprayag, Uttarkashi, and Haridwar) improved the accessibility at all other districts.

Knowledge and Attitude of Healthcare Providers

The evaluation also tried to assess healthcare providers' overall knowledge and attitudes towards MTP. Six questions were asked regarding the legal aspects of MTP to assess basic provider knowledge, while another four questions were asked to determine providers' attitudes about MTP and reproductive health issues.

As shown in Table 16, the overall knowledge about the legal aspects of MTP was quite poor during baseline. One-fourth of healthcare providers did not know the correct legal gestation criteria for MTP and also expressed very different understanding that women of 18 years and above are required to provide no consent for requesting termination of pregnancy. Even at the post-intervention follow-up assessment, knowledge remained virtually unchanged from baseline. The mean knowledge score increased marginally from 3.9 to 4.2 in rural facilities, and from 3.7 to 4.7 in urban hospitals at baseline and follow-up surveys, respectively.

However, this is very difficult to generalize as the place of posting and the profile of respondents do have much influence on the overall knowledge level. Figures 9 and 10 show average knowledge scores by place of posting and respondent profile.

Table 14: Pre and Post-abortion Counseling and Components of Counseling at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

	Rural Health Centers				Urban Hospitals			
	Baseline: 2007 (N=18)#		Follow-up: 2009 (N=38)		Baseline: 2007 (N=28)		Follow-up: 2009 (N=30)	
	n	%	n	%	n	%	n	%
Persons Providers Prefer to Counsel								
Woman who requested any MTP service	1	5.6	16	42.1	12	42.9	14	46.7
Woman who requested service and her close relative(s)	16	88.9	18	47.4	16	57.1	16	53.3
Does not counsel	1	5.6	4	10.5	—	—	—	—
Pre-procedure Counseling Topics								
Ask woman her reproductive plan	13	72.2	25	65.8	13	46.4	24	80.0
Past contraceptive history	8	44.4	23	60.5	17	60.7	15	50.0
Available contraceptives	5	27.8	20	52.6	13	46.4	19	63.3
What to expect after the procedure	9	50.0	17	44.7	14	50.0	15	50.0
Details of the MTP procedure	10	55.6	15	39.5	11	39.3	11	36.7
Pain management	4	22.2	5	13.2	6	21.4	4	13.3
Possibility of method failure	4	22.2	8	21.1	7	25.0	8	26.7
Details of anesthesia	3	16.7	2	5.3	3	10.7	0	0.0
Follow-up visits	0	0.0	9	23.7	4	14.3	10	33.3
Easy return of fertility	4	22.2	6	15.8	4	14.3	3	10.0
Post-procedure Counseling Topics								
Follow-up visit in case of any problem	13	72.2	26	68.4	19	67.9	20	66.7
Using contraceptives	10	55.6	27	71.1	22	78.6	27	90.0
How to recognize danger signs	5	27.8	12	31.6	6	21.4	6	20.0

#: One site did not respond to this section

As expected, the average knowledge score among healthcare providers at urban hospitals was higher than their counterparts at PHCs. It is interesting to note that prior to the intervention, there was hardly any difference in knowledge between providers at PHCs versus urban hospitals, but the gap in knowledge increased during the follow-up assessment period.

The knowledge gap was more pronounced when examining it by the profile of the respondents (see Figure 10). The mean knowledge score

ranged from 5.0 among a specialist gynecologist to 4.4 among other doctors, and to 3.4 among nursing staff.

The attitude towards reproductive health issues did not change much during the pre and post-intervention. Interestingly, respondents from rural facilities had lower mean scores than their urban counterparts. Similar to the findings on knowledge, a line of variation can be observed by the profile and place of posting of the respondents.

Table 15: Functioning MTP Site and Population Ratio by Districts at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

Region/District	Population	Population per MTP site#	
		Baseline: 2007	Follow-up: 2009
Upper Himalayan			
Uttarkashi	294,179	98,060	147,098
Chamoli	369,198	184,599	92,299
Pithoragarh	462,149	231,075	115,537
Mid Himalayas			
Champawat	224,461	112,230	112,230
Almora	630,446	157,611	90,063
Rudraprayag	227,461	113,730	227,461
Tehri Garhwal	604,608	201,536	151,152
Pauri Garhwal	696,851	174,213	116,142
Bageshwar	249,453	No facility	83,151
Foothills			
Udham Singh Nagar	1,234,548	205,758	123,454
Dehradun	1,279,083	142,120	127,908
Haridwar	1,444,213	361,053	361,053
Nainital	762,912	127,152	69,355
Total	8,479,562	180,416	124,699

#: This does not include private facilities; the ratio has been calculated based on the government sites only

Figure 8: Blocks with At Least One Health Facility Providing MTP at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

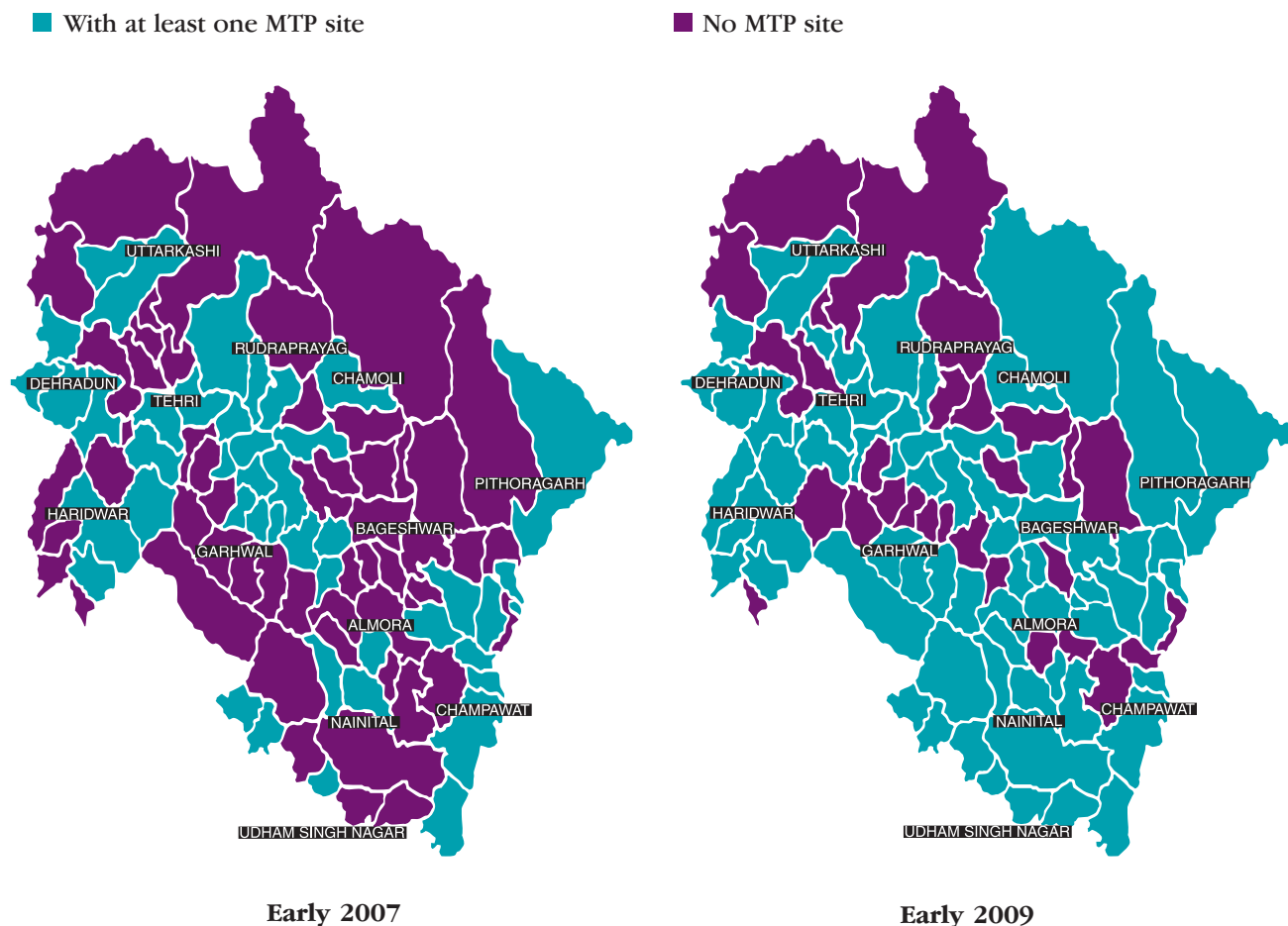


Table 16: Percentage of Healthcare Providers Who Responded Correctly to Select Knowledge Parameters and Who Reported Supportive Attitude Towards Medical Termination of Pregnancy and Reproductive Health Issues at Baseline (January 2007) and Follow-up (January 2009), Uttarakhand

Rural Health Centers					Urban Hospitals			
	Baseline: 2007 (N=91)#		Follow-up: 2009 (N=96)		Baseline: 2007 (N=28)		Follow-up: 2009 (N=33)	
	n	%	n	%	n	%	n	%
Knowledge Parameters								
Legally acceptable gestation of pregnancy which can be terminated in India	69	75.8	80	83.3	23	82.1	31	91.2
Opinion of two registered medical doctors required to perform 2nd trimester abortion	80	87.9	80	83.3	27	96.4	30	90.9
Only MTP-trained doctors can provide medical abortion	68	74.7	58	60.4	22	78.6	21	63.6
Medical abortion gestation limit for medical abortion in India	80	87.9	86	89.6	25	89.3	32	97.0
Consent of the woman of 18 years and above	34	37.4	50	52.1*	13	46.4	23	69.7*
PHCs are legally allowed to provide MTP	65	71.4	70	72.9	17	60.7	22	66.7
Mean Composite Knowledge Score	3.9		4.2		3.7		4.7	
Attitude Parameters								
It is the moral responsibility of each trained doctor to provide MTP services at their facility	83	92.2	79	83.2	24	85.7	30	90.9
The less the woman knows about the specifics of the medical procedure, the better off she is^	81	90.0	90	94.7	22	78.6	33	100
No one else should participate in abortion counseling without the woman's prior permission	78	86.7	74	77.9	24	85.7	29	91.7
Only the woman should be responsible for using the contraceptives^	78	86.7	74	77.9	25	89.3	29	91.7
Mean Composite Attitude Score	3.1		3.1		2.8		3.6	

#: Ten rural sites and six urban sites at baseline and five rural sites and one urban site at follow-up did not respond to this section

^: Reverse coded during analysis; *: Significantly improved from baseline (P<0.05)

Figure 9: Composite Mean Score of Knowledge (range 0-6) and Attitude (range 0-4) Among Hospital Staff by Type of Facility

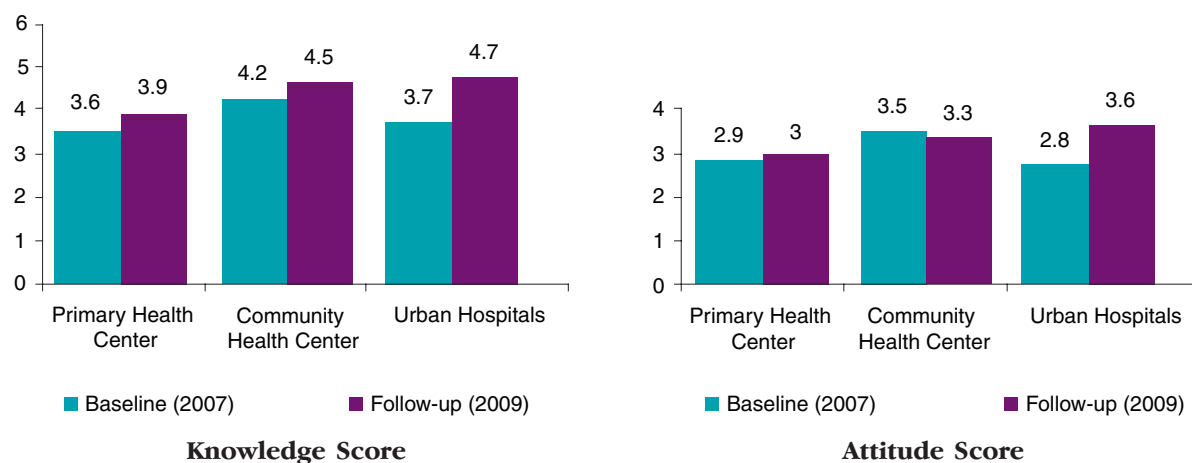
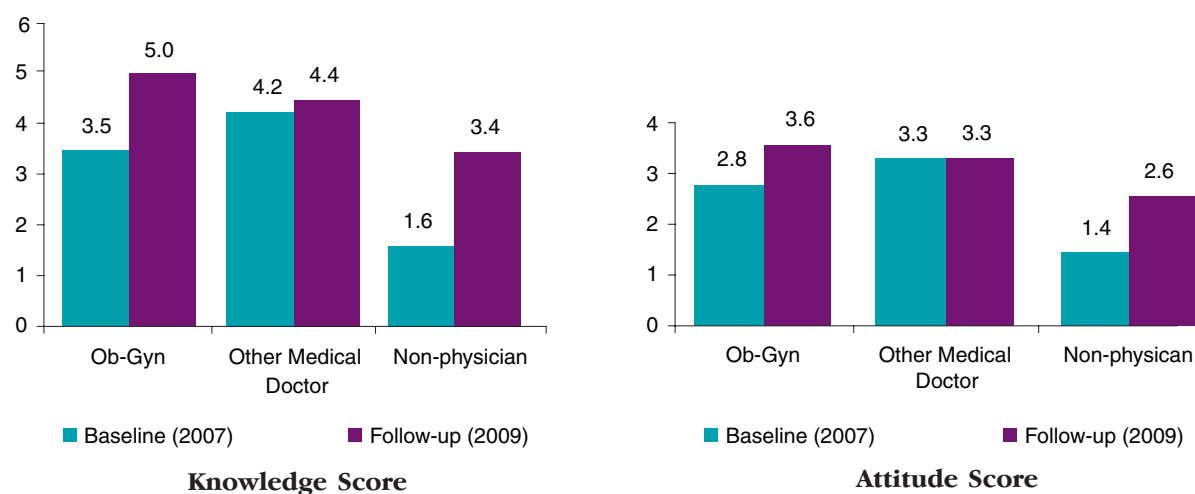


Figure 10: Composite Mean Score of Knowledge (range 0-6) and Attitude (range 0-4) by Respondent Profile



✓ Discussions

Overall, the percentage of sites providing MTP services increased significantly. However, the impact of this intervention was more pronounced in rural areas, where every fourth PHC and every other CHC began providing MTP services.

The follow-up evaluation of this collaborative initiative between the Government of Uttarakhand and Ipas India was conducted to document programmatic influences on safe abortion services and to document lessons learned in the process of implementation. The findings of this evaluation have a number of implications for policy makers and other stakeholders concerned with improving maternal health through reduction of unsafe abortion.

The results of the pre-intervention facility assessment (baseline-2007) have been instrumental in guiding the implementation strategy. The baseline findings highlighted five major pre-intervention challenges:

1. Providing essential and other supporting equipment required to carry out MTP procedures
2. Training and certification of new providers who never previously provided MTP services
3. Retraining old providers who either were not familiar with modern technologies or never previously provided MTP services

4. Improving service access, particularly in rural health centers (updating new sites) and sustaining the availability of MTP services in urban hospitals
5. Ensuring quality of care by introducing new technologies, record keeping, effective counseling, and geographic expansion of service delivery points.

As captured in this evaluation, availability of **all essential equipment** increased significantly in both rural and urban facilities from the pre-intervention period. This has primarily happened because of increased supplies of MVA aspirators and cannulae, routine follow-up of trained providers, and availability of functional equipment. This approach is likely to ensure universal access to MTP equipment in all 135 potential sites. Currently, more than half the rural facilities and one-fourth of the urban facilities still require support to ensure universal access to all essential equipment.

This evaluation also highlighted a unique transition in **availability of MTP-trained providers** in both

rural and urban facilities. Rural facilities with at least one MTP-trained provider increased from 36 in early 2007 to 52 in early 2009. While the availability of one trained doctor is almost universal at urban hospitals, around half the hospitals reported having three or more MTP-trained providers on staff. Furthermore, the number of facilities with at least one trained provider and all essential equipment increased from 27 at baseline to 65 at follow-up.

Preparedness of the sites in terms of availability of trained providers and essential equipment helped hospitals ensure **provision of MTP services**. Overall, the percentage of sites providing MTP services increased significantly. However, the impact of this intervention was more pronounced in rural areas, where every fourth PHC and every other CHC began providing MTP services. Access to MTP services was not a major concern in urban hospitals, as more than 80% were performing MTP even prior to the intervention. However, most urban hospitals were providing MTP services with traditional, inappropriate technologies, such as D&C.

Thus the pre-intervention challenges included not ensuring a greater number of facilities providing MTP, but also ensuring improved **quality of MTP services** through the introduction of appropriate technologies (MVA, EVA, and medical abortion). The follow-up assessment reveals an overwhelming response by providers taking advantage of the education and hands-on training in new appropriate technologies. The number of women who received MTP services at rural facilities through appropriate technology increased from

32% at pre-intervention to 91% at post-intervention period. In urban areas, the percentage increased from 26 to 78. However, approximately one-fifth (22%) of women still received first trimester abortion services through D&C. Future intervention should address this issue in-depth.

Improved service provision has not only increased service access but has helped to reduce the extent of unsafe abortion in Uttarakhand. According to follow-up statistics on MTP caseloads, approximately 14,236 women received abortion services during the last year from the public health system. Thus, almost half (48%) the estimated total of 30,000 induced abortions in Uttarakhand (NRHM 2005) are being performed at public health facilities. During pre-intervention, the public health system accounted for 33% of all induced abortions in the state. This transition adds tremendous support to this intervention in that, even excluding the private sector,⁹ half the abortions in the state are performed under safe conditions.

The intervention was equally effective in ensuring the quality of service provision in terms of **post-abortion contraceptives**. Significant progress has been recorded in both rural and urban facilities. However, there has been an operational issue in updating contraceptive acceptance in urban hospitals because women receive contraceptives from other parts of the hospital and are often not recorded in the

⁹ Includes private nursing homes and clinics with MTP-trained doctors who also provide safe abortion services.

MTP register. The majority of facilities have recorded impressive performances in terms of **keeping individual records of MTP clients**. However, there was lack of consistency in using MTP consent forms and many facilities reported having no consent form at follow-up.

The intervention has clearly advanced decentralization by ensuring access of MTP services to rural women. All 13 districts and 59 of 95 blocks had at least one health facility providing MTP facilities. This development can be regarded as one of the most crucial components of the intervention, which strategically has tried to spread MTP services throughout difficult terrains in the state.

Overall knowledge and attitude of healthcare providers seemed to be an area of concern. Although, average knowledge and attitude scores increased from baseline levels, there was major concern with the variation in responses of providers, particularly as related to the legal aspects of MTP.

Taken as a whole, the findings of the follow-up assessment indicated substantial improvement in the availability and accessibility of trained providers, essential equipment, MTP services, and quality of MTP services in the public health facilities of the state. The results also indicated that the first phase of the IASAS pilot initiative, conducted in collaboration with the state government, has been feasible and acceptable to service providers and confirmed an effective path to scale-up the next round of intervention. The salient findings that highlighted programmatic changes during the intervention period were:

- The number of rural facilities with at least one MTP-trained provider increased from 36 at baseline to 52 in early 2009.
- The percentage of facilities with all essential equipment increased from 15% to 47% in rural facilities, while in urban hospitals, the percentage increased from 35 to 71.
- Facilities providing MTP services increased significantly ($p < .01$) from 35% at baseline to 50% at follow-up.
- The public sector contribution to total annual induced abortions in the state increased from 33% at baseline to 48% at follow-up.
- The percentage of women who received abortion services with appropriate technology increased from 32% to 91% in rural health facilities and from 26% to 78% in urban hospitals.

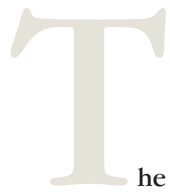
The findings of this study must be viewed in light of certain operational limitations and scope. Results on access and quality of service provision cannot be generalized to the entire state, as this assessment is restricted to public sector facilities only. Although the intervention attempted to see a holistic approach and shared some support even with the private sector, this evaluation didn't have the ability to document any ongoing transition in the private sector.

Furthermore, examination of program baseline and follow-up outcomes lacked the ability to compare progress over time with a control group of facilities. Given the small size of the state, the intervention aimed to increase service access throughout the state, and it was difficult to assign any group as a control within the state.



Recommendations and Conclusions

This collaborative initiative demonstrated that it is feasible to decentralize access to safe abortion services, particularly at rural health centers. Collaborative and strategic actions to address to increase access to safe abortion services (IASAS) will go a long way toward improving health by expanding service access further in rural areas.



The follow-up evaluation revealed some key gaps in implementation that could not be addressed during the first phase of intervention. Ipas, in coordination with the state government of Uttarakhand, will need to address those issues during the next phase of intervention. They are:

- Sustained access to essential equipment:

It will always remain a programmatic challenge to replace MVA kits and cannulae to all health facilities currently providing MTP services. The majority of providers received MVA kits during their training, but these kits wear out after repeated use. We need to ensure a sustainable supply mechanism of equipment and essential medication.

- Continued decentralization of service: Around 63 rural health centers and four urban hospitals are not providing MTP services, primarily because they lack an MTP-trained provider. A systemic approach is required to select medical doctors from these non-performing sites.

However, there are 15 sites that are not providing MTP services despite having a trained provider. A separate, micro-level strategy is required for these facilities. Ipas needs to reassess operational factors that prevent trained providers from providing MTP services.

- Equity in service access: Despite the program strategy to expand the service access to all rural blocks in the state, it was more practical in reality to train doctors from the pre-selected health facilities. Since there is currently a shortage of female doctors in all PHCs and CHCs, the state government should encourage male doctors to participate in the CAC training.

- Low caseload: The full potential of rural health centers is still not being utilized. One of the primary reasons seems to be the low caseload of women requesting MTP services at rural facilities. Typically, women do not know that MTP services are available in their vicinity. The state government should ensure some steps are taken

to promote community awareness of the availability of MTP services.

- Continued maintenance of essential records: The next phase of intervention needs to focus on ensuring a sustainable supply mechanism for MTP log-books, consent forms, and MTP guidelines in all hospitals above PHC level.

- Knowledge-sharing initiatives within the system: This study revealed that inconsistent information prevailed among hospital staff, particularly on the legal aspects of MTP service provision and site approval. For example, approximately 15 respondents believed their government sites needed special approval from the state authority to start providing MTP. A systematic effort should be introduced to educate all responsible staff on this subject.

- Functional DLC in every district: The first phase of intervention was entirely focused on the public health system but revealed a huge potential in the private sector. The successful experience of forming DLCs in four districts is encouraging. Attempts to make DLCs functional in other districts and to ensure integration with the government functionaries (CMO) would be effective in improving the strength of the private sector.

- Continuing QoC mentoring support: This approach has been piloted in a few select sites, but additional efforts are necessary to reach other sites to ensure hands-on and to instill confidence among newly-trained doctors and nursing staff.

In conclusion, this collaborative initiative demonstrated that it is feasible to decentralize access to safe abortion services, particularly at rural health centers. Collaborative and strategic actions to address to increase access to safe abortion services (IASAS) will go a long way toward improving health by expanding service access further in rural areas.

This approach will help reduce the extent of unsafe abortion and related maternal mortality and morbidity. Although the number of women served by rural health centers is much lower than that in urban hospitals, there is a huge potential to increase caseloads through increasing community awareness of MTP service availability. The weakness identified in the evaluation study can easily be addressed through a joint effort. This project offers a good example of means by which service access and quality can be improved, and can be replicated by other states in India that are interested in reducing maternal mortality and morbidity by ensuring access to safe abortion services to more women.



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✓ Appendix

Appendix Table 1: District and Block-wise Distribution of Health Facilities Providing MTP Services at Baseline (2007) and Follow-up (2009), Uttarakhand

District	Block	Number of Facilities per Block Providing MTP Services	
		Baseline: 2007	Follow-up: 2009
Almora	Naryan Bangar	1	1
	Ranikhet	1	1
	Almora	1	1
	Chaukhutiya	X	1
	Salt	X	1
	Tarikheth	X	1
	Bhaisiyachhana	1	1
Bageshwar	Bajjnath	X	1
	Bageshwar	X	1
	Kapkote	X	1
Chamoli	Joshi Math	X	1
	Karn Pariyag	1	1
	Gair Sen	X	1
	Dasoli	1	1
Champawat	Tanakpur	1	1
	Lohaghat	1	1
Dehradun	Dehradun	2	2
	Mussoorie	2	2
	Rishikesh	1	1

District	Block	Number of Facilities per Block Providing MTP Services	
		Baseline: 2007	Follow-up: 2009
	Doiwala	1	1
	Vikas Nagar	1	1
	Sahaspur	1	1
	Kalsi	1	1
	Raipur	X	1
Haridwar	Haridwar	2	1
	Rurkee	1	1
	Laskar	1	1
	Bhadrabadh	X	1
Nainital	Nainital	2	2
	Dhari	X	1
	Ram Nagar	1	1
	Haldwani	2	2
	Betal Ghat	X	1
	Bhimtal	X	2
	Kotabagh	1	2
Pauri Garhwal	Pauri	1	1
	Kotdwar	1	1
	Sri Nagar	2	1
	Pabo	X	1
	Jaiharikhal	X	1
	Rikhinikhal	X	1
Pithoragarh	Pithoragarh	2	2
	Didihat	X	1
	Bari Naag	X	1

District	Block	Number of Facilities per Block Providing MTP Services	
		Baseline: 2007	Follow-up: 2009
Rudraprayag	Ukimath	1	X
	Rudraprayag	1	1
Tehri Garhwal	Tehri	1	1
	Hindolakhali	1	1
	Narendra Nagar	X	2
	Bhilangna	1	X
Udham Singh Nagar	Kashipur	1	1
	Sitarganj	X	1
	Bazpur	1	1
	Gadarpur	1	2
	Kichha	1	1
	Khatima	X	1
	Jaspur	1	1
	Rudrapur	1	1
	Shantipuri	X	1
Uttarkashi	Purola	1	X
	Uttarkashi	1	1
	Naugawn	1	1
Total		47	68
X: Block has no sites providing MTP services			



Acronyms and Abbreviations

ANM	Auxiliary Nurse Midwife
CAC	Comprehensive Abortion Care
CHC	Community Health Center
CMO	Chief Medical Officer
D&C	Dilatation and Curettage
DLC	District Level Committee
DoMHFW	Department of Medical, Health and Family Welfare
EVA	Electric Vacuum Aspiration
GoI	Government of India
GoUK	Government of Uttarakhand
IASAS	Increasing Access to Safe Abortion Services
IEC	Information, Education, and Communication
IIPS	International Institute for Population Sciences
Km	Kilometer
MA	Medical Abortion
MBBS	Bachelor of Medicine and Bachelor of Surgery
MMR	Maternal Mortality Ratio
MO	Medical Officer
MR	Menstrual Regulation
MTP	Medical Termination of Pregnancy
MVA	Manual Vacuum Aspiration
NGO	Non-government Organization
NRHM	National Rural Health Mission
NS	Nursing Staff
Ob-Gyn	Obstetrician-Gynecologist
PHC	Primary Health Center
QoC	Quality of Care
RCH	Reproductive and Child Health
RHFWTC	Regional Health and Family Welfare Training Center
SCOVA	Standing Committee on Voluntary Action
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
TBA	Traditional Birth Attendant
TOT	Training of Trainer
UE	Uterine Evacuation
WHO	World Health Organization

For more information, please contact:
Dr. Sushanta K. Banerjee
Senior Advisor-R&E, Ipas India