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# USAID/PAKISTAN: MATERNAL NEWBORN AND CHILD HEALTH PROGRAM FINAL EVALUATION

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## ACRONYM LIST

AKU	Aga Khan University
ANC	Antenatal care
ARI	Acute respiratory illness
AusAid	Australia Aid
BCC	Behavior change communication
BEmONN	Basic emergency obstetric and neonatal care
BHU	Basic health unit
CAM	Community advocacy and mobilization
CCB	Citizen Community Board
CEmONC	Comprehensive emergency obstetric and neonatal care
CHW	Community health worker
CIDA	Canadian International Development Agency
C-IMCI	Community integrated management of childhood illness
CMW	Community midwife
COP	Chief of Party
DAOP	District annual operational plan
DfID	The United Kingdom Department for International Development
DHIS	District Health Information System
DHQ	District Headquarters Hospital
DHMT	District Health Management Team
EDO	Executive District Officer
EmOC	Emergency Obstetric Care
EmONC	Emergency Obstetric and Neonatal Care
EPI	Expanded Program of Immunization
FATA	Federally Administered Tribal Areas
FET	Final evaluation team
FGD	Focus group discussions
FHC	Facility-based Health Committee
FOM	Field Operations Manager
FP	Family planning
GIS	Geographic information system
GOP	Government of Pakistan
HMIS	Health Management Information System
HQ	Headquarters
IMR	Infant mortality rate
ICM	International Confederation of Midwives
IMNCI	Integrated management of newborn and child illness
JHU/CCP	Johns Hopkins University/Center for Communications Programs
JICA	Japanese International Cooperation Agency
JSI	John Snow International
KPK	Khyber Pakhtunkhwa (district)
LHV	Lady Health Visitor
LHW	Lady Health Worker
MAP	Midwifery Association of Pakistan
MDG	Millennium Development Goal
M&E	Monitoring and evaluation
MMR	Maternal mortality ratio
MNCH	Maternal, newborn and child health

MOH	Ministry of Health
MOPW	Ministry of Population Welfare
MTE	Mid-term Evaluation
NATPOW	National Trust for Population Welfare
NEB	Nursing Examination Board
NGO	Non-governmental organization
NMR	Neonatal mortality rate
NPFPPHC	National Programme for Family Planning and Primary Health Care
PAIMAN	Pakistan Initiative for Mothers and Newborns
PAVNA	Pakistan Voluntary Health & Nutrition Association
PDHS	Pakistan Demographic and Health Survey
PIMS	Pakistan Institute of Medical Sciences
PNC	Pakistan Nursing Council
PSLM	Pakistan Social and Living Standards Measurement Survey
QIT	Quality Improvement Team
RAF	Research and Advocacy Fund
RHC	Rural Health Center
RMOI	Routine monitoring of output indicators
RN	Registered nurse
SBA	Skilled birth attendant
SO	Strategic objective
SOW	Scope of work
TACMIL	Technical Assistance for Capacity-building in Midwifery, Information and Logistics
TB	Tuberculosis
TBA	Traditional birth attendant
THQH	Tehsil Headquarters Hospital
TPM	Team planning meeting
TRF	Technical Resource Facility
TT	Tetanus toxoid
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
US	United States
VHW	Village health worker
WHO	World Health Organization

# **EXECUTIVE SUMMARY**

## **INTRODUCTION AND SCOPE OF THE PROJECT**

The Pakistan Initiative for Maternal Newborn and Child Health (PAIMAN) program is a United States Agency for International Development (USAID)-funded Cooperative Agreement managed by USAID's Health Office and implemented by John Snow Incorporated (JSI) Research and Training Institute, Inc., in partnership with Save the Children-U.S., Aga Khan University, Contech International, Johns Hopkins Bloomberg School of Public Health Center for Communications Programs (JHU/CCP), and the Population Council. Two additional partners participated in Phase I of the project (October 2004 – September 2008): Greenstar Social Marketing, and the Pakistan Voluntary Health & Nutrition Association (PAVHNA). Project Phase II lasted two years (2008 – 2010) and included a one-year extension of the end date of the project from 30 September 2009 to 30 September 2010, and a no-cost extension from 1 October 2010 to 31 December 2010.

The Life of Project was from 8 October 2004 to 30 September 2010, with an initial funding level of US\$49,43,858 for work in 10 districts of the country. Various amendments to the original Cooperative Agreement expanded activities to an additional 14 districts, including the Federally Administered Tribal Areas (FATA) in Kyber and Kurram Agencies, Frontier Regions Peshawar and Kohat, as well as Swat.

In a letter from USAID dated March 2008, USAID increased the project funding to a US\$92,900,064 to cover geographic expansion and extended the project to 31 December 2010. The scope of program activities was also extended to add activities related to implementing an effective child health delivery strategy, which included strengthening child survival interventions through an integrated management of newborn and childhood illness (IMNCI) approach, including immunization, nutrition, diarrheal disease and acute respiratory infections (ARI) management, and interventions focusing on home- and community-based care and education of the mother and family to recognize signs of childhood illness for which to seek care. In addition, in the same letter, USAID asked PAIMAN to extend already ongoing activities—including the integration of family planning counseling and service delivery with antenatal and postnatal visits and community support group activities in those districts where the new USAID Family Advancement for Life and Health (FALAH) Project was not in operation—to the 10 to 15 border districts selected for expansion.

## **BACKGROUND**

Pakistan is the sixth largest country in the world, with an estimated population of over 177 million. The country is considered to have achieved a medium level of human development; slightly more than sixty% (60.3%) of the population lives on less than \$2.00 per day. The country ranks 99<sup>th</sup> out of 109 countries in the global measure of gender empowerment.

The maternal mortality ratio (MMR) was cited at 276 per 100,000 births nationwide in 2006-07, with a much higher rate in rural areas (e.g., 856 in Balochistan). The Millennium Development Goal (MDG) for the country is a reduction of MMR from 550 per 100,000 in 1990 to 140 per 100,000 in 2015. More than 65% of women in Pakistan deliver their babies at home. Key determinants of poor maternal health include under-nutrition, early marriage and childbearing, and high fertility. The leading causes of maternal mortality include obstetric hemorrhage, eclampsia and sepsis. The contraceptive prevalence rate (CPR) is 22%.

The infant mortality rate (IMR) for the country is cited as in the range of 64 to 78 per 1,000 live births. Causes of neonatal mortality include pre-term labor (fetal immaturity), intrapartum asphyxia and neonatal sepsis. Neonatal deaths account for 69% of all infant mortality and 57% of under-five mortality.

According to the most recent Pakistan Social & Living Standards Measurement Survey (PSLM 2008-09), the vast majority of Pakistan's citizens (71%) receive health services through the private sector in both rural and urban settings. This is a reflection of the low investment the Government of Pakistan (GOP) has made in health (only 29.7% of total health expenditures are from the Government) and the high out-of-pocket expenses (57.9% of all expenditures) [WHO 2008]. Public health care services are provided in service delivery settings established under the authority of the Ministry of Health (MOH) (health care across the lifespan) and the Ministry of Population Welfare (MOPW) (reproductive health, family planning). Although services are provided free of charge in the public sector, informal charges are often levied. Service availability is further limited due to understaffing (including a lack of female providers), limited hours of service, and material shortages.

Traditional birth attendants attend 52% of home childbirths in the country. The Government acknowledges that this cadre will continue to function for the foreseeable future.

The private health sector offers primarily curative services, largely on a fee-for-service basis. Private maternity facilities offer 24-hour normal and operative delivery services for women and newborns, and tend to attract the largest proportion of patients from all socioeconomic groups. This sector has been described as loosely organized and largely unregulated.

## **PROGRAM DESIGN AND IMPLEMENTATION**

The PAIMAN goal was to reduce maternal, newborn, and child mortality in Pakistan, through viable and demonstrable initiatives and capacity building of existing programs and structures within health systems and communities to ensure improvements and supportive linkages in the continuum of health care for women from the home to the hospital.

The original ten districts were selected by the GOP in negotiation with PAIMAN and USAID/Pakistan. The expansion districts (14) were selected in much the same way, but reflected USAID's expressed interest in extending the full range of PAIMAN activities into 10 to 15 remote and vulnerable districts in Balochistan, Khyber Pakhtunkhwa and Azad Jammu and Kashmir, where access to Maternal, Newborn and Child Health (MNCH) services was severely limited.

PAIMAN identified beneficiaries of the program as married couples of reproductive age (15-49) and all children less than five years of age. It was estimated that the program would reach an estimated 2.5 million couples and nearly 350,000 children under one year of age in the first 10 districts, and an additional 3.8 million couples and 570,000 children under five years of age in the additional 14 districts.

The PAIMAN strategy was designed around a strategic framework called *Pathway to Care and Survival*, which incorporated activities to address the interrelated problems that lead to delays in access to and receipt of quality maternal and child health services. The program had five strategic objectives.

## **PROGRAM BENCHMARKS AND ACCOMPLISHMENTS**

### **SOI. Increasing Awareness and Promoting Positive Maternal And Neonatal Health Behaviors**

PAIMAN's communication and advocacy strategy, implemented by JHU/CCP and Save the Children, approached health information dissemination through the use of Lady Health Workers (LHWs) and

community workers, who were responsible for disseminating the messages at the community and household levels. Local NGOs implemented these same activities in selected districts. Key activities designed to increase awareness and demand for MNCH services included home visits and small group activities, such as LHW home visits and support groups, private sector interpersonal communications (IPC), theater events and health camps at the community level, mass media initiatives (TV drama, video, advertisements, music videos), formation of community-based committees to take local action, and advocacy to government officials at all levels, journalists, and religious leaders.

PAIMAN reached its established benchmarks for beneficiary outreach. Individual events proved to be the best approach for reaching residents of community settings, but have likely not reached the number of the population that would be sufficient to produce evidence of a behavioral change. There were indications from anecdotal remarks gathered during this evaluation that some elements of the Mid-term Evaluation comments that “all events taken together have reached only 2% of the population” may have held true in some parts of the country, particularly with the rapid expansion into more and more difficult-to-reach districts. The endline evaluation<sup>1</sup> revealed that 32.4% of women interviewed had watched a TV drama or advertisements about maternal and neonatal health. One staff member interviewed felt that it would have been better to increase coverage in the original ten districts rather than expand into the larger number “with just about the same amount of money.”

In fairness to PAIMAN, however, an impact evaluation of the mass media component was beyond the scope and the mandate of this evaluation and was not a part of the project design. Still, future programs might want to consider comments by some rural women suggesting that the mass media material was more suitable for an urban audience and had little application to or impact on their lives. Interventions that demonstrated the most promise for success included the outreach via LHWs and other means of interpersonal communication. This was in keeping with the mid-term recommendation to “focus on the interventions with more reach or scaling one or two of them up significantly for greater impact,” such as the LHW and Community Health Worker (CHW) events, puppet theater, and the activities with the Ulamas.

## **SO2. Increasing Access to Maternal and Newborn Health Services**

PAIMAN worked to involve private sector providers in the provision of maternal and newborn services through training in best practices provided by the collaborating partner, Greenstar. Activities conducted at the community level were intended to reduce the cultural and attitudinal barriers to health care for women through greater community involvement in MNCH promotion, and some limited activities related to advocacy for and community-based education about healthy timing and spacing of pregnancies. PAIMAN achieved its stated benchmarks for a number of pragmatic activities, including training of traditional birth attendants (TBAs) and promotion of emergency transport mechanisms (private and public ambulance services). The promotion of public-private partnerships included a pilot test of the use of voucher systems for payment for services. Challenges encountered in tracking data from private practitioners limited the ability to assess the utility of this strategy.

## **SO3. Increasing Quality of Maternal and Newborn Care Services**

To enable the provision of basic and emergency obstetric and neonatal care, upgrades were made to the facility infrastructure in selected government health facilities. Public and private providers received training to deliver client-focused services, with an emphasis on standardized procedures, infection prevention and the strengthening of referral systems. Infrastructure upgrades contributed substantially

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<sup>1</sup> The Final Evaluation Team (FET) only saw a .pdf file of a 20-slide PowerPoint presentation without notes of this evaluation and were not present for the presentation. It was not clear which districts were covered in this evaluation; data showed a comparison between the baseline and endline suggesting that the original ten districts were covered in each.

to enabling the provision of 24/7 basic and comprehensive emergency obstetric and neonatal care in each of PAIMAN's original districts. Training providers to perform the signal functions of emergency obstetric and neonatal care (EmONC) was an essential corollary, and PAIMAN achieved each of its stated benchmarks for this activity. However, staff shortages and transfers have limited the ability to sustain this level of service provision and have muted the impact of the intervention.

#### **SO4. Increasing Capacity of Maternal and Newborn Health Care Providers**

PAIMAN undertook an ambitious training agenda to develop the capacity of MNCH providers for provision of basic and comprehensive emergency obstetric and neonatal care. PAIMAN addressed the training needs of all health service providers at all levels of care, from home through community-based services to referral services provided at tertiary-level facilities. PAIMAN also contributed substantially to the MOH strategy for training a cadre of Community Midwives (CMWs) to serve as private practice providers in their communities. Although PAIMAN met its training targets in terms of absolute numbers, follow-on assessments were limited in their scope; therefore, the extent to which trained participants retained new knowledge over the longer-term and the degree to which they were able to transfer new learning into daily clinical practice are uncertain. PAIMAN invested substantial funds in an effort to create training opportunities for the 2,354 CMWs for which it accepted responsibility (a portion of the MOH target of 12,000).

Future efforts related to the CMW strategy should be reconsidered. The academic and clinical training efforts encountered substantial obstacles that greatly limited the quality of learning. PAIMAN worked with the Midwifery Association of Pakistan and also with a concurrent USAID-funded project (TACMIL) to introduce quality assurance strategies into the training and succeeded in the effort to improve clinical access opportunities at district levels by extending the length of training for some student cohorts. Nevertheless, a substantial number of the graduates failed to meet the objective standards (examination and registration) established by the regulatory authorities, and many graduates have not initiated a clinical practice.

#### **SO5. Improving management and integration of services at all levels.**

Interventions were designed to increase the capacity of district-level health administrators working in a decentralized environment. Training was provided in various topics related to health planning. A District Health Information System was developed, and users were trained in a variety of assessment and benchmarking exercises for monitoring and evaluation. PAIMAN met its training targets; however, the sustainability of essentially all capacity-building efforts is questionable because of frequent staff turnover and the lack of consistency in budget allocations to health.

### **TRENDS IN IMPROVEMENTS IN MNCH INDICATORS**

Baseline and endline population and facility-based surveys provide some evidence of improvement in MNCH indicators that can be indirectly attributed to PAIMAN interventions.

Key obstetric services provided in upgraded facilities over the period 2007 through 2009 included an increase in facility births of 33%. The proportion of women with obstetric complications admitted to the facilities increased by 74%, with a 40% increase in the performance of Caesarean sections in these upgraded facilities. Increases in Caesarean section rates must always be analyzed carefully; however, the fact that these upgraded facilities were referral centers for patients experiencing complications requiring surgical interventions can (i) account for the higher than the norm accepted on a population basis (i.e., WHO recommends 10-15% in the total population), and (ii) serve as a proxy indicator for improved referral services in the project.

Data from the endline household survey indicates that skilled birth attendance had increased from 41.3% to 52.2% and that the proportion of normal vaginal deliveries taking place in the home had decreased from 63% to 52%. Basic EmOC services were available in all the District Headquarters Hospitals (DHQs) at both baseline and endline. The proportion of Tehsil Headquarters Hospitals (THQs) in which these services were available improved from 38% to 100% and the proportion in rural health centers (RHCs) from 23% to 95%. Provision of comprehensive EmOC services increased from 75% to 100% in DHQ facilities and from 33% to 48% in THQs. However, newborns continued to be less well served than mothers in all DHQ and THQ facilities. Comprehensive emergency neonatal care (EmNC), although increased from baseline, was available in only 89% of DHQ and in 40% of THQ facilities. PAIMAN's monitoring and evaluation (M&E) plan did not track indicators related to healthy timing and spacing of pregnancy in the original or expanded program. The M&E plan revised for Phase II did include a number of process indicators related to distribution of contraceptive commodities, but no indicator that could effectively track the impact of these activities. The assessment and attribution of improvement in MNCH indicators is limited because a between-districts comparison was not designed as a measurement strategy within the M&E plan.

## **OUTPUTS, OUTCOMES AND IMPACT OF THE PAIMAN PROGRAM**

PAIMAN was recognized to be an administratively complex project that used very basic, time-tested approaches to increasing quality and capacity within the health system and its providers. A major portion of the project budget was invested in infrastructure development though there was evidence from field observations and from other development projects that this may be a difficult component of the project to sustain because of budget volatility within the MOH, the changes in priorities that occur with natural disasters and political change, and a general lack of ownership for the facilities. Community-oriented inputs were less expensive and likely more sustainable. Having said this, efforts by PAIMAN to develop both community and facility systems and structures are strategically sound, as both are necessary in cases of obstetric emergencies and for women in the community who need facility-based support and find it lacking and will die or, at the very least, drop out of the system. It may be that the speed and size of the transfers of funds and facilities need to be modulated along with careful incentives to motivate local governments to sustain these changes.

PAIMAN approached communication and mobilization strategies through women's and men's support groups, training of health care workers, development and dissemination of communication media, linkages with information systems, and use of local non-governmental organizations (NGOs) for dissemination. PAIMAN made attempts to orient and adapt some of its general approaches to more specific audiences through the use of community-based organizations where LHWs were not operating, through its approach to religious leaders in conservative areas where men were otherwise difficult to reach, and, in less conservative areas, through traditional communication forms (e.g., puppet shows, folk media, and street theater). Two drawbacks in the approach observed by the FET were the lack of publicly visible materials in health centers and hospitals, and the language limitation of the materials produced, which did not seem to match the linguistic diversity in the country. Feedback from community members and some officials did not always confirm the local applicability of all communication materials. Requests were made to the FET for more participation by community members in material design.

The women's support groups served a social and an educational purpose as it gave women a chance to meet outside the home. Given the support plus a regular infusion of information, many of these groups could continue indefinitely because they answer women's needs to be and work together. Anything that can be done to enhance participation of support groups (e.g., revolving funds, microfinance) should be implemented by the MNCH. Much more work should be done to enhance the public-private partnership to expand access to health services, with a particular emphasis on the rural provider network. The

CMW program was well-intentioned, but was designed by the MOH and the Pakistan Nursing Council (as described in PC-1) and implemented by MOH and partners (including PAIMAN) well ahead of quality considerations. Substantial time, money and effort have been expended, but neither the public nor the individual CMWs have been well served in terms of the intention to provide skilled birth attendants for the community. The content of the academic and clinical training does not meet international standards, and many students do not have access to sufficient clinical experience to acquire or demonstrate clinical competencies. The regulatory system has not been fully developed; as a result, many program graduates do not yet have access to the examination and registration process. This program needs to be refashioned according to established quality standards. The United Kingdom Department of International Development (DfID) recently conducted an extensive review of this overall program (including the PAIMAN contribution) and offers recommendations for action.

## **MAJOR CONSTRAINTS TO PROGRAM COVERAGE AND ACCESS**

PAIMAN operated during a period of great political and financial instability in the country, further compounded by the occurrence of three natural disasters affecting at least some of the original and expansion districts. PAIMAN relied on the services of local NGOs to implement its programming in areas of hostile insurgency. The substantial demographic, cultural and linguistic variance in the 24 districts required that PAIMAN attend to the suitability of interventions for the intended beneficiary populations. Additionally, the passage of the 18<sup>th</sup> amendment to the country's constitution, while only now being implemented, nevertheless changed the thinking about strategies for strengthening district-level health systems that would be sustainable under new administrative lines of authority.

## **FUTURE STRATEGIES**

PAIMAN should not be continued in its present form. It has served its purpose. The GOP should address future efforts for continuity and scale-up of the successful PAIMAN interventions by first investing in a critical causal analysis to find the factors that can be changed to prevent perinatal mortality at the community level. These factors will be socio-economic and based in equity (particularly gender), and will be related to disparities in health and nutrition. The GOP should widen the scope of interventions to include the reproductive health of youth, including healthy timing and spacing of pregnancies, delay of age at first marriage, and the special needs of the primigravida woman, who must be viewed differently by her family and in-laws. The focus on increasing skilled attendance for delivery at both community and facility levels has been proven to be an important strategy for reducing both maternal and neonatal mortality. The idea of "midwife in community" is an ideal approach. However, the current approach to training the CMWs is fundamentally flawed in terms of educational quality and opportunities for supervised hands-on clinical training by the trainees, and by the lack of follow-up and supportive supervision in the community (as is explained in greater detail in this report) and must be deliberated to improve its quality before any positive impact could be anticipated.

## **GENERAL RECOMMENDATIONS**

### **Exit Strategy and Future Directions**

1. Extend funding for technical assistance and monitoring of MNCH interventions (particularly in the 14 expansion districts) for at least two years to transition from project to government ownership and to strengthen and consolidate PAIMAN Project inputs. The FET recommends supplementing internal technical resources with international experts who could continue to assist in the design, implementation and monitoring of the Clinical Nurse Midwife program.
2. Support phased graduation of districts out of the technical support system according to a check-list of evidence-based capabilities.



3. Increase program and project spending on interventions at the community level (e.g., community support groups, community NGOs) that lead to sustainable outcomes.
4. Establish a rigorous joint monitoring team, including province, district and local officials along with staff of the MNCH, to sustain improvements and maintenance of the infrastructure development projects funded by PAIMAN and to identify future projects. A monitoring system of this nature would make infrastructure development more attractive to the GOP and to other donors.
5. Focus in-service training of community health workers on community integrated management of childhood illness (C-IMCI) since impact on beneficiaries at the community level is greater. Continue the process of integrating the IMCI curriculum into pre-service training (e.g., medical and nursing schools.)

### **Missing Elements for Consideration in Future MNCH Programs**

6. Increase the emphasis on reduction of low birth weight as an intervention to benefit both mothers and newborns (the present rate is 31%).
7. In subsequent projects, introduce a new emphasis on premarital youth or at least increase the focus on the primagravida/newlywed.
8. Introduce nutritional supplements to primagravida women with low body mass index.
9. Introduce multi-micronutrient sprinkles to all primagravida women, or at least iron/folate to all women 19 to 25 years of age, given that the prevalence of micronutrient deficiency is so high in the communities served.
10. Support development and finalization of the National Nutrition Strategy and incorporate it into MNCH.
11. Encourage and fund research and evaluation of all key MNCH programs and interventions (including the communication and advocacy component), and use a comparison group design wherever possible in order to increase the possible attribution of effect.

## **RECOMMENDATION SPECIFIC TO THE STRATEGIC OBJECTIVES**

### **SO1. Increasing Awareness and Promoting Positive Maternal and Neonatal Health Behaviors**

12. Sustain women's support groups and increase membership to include young girls and young women.
13. Consider expanding community-level consultations for the development of new communication material (including formats) and for establishing monitoring of their reach, appropriateness and utility. Local development and even production would allow greater sensitivity to the demographic, ethnic and linguistic profile of the communities in which they will be used. The detailed formative research<sup>2</sup> done by PAIMAN for the first phase was useful in developing messages and content. It could be more useful if it were linked to local materials and media development as well.
14. Do formative research in all districts preceding communication and media interventions as each poses different problems of beliefs and practices.
15. Mass media approaches can be effective in creating behavior change but are not invariably so. Evaluate the impact on behavior change of various communication and media strategy mixes and materials to identify those which have the greatest cost effectiveness in the Pakistan country context.

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<sup>2</sup> Formative research done for the first 10 districts was not available to the FET for the districts of the second expansion phase.

## **SO2. Increasing Access to Maternal and Newborn Health Services**

16. Explore a variety of options for increasing the proportion of private sector partners in the delivery of maternal and newborn health services, with particular outreach to providers who reside in rural and hard-to-reach areas. These options could include variations of voucher schemes or other public insurance mechanisms.
17. Continue the emphasis in future TBA training on topics that evidence has demonstrated are useful and appropriate in the context of their practice, including but not limited to recognition of danger signs, referral, clean delivery, and the elements of essential newborn care. Promote and enhance partnerships between TBAs and the public and private health providers and systems to increase the degree to which referrals between the community and facility settings are encouraged.
18. Establish appropriate budget and accountability policies and mechanisms to ensure that ambulance vehicles that have been transferred to District Health Departments and that are operated by the local community at the health facility level continue to be equipped and immediately available for emergency transport purposes.
19. Establish and/or confirm budget and accountability policies and mechanisms that allocate and reserve a fixed portion of the health services budget directed to facility and equipment maintenance and enhancement, not subject to re-allocation to other purposes.

## **SO3. Increasing Quality of Maternal and Newborn Care Services**

20. Design and implement a quality assessment (QA) process to verify the retention of learning as an essential component of all training programs. Integrate this QA process into a longer-term continuous quality improvement (CQI) initiative. Ensure that both QA and CQI strategies include documentation of skills as applied in the workplace.
21. Design and implement a continuing education program integrated and coordinated with other MNCH and national health programs to reinforce and update the skills and knowledge of community-level health workers.
22. Continue a focus on training in infection prevention for all health providers, in all health facilities, including content on proper disposal of medical waste, as appropriate for the health care setting.
23. Identify and enhance the education of LHWs, CMWs, and LHVs on perinatal care to include additional supportive strategies to prevent maternal deaths:
  - Reduction of anemia
  - Reduction of malaria in pregnancy, screening for TB/UTI/STD, etc.
  - Family planning for healthy timing and spacing of pregnancies

## **SO4. Increasing Capacity of Maternal and Newborn Health Care Providers**

24. Suspend admissions to the NMCH CMW program for a period of up to two years. During that time, refocus the program so that it is in full alignment and compliance with current international standards for direct-entry (community) midwife programs.
25. Educate a robust body of midwifery educators, well skilled in both teaching and midwifery clinical skills, and ensure their placement in each school of CMW education, preferably before additional enrollments are authorized.
26. Create a separate regulatory body for all categories of midwives educated in the country (e.g., a Pakistan Midwifery Council), with authority and leadership vested in midwives, rather than in professionals of other disciplines.
27. Design and test feasible models for supervision of the community midwife in practice, preferably in alignment with existing public-sector supervision strategies, with supervision provided by individuals qualified to provide clinical and technical guidance and support in the functional role of midwives.

28. Promote strong collaborative linkages with colleges and universities involved in the education of midwives to craft an education career ladder for midwifery professionals.
29. Define the role and responsibilities of the office staff of the Executive District Officer (EDO) Health and MNCH program at the district level for the CMW cadre to increase accountability and to strengthen this private-public partnership.
30. Define a method for including CMW statistical data into the District Health Information System (DHIS) so that a true picture of community-based maternal and neonatal morbidity and mortality can emerge (see SO5 #32, below).

### **SO5. Improving Management and Integration of Services at All Levels**

31. Extend the decision space analysis to the MNCH program by training local researchers in its use. Use the results to identify the specific weaknesses in the health system in each district or tehsil, and design training and other interventions that are aligned with those particular weaknesses.
32. Discuss with the Japanese International Cooperation Agency (JICA) the update of some of the indicators in the next iteration of the DHIS; one in particular—antenatal care (ANC) I coverage—would be meaningful if it reflected the WHO standard of four visits. The FET recognizes that a new indicator will not have a precursor for comparison. Nevertheless, continuing to collect data on an indicator that has little meaning is a waste of time and money.
33. Challenge each District Health Management Team (DHMT) to develop ways to integrate NGO data into their system, possibly by inviting local NGOs to participate quarterly in the DHMT meetings and report on findings in remote areas. The same might be considered for private sector data (including CMWs).
34. Use the experience of PAIMAN MNCH to examine interventions that would facilitate the process of integration of the MOH and the Ministry of Public Welfare (MOPW): joint training, joint M&E tools and indicators, application of decision space analysis broadened to encompass both ministries at the Provincial level, etc.
35. Sponsor a study of system streamlining at the community level that would improve the efficiency of all vertical programs by identifying areas of synergy and collaboration in order to reduce resource demands.
36. Encourage (or require) all MNCH-sponsored programs that operate concurrently to work collaboratively in the design of all program elements ( e.g., BCC and training materials) in the interest of avoiding duplication of effort and promoting harmonization of approaches. Encourage this same approach to be adopted by all international donors who contribute to the MNCH program portfolio. This includes the conduct of population baseline studies within provinces and districts.



# **I. INTRODUCTION**

## **PURPOSE OF THE EVALUATION**

The purpose of this evaluation is to provide the United States Agency for International Development's Mission to Pakistan (USAID/Pakistan) with an independent end-of-project evaluation of its Maternal Newborn and Child Health (MNCH) program. The MNCH program has been managed by USAID's Health Office and implemented under a Cooperative Agreement by John Snow International (JSI) Research and Training Institute, Inc., in partnership with Save the Children-U.S., Aga Khan University, Contech International, Greenstar Social Marketing, Johns Hopkins Bloomberg School of Public Health Center for Communications Programs (JHU/CCP), Population Council, and the Pakistan Voluntary Health & Nutrition Association (PAVHNA).

The Final Evaluation was commissioned to assess the effectiveness of the program components and, where possible, the resulting impact on morbidity and mortality. The Final Evaluation Team (FET) understood its role to document lessons learned, identify areas where the Government of Pakistan (GOP) could provide continuity in services and scale up those services, and make recommendations to both USAID and the Pakistan Initiative for Mothers and Newborns (PAIMAN) (and indirectly to the GOP) regarding elements of the project that were in need of strengthening prior to being scaled up.

The objectives of the evaluation assigned to and expanded by the FET are to:

1. Assess whether the MNCH program has achieved the intended goals, objectives, and outcomes as described in the Cooperative Agreement and its amendments and work plans;
2. Evaluate the effectiveness of key technical inputs and approaches of the MNCH program in improving the health status of mothers, newborns, and children compared to baseline and mid-term health indicators where available;
3. Explore the impact of PAIMAN's technical approach on maternal, neonatal, and child morbidity and mortality in at least the 10 districts originally covered by the project, as much as possible with the current available data; and
4. Review the findings, conclusions, and recommendations, and provide brief suggestions and/or options for ways in which project components might be strengthened or continued and scaled up by the GOP's health entities (Ministry of Health [MOH], Ministry of Population Welfare [MOPW], provincial and district counterparts).

Findings and recommendations will be used to ensure that USAID's MNCH program serves the overall objective of improving MNCH in Pakistan in the most effective way.

## **EVALUATION METHODOLOGY AND CONSTRAINTS**

The evaluation was conducted in August and September 2010. The FET was composed of Stephen Atwood, Team Leader; Judith Fullerton, Maternal Health Specialist; Nuzhat Samad Khan, BCC/Community Mobilization Specialist; and Shafat Sharif, Field Specialist and Logistics. The latter is the Director of Eycon, a local firm hired to provide administrative and logistics support and to conduct interviews in areas of the country that could not be reached by the international members of the FET. The team used a variety of methods and materials to gather information and assess the effectiveness of the PAIMAN Project.

### **Team Planning Meeting**

During an initial two-day team planning meeting (TPM), the FET (1) reviewed the Scope of Work (SOW) to clarify the objectives and tasks essential to the evaluation, (2) identified and prioritized key

informants for interviews according to their involvement in the PAIMAN Project, (3) developed semi-structured interview guides with evaluation questions suitable for each category of key informants from National Government partners to the community, (4) developed a calendar and timeline for completion of tasks and deliverables, and (5) drafted an outline for the final report, with sections assigned to different members of the team. A travel plan for field visits was developed in conjunction with the team member from Eycon, who arranged logistics and scheduled appointments for these visits, a process that continued throughout the evaluation period. The FET joined with the USAID/Pakistan team in a videoconference with GH Tech at the end of the TPM to review plans and materials.

## **Review of Background Documents**

With the support of the PAIMAN partners, the local USAID mission, and GH Tech (who opened a project space site for the dissemination of the materials), the FET was able to identify and review an extensive list of briefing documents, many of which were provided in the week before the arrival of the team in Pakistan. At the request of the FET, the organization and prioritization of this list was done by the USAID mission in conjunction with PAIMAN in order to focus the limited time of the FET for this activity. Documents were constantly added to the list, some of them used for background and baseline, others for assessment of achievements (Appendix C: Documents Reviewed).

## **Data Gathering**

Data were gathered using various methods from a number of different sources. The methods included document and media review, interviews and in-depth discussions, site visits and observation, focus group discussions, and informal group discussions. The data collected by the FET were both qualitative and quantitative. All quantitative data were secondary; qualitative data were both primary and secondary.

### **Quantitative Data**

Among the sources of quantitative data were the individual 2005 baseline surveys of PAIMAN districts, 2008 baseline surveys from other projects (e.g., Family Advancement for Life and Health [FALAH]), PAIMAN Mid-term Evaluation, the Mid-term Evaluation of the Improved Child Health Project in Federally Administered Tribal Areas (FATA), and the PAIMAN District Health System Strengthening Endline Evaluation. Data were also available from the national, province, and district Health Information System (DHIS) cells and from other partners. Recent data were used from the 2006-07 Pakistan Demographic Health Survey, the 2008 Multi-Indicator Cluster Survey 2007-08, the Pakistan Social & Living Standards Measurement Survey (PSLM) 2006-07, 2008-09, and individual district level reports prepared by the DHIS cells. There were three endline evaluations shared by PAIMAN: *Endline analysis of decision space, institutional capacities and accountability in PAIMAN districts* (in draft) by researchers from the Harvard School of Public Health and Contech International with a publication (2010), the *District Health System Strengthening – Endline Evaluation* completed in 2010 by Contech International and published by JSI, and a PowerPoint presentation of preliminary findings from the Population Council's *PAIMAN Evaluation: Baseline 2005 & Endline 2010 Household Survey* (the evaluation document was yet to be finalized). These documents, supplemented by other data sources, including operational research results commissioned by the project and a series of baseline surveys done in each of the original ten PAIMAN districts, formed the significant sources of quantitative data.

### **Qualitative Data (both primary and secondary)**

The major sources of primary data were derived from the key informant and group interviews, including Focus Group Discussions (FGDs) at the community level and interviews with local nongovernmental organizations (NGOs) for information on the community events within the PAIMAN districts and for feedback on the media campaign in both PAIMAN and non-PAIMAN districts. Qualitative responses

were quantified in the baseline KPC surveys done in the original ten PAIMAN districts and in the *Process Evaluation of Community Mobilization Activities* carried out by The Population Council. In addition, many of the quantitative sources mentioned above included qualitative data, some of it quantified during analysis.

## Comparison Districts

In addition to measuring changes in Maternal, Neonatal and Child Health (MNCH) status in the PAIMAN districts from the onset of the project until its conclusion, the FET identified a number of comparison districts in order to compare the results with non-PAIMAN districts. This was done as a last-minute attempt to correct a gap in the evaluation design as there was, otherwise, no clear way to attribute causality to PAIMAN interventions for measured changes. A matrix was developed of all districts in the provinces of the country using a triangulation method developed by Chambers (Chambers, R., 2008). Three independent observers, each with longstanding knowledge of the country, were asked to identify districts that could be used for comparison—preferably drawn from the same division as the PAIMAN district in question. They were asked to use any criteria they found useful for comparison. On the basis of this triangulation, 19 districts were chosen. Basic MNCH indicators used to measure progress in PAIMAN districts were then compared from both groups of districts to see if there was a measurable difference between PAIMAN and non-PAIMAN districts.

## Site Visits

The evaluation team, facilitated by interpreters provided by Eycon and PAIMAN, traveled to districts identified by PAIMAN in conjunction with USAID/Pakistan. In all, the FET visited four of the original ten PAIMAN districts (i.e., Rawalpindi, Jhelum, Khanewal, and Multan), all in Punjab Province. To expand the review, they intended to visit one district from the expansion phase of PAIMAN (i.e., Mardan) in Khyber Pakhtunkhwa (KPK) province, but a volatile security situation prevented that visit. Eycon was able to send staff to two less accessible districts (i.e., Buner and Lasbela), one in KPK and the other in Balochistan. Finally, the team made an impromptu trip to two non-PAIMAN facilities in the vicinity of Islamabad: the Rural Health Center (RHC) Bhara Khu in Islamabad Rural and the Basic Health Unit (BHU) Tret in Tehsil Murree, District Rawalpindi. They also visited available officials (e.g., MNCH, DHIS) and key institutions, including nursing and medical schools, (e.g., National Programme for Family Planning and Primary Health Care [NPFPPHC]) in Lahore and Multan. The site visits to Rawalpindi, Jhelum, Islamabad Rural, and Tehsil Murree were each one-day visits. The visit to Khanewal and Multan via Lahore was made in a four-day trip.

The basic pattern of each site visit was to:

- Meet with the Executive District Officer (EDO) Health with his team;
- Tour a renovated facility (i.e., District Headquarters Hospital [DHQ] or Tehsil Headquarters [THQ] hospital) and a nursing/midwifery school;
- Visit a local NGO sub-contracted to the project;
- Sit in on a community women's support group; and
- Visit a CMW in her home and/or birthing center.

Key informants were interviewed using the semi-structured interview guides developed by the FET. The pattern of these visits was augmented by focus group discussions with community members organized by PAIMAN and run by Eycon staff to assess the access and acceptability of services provided through PAIMAN support to the government, by planned discussions with clients of the CMW as well as with men and other members of the community. The routine—well prepared and well organized by PAIMAN staff in each instance and taking into consideration both programmatic and security requirements—tended to lose spontaneity and precluded the FET from making impromptu visits to communities and

other institutions that were not on the itinerary. The FET was not able to observe a men's community group, although the Eycon team met with a group of men gathered for the purpose of discussion. Throughout, observations were made and noted of the environment for both health care providers and patients/clients, and the community as a whole: solid waste disposal (particularly of needles and syringes) by the CMWs, working conditions, and hygiene in local neighborhoods.

To cover as much ground as possible in the short time spent in each district and because several interviews were scheduled for each day, the FET formed two teams in some instances to visit a number of facilities, coming together for the CMW visit. Most interviews were carried out in English. Where interpretation was needed, it was provided by Eycon or PAIMAN.

The focus group discussions held by Eycon in the districts it visited were conducted by women trained by Eycon, using an interview guide developed by the FET and translated into Urdu for greater understanding by both the group facilitators and respondents. To guarantee that the discussion could be noted by one of the facilitators at all times, two facilitators ran each group. The results were summarized, translated back into English and submitted to the FET in Islamabad.

A complete list of officials and key informants interviewed in government offices, regulatory bodies, hospitals, health centers, training institutions, consortium organization offices, and other development partner offices is presented in Appendix B. The following table shows the stakeholders interviewed by the evaluation team, including those by Eycon during the evaluation process.



**Table I. Categories and Numbers of Stakeholders Interviewed by the FET**

<b>CATEGORY</b>	<b>Number</b>
<b>Government Officials</b>	
Federal Level	7
Provincial Level	4
District Level	40
National Programme Manager	2
<b>Partner Organizations (Consortium)</b>	8
<b>Sub-grantees</b>	4
<b>Independent Consultants</b>	2
<b>Midwifery Associations &amp; Consultants</b>	5
<b>PAIMAN</b>	10
<b>Physicians</b>	10
<b>Medical Assistant</b>	1
<b>Lady Health Visitor</b>	1
<b>Lady Health Worker</b>	3
<b>Community Midwife</b>	3
<b>Traditional Birth Attendant</b>	2
<b>Community Members</b>	
Male	42
Female	65
<b>Nursing/CMW School Principals</b>	5
<b>Community Midwife Students</b>	5
<b>Religious/Prayer Leaders</b>	3
<b>Focus Groups</b>	3
<b>Women's Support Groups (with women</b>	5

### **Constraints and Concerns**

The limited number of people interviewed in some categories reflected the security situation in the country, which limited the mobility and flexibility of the FET. This was arguably one of the most difficult times in the history of Pakistan to conduct this evaluation. The worst flooding in the history of the country started with flash floods in the Northwest at the beginning of the month, less than a week before the FET arrived. The conditions throughout the country continued to worsen, with one-fifth of the country affected from the far north and northwest to coastal communities in the south: the entire length of the Indus River and its tributaries. More than 20 million people were affected, as many as 8 million displaced (as many as half of them without shelter), and millions were without food and living in highly unsanitary conditions with outbreaks of cholera, dysentery, and other infectious diseases that contributed regularly to the death rate.

In addition, security in the country was also a critical concern before the flood situation, leading to limitations in the number of districts that could safely be visited. This concern increased with the bombing at the sacred site of *Data Darbar* in Lahore a month before the FET was to arrive. During the month:

- There were suicide bombings in Peshawar, Lahore and Quetta.
- The situation in Karachi was tense, with regular killings reported in the news.
- Aid workers participating in the humanitarian effort, particularly those from the United States (US), were threatened by Taliban and other insurgent groups intent on blocking the GOP's relief efforts in favor of their own.

The planned day trip to interview officials in Mardan was canceled following bombings in Peshawar, less than 62 km (40 miles) away. In addition, security forces were necessarily drawn into the relief operations for the floods. Air safety during the monsoon was also called into question, with a commercial jet crashing into the Margalla Hills approaching Islamabad International Airport on 28 July, killing all 152 aboard.

Finally, the religious observation of Ramadan started a week after the team arrived, leading to a reduction in hours per day that government offices were open. (Budget restrictions had already led to closure of all government offices on Saturdays and Sundays.) Additionally, government officials and development partners in Islamabad and the provinces were almost uniformly involved and preoccupied with flood relief.

The result was that appointments with government officials, particularly outside of Islamabad, were difficult to make and were considered tentative until the time the visit actually occurred. Project districts in Sindh were unreachable because of the floods, as were many in Balochistan. Impromptu access to communities and community members in all districts, but particularly those in the north and northwest, were constrained by security concerns, and even major cities such as Karachi, Peshawar, and Lahore posed risks to the FET. Anxiety about air travel during the monsoon led to changes in logistics. The FET was accompanied by an armed security detail throughout their three days in Multan and Khanewal, and on their drive back from Multan to Lahore en route to Islamabad.

## II. BACKGROUND

### MATERNAL AND NEWBORN HEALTH IN PAKISTAN

Pakistan's population is estimated to be over 177 million people, the sixth largest country in the world (CIA, 2010). Pakistan is considered to have achieved a medium level of human development (UNDP, 2009) although slightly more than 60% (60.3%) of the population lives on less than \$2.00 per day. The country ranks 99<sup>th</sup> of 109 countries in the global measure of gender empowerment (UNDP, 2009).

**Table 2. Population Demographic Indices**

Indicators	Figure (source)
<b>Population</b>	
Population growth rate	1.513% (1)
Adult literacy rate	52.2% (2)
Males	67.7%
Females	39.6%
<b>Maternal health</b>	
Maternal mortality rate	2.6/1,000 live births (3)
Proportion of births with skilled attendance	39% (3)
Postnatal care within 24 hours of birth	22% (3)
<b>Neonatal and young child</b>	
Neonatal mortality rate (NMR)	54/1,000 live births (3)
Infant mortality rate (IMR)	64.3/1,000 live births (1) 78 (3,4)
Under-five mortality rate	94 (3)
<b>Morbidity indicators</b>	
Expanded Program of Immunization (EPI) (measles vaccine coverage)	79% (5)
Stunting	37% (6)

(1) CIA, 2010 (2) UNDP, 2009 (3) PDHS, 2007 (4) UNICEF, 2010 (5) PSLM, 2008-9 (6) National Nutrition survey, 2001-2002

Pakistan is signatory to the Millennium Development Goals (MDGs), which stipulate that the country's maternal mortality ratio (MMR) be reduced from 550 per 100,000 in 1990 to 140 per 100,000 in 2015. The MMR was 276 per 100,000 live births nationwide in 2006-07 (PDHS; 2007), with a much higher rate in rural areas (e.g., 856 in Balochistan) (World Population Foundation, 2010). More than 65% of women in Pakistan deliver their babies at home. Key determinants of maternal health include under-nutrition, early marriage and childbearing, and high fertility (Khan et. al., 2009). The leading causes of maternal mortality are similar to those experienced worldwide and include obstetric hemorrhage, eclampsia and sepsis (Jafarey, 2002).

The infant mortality rate for the country varies by citation (Table 2). A recent study of the causes of neonatal mortality indicated the primary obstetric causes of neonatal death were pre-term labor (fetal immaturity) and intrapartum asphyxia, both of which are potentially preventable or treatable conditions (Imtiaz et. al., 2009). Neonatal sepsis in the first week of life accounts for an additional 14% of all early neonatal mortality and increases to 47% of all late neonatal deaths (PDHS, NIPS, 2007). Fifty-eight% of neonatal deaths occur in the first 72 hours of life, the same period that the incidence of maternal deaths is highest. Neonatal deaths account for 69% of all infant mortality and 57% of under-five mortality—a proportion that is increasing as infant and under-five year old deaths slowly decrease over time

(Shadoul, et.al., 2010). Of concern to the Government of Pakistan (GOP) is that these rates (MMR, IMR, NMR) have changed very little over the past decade, a significant challenge to achieving the MDGs.

The majority of Pakistan's citizens receive health services through the private sector (71%) in both rural and urban settings (PSLM 2008-09). This is a reflection of the low investment the GOP has made in health (i.e., only 29.7% of total health expenditures are from the GOP) and the high out-of-pocket expenses (i.e., 57.9% of all expenditures are out-of-pocket) (WHO 2008). Public health care services are provided in service delivery settings established under the authority of the MOH (health care across the lifespan) and the MOPW (reproductive health, family planning). Although services are provided free of charge in the public sector, informal charges are often levied. Service availability is further limited due to understaffing (including a lack of female providers), limited hours of service, and material shortages.

The private health sector offers primarily curative services, largely on a fee-for-service basis. Private maternity facilities offer 24-hour normal and operative delivery services for women and newborns, and tend to attract the largest proportion of patients from all socioeconomic groups. This sector has been described as loosely organized and largely unregulated. The FET heard of some private sector practitioners, many of whom are also providers in the public sector, diverting public resources into their own clinics and undermining the effective administration of public facilities in order to reduce competition from that side.

Traditional birth attendants (TBAs) attend half (52%, PDHS) of home childbirths in the country. The GOP acknowledges that this cadre will continue to function for the foreseeable future. However, there is both vision and commitment to forge stronger alliances with the public sector maternal, newborn and child health providers, including midwives, Lady Health Workers (LHWs) and Lady Health Visitors (LHVs), who function at the community level, and with government-employed midwives and physicians, who offer facility-based services.

Responsibilities for management of health services were transferred out of national-level ministerial control in 2001. During the tenure of the PAIMAN Project, districts served as the basic administrative units for health and were charged with planning, budgeting, managing and implementing health services. Public Health Policy "Amendment 18" has altered that management structure. Provincial health offices will assume administrative responsibility in the near future (further discussed in Section V) although the degree of responsibility and accountability to be retained at the district level is still being determined.

## **USAID/PAKISTAN HEALTH SECTOR ASSISTANCE**

USAID's health program in Pakistan supports 10 of the 12 health and population objectives outlined in the GOP's Ten-Year Perspective Development Plan 2001–2011. The Government of the United States and the GOP signed an initial agreement in 2003, through which technical assistance would be provided to help the MOH, the MOPW, provincial and district governments, and the private sector to implement program activities. In consultation with the GOP, USAID agreed, as part of its larger health portfolio, to support provincial government programs to improve maternal, neonatal, and child health outcomes. The FY2009 project portfolio budget for health was approximately \$254 million.

The health program, which began in 2003, supports activities to improve MNH services, promote family planning, prevent major infectious diseases (HIV/AIDS, tuberculosis) and increase access to clean drinking water. The program is implemented throughout the country in underserved rural and urban districts in Sindh, Balochistan, Punjab, the Northwest Frontier Provinces, and the FATA. USAID, working through its implementing agencies and consortia, maintains close communication with other international donor agencies that are involved in similar work so that programming can be distributed across the country and not duplicated within single provinces or districts.

**The Pakistan Initiative for Mothers and Newborns (PAIMAN)** is USAID's flagship program in health. The project was initially designed to improve quality healthcare services for pregnant women and newborns, including inputs to pregnancy timing and spacing (activities shared in part with the FALAH project). In later years, the focus expanded to include the young child (an unduplicated program focus). PAIMAN is a seven-member consortium under the leadership of John Snow Research and Training Institute. The program timeline was October 2004 – September 2009, extended through December 2010, with a funding portfolio of \$92,800,000.

**The Family Advancement for Life and Health (FALAH)** project addresses the need to increase and improve family planning services in 20 districts. The project is aimed at integrated family planning services both in the private and public health sectors. Program activities aim to increase the overall family planning market; therefore, they include activities such as community mobilization, capacity building of health providers, and family planning service delivery. This project complements the PAIMAN Project through its focus on healthy timing and spacing of pregnancies. FALAH is a nine-member consortium headed by The Population Council. The program was initiated in June 2007 and will end prior to its original date of May 2012. The project funding portfolio was \$48,424,566.

Two additional projects that incorporate maternal, child and family health within their focus have completed or are soon completing their program of work:

- **Pakistan Safe Water Initiative and Hygiene Promotion**, under the leadership of Abt Associates, offered technical assistance in hygiene and sanitation promotion, community mobilization, and capacity building to complement the GOP's installation of water treatment facilities nationwide. This project, with a budget of \$22,858,961, was inaugurated in October 2006 and began its close-out in March 2010.
- **Technical Assistance for Capacity-building in Midwifery, Information and Logistics (TACMIL)** was a two-year activity that aimed to strengthen capacity to deliver quality MNCH care services in Pakistan. TACMIL focused on improving the skills and competencies of community midwives, as well as the institutional capacity of training institutions, resources, and professional organizations. The TACMIL project ran concurrently with PAIMAN from December 2007 to December 2009, and worked collaboratively with PAIMAN in several capacity-building activities for tutors who served the Community Midwife Program. TACMIL's budget was almost \$11,000,000.

USAID works collaboratively with other international agencies to create a wide profile of programming that focuses on the country's burden of disease and impact family health. The following programs are illustrative:

- **Strengthening response to Tuberculosis and enhance the quality of the directly observed treatment strategy program in Pakistan**  
This program complements the activities of the country's national Tuberculosis (TB) control program. It aims to strengthen coordination and supervision of TB-focused activities at provincial and district levels by improving laboratory capacity; conducting advocacy, communication and social mobilization activities; and establishing referral links between public and private sectors. The WHO serves as project lead for this (estimated) \$11,700,000 program operating over the timeline July 2009 through July 2012.
- **Pakistan Polio Eradication Initiative**  
The program provides assistance to national polio immunization campaigns to eliminate polio from Pakistan. WHO (lead partner) and the United Nations Children's Fund (UNICEF) contribute to this ongoing programming, which was initiated in September 2004. Current funding totals \$1,800,000, with an additional \$3,000,000 in field support to WHO and \$3,000,000 in field support to UNICEF.

- **Pakistan HIV/AIDS Prevention and Care Project**

This program worked in selected cities of Pakistan (including FATA) to complement the activities of the Government's National AIDS Control Program by delivering preventive and treatment services. The program, headed by Research Triangle Institute, ran from February 2006 through June 2009, with a funding level of \$3,300,000.

- Although not through USAID, the US Department of State announced the first phase of a 3-year, \$28,000,000 **Signature Health Program** for Pakistan in July 2010. The program will undertake three projects for the renovation and construction of medical facilities, which will serve as clinical sites for service delivery and the education of health providers.

## **ASSISTANCE FROM OTHER DONORS IN MATERNAL AND NEWBORN HEALTH**

### **Direct Assistance**

Several donor agencies and international organizations support the Pakistan MNCH program. Several of these collaborating agencies have selected similar or parallel interventions to improve maternal and neonatal health, using different approaches to implementation. A communication and collaboration network has been established among them so that activities can be aligned to reduce duplication within the various provinces and so that strategic approaches can be standardized. Health donors meet on a monthly basis. An MNCH technical advisory/interest group has been formed, but has become less active recently (USAID/P, 2010).

The **Government of Norway** is funding a major mother and child health project in ten districts of Sindh province (the Norway-Pakistan Partnership Initiative) from 2009 through 2013. The 250 million kroner (US\$40.6 million) project is being implemented in collaboration with the MOH by the United Nations Population Fund (UNFPA), UNICEF, WHO and other national partners.

**UNICEF** supports a maternal and newborn project in 17 districts (UNICEF, 2010). UNICEF works within the MOH to support program activities in MNCH, EPI, family planning and primary health care. UNICEF works with the GOP national AIDS control program, the Health Management Information System (HMIS) unit, and the nutrition wing. The agency also engages with the Pakistan Nursing Council (PNC) in association strengthening activities.

**UNFPA** supports reproductive health and safe motherhood activities in ten districts of the country. UNFPA programming is primarily focused on training in reproductive health and safe motherhood best practices. The UNFPA and the International Confederation of Midwives (ICM) have a collaborative program focused on strengthening professional midwifery associations. The UNFPA/ICM project is also positioned to provide consultation to countries that wish to develop or revise midwifery programs according to international standards. A regional country consultant has been placed in Afghanistan.

**The United Kingdom Department for International Development (DfID)** places 33% of its Pakistan portfolio into the health sector. It provides direct budgetary and technical assistance support to the national MNCH program (DfID, 2010) in support of programming designed to improve access to maternal and newborn services through provider (including community midwife) training and behavior change communication strategies. DfID's contribution to the national MNCH program is approximately £90 million (US\$140.8 million) for the period 2008–13; £69 million (US\$107.9 million) for direct support and £22 million (US\$34.4 million) for technical cooperation through two funds: the Technical Resource Facility (TRF) and the Research and Advocacy Fund (RAF). This accounts for half of the MNCH budget. Prior programs in health, nutrition and infectious disease control are in the final years of funding; future

investment in these focus areas is presently being deliberated. DfID provided additional support to health through a variety of multisectoral and humanitarian support programs.

**The World Health Organization** provides policy and technical assistance support for reproductive health, including family planning and targeted MCH activities (WHO, 2010). WHO played an integral role in assisting the GOP in developing its MCH strategy, including consultation on the initial design of the community midwife program.

### **Indirect Assistance**

**Additional international development partners** offer indirect assistance to Pakistan's MNCH priorities through parallel or integrated programming that affects maternal, neonatal or child health.

- The **Government of Australia (AusAid)** is reportedly providing Aus\$24.3 million (US \$21.9 million) for technical cooperation activities; the funding is unrestricted, so could be directed to MNCH needs.
- The **Canadian International Development Agency (CIDA)** has selected Pakistan as one of its 20 focus countries under the terms of its aid effectiveness agenda (CIDA, 2010). This agenda is primarily focused on economic empowerment in pursuit of the country's poverty reduction strategy. CIDA also focuses on children and youth through support of gender-equitable education programming. CIDA's focus on maternal and newborn health is indirect.
- The **Japanese International Cooperation Agency (JICA)** offers technical assistance to the Pakistan Institute of Medical Science in health research related to safe motherhood. Other health programs are related to TB and polio control, and the expanded program of immunization (JICA, 2010). JICA also funded the development of the District Health Information Management software, through which MNCH indicators are tracked.





### III. OVERVIEW OF THE PAIMAN PROJECT

#### PROGRAM DESIGN AND IMPLEMENTATION

Begun in 2004, the PAIMAN Project is aimed at accelerating the GOP's progress toward achievement of MDGs 4 and 5 (reduce child mortality and improve maternal health, respectively). Data indicated that the peak incidence of maternal deaths and child deaths was occurring during the same period: the perinatal period from the onset of labor through the first week of life. The emphasis, therefore, was initially on interventions that would improve the outcome of labor, delivery and the immediate post-partum period for both mother and newborn. The key to reducing maternal and neonatal mortality was to improve a woman's access to skilled midwifery care "at her doorstep" through the creation of a cadre of community midwives and to improve her access to health care facilities of good quality with adequate measures taken to facilitate referral as needed.

In order to create an enabling environment for improving the health care of women and newborns, the project developed a strategic framework called *The Pathway to Care and Survival*. The four steps of the *Pathway* took into consideration all of the elements of the "Three Delays<sup>3</sup>" that impact the safety of the birthing process.

In the Pakistan context, these delays translate into five interrelated problems faced by women and children:

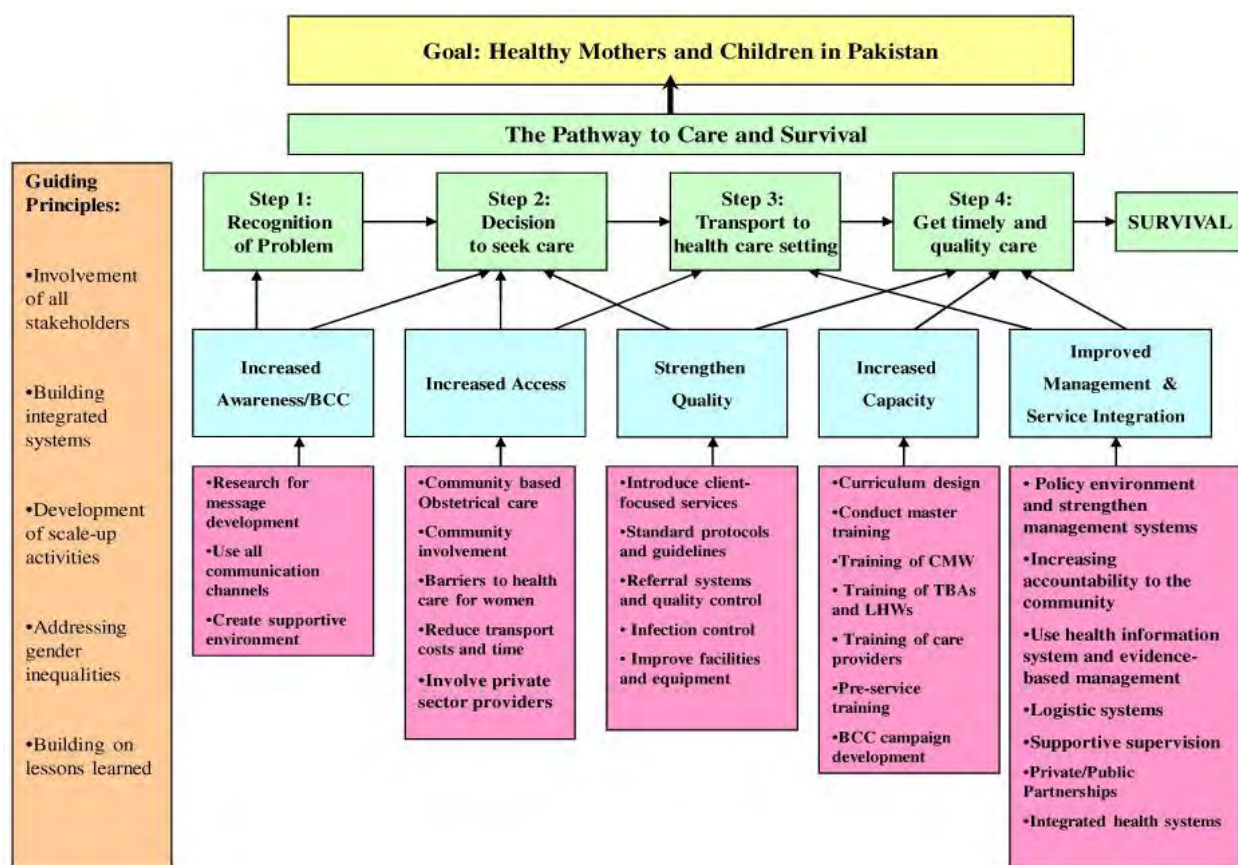
1. Lack of awareness of risks and appropriate behaviors related to reproductive and neonatal health issues, resulting in poor demand for services;
2. Lack of access (both geographic and socio-cultural) to and lack of community involvement in MNCH services;
3. Poor quality of services, including lack of adequate infrastructure in the health facilities;
4. Lack of individual capacity, especially among skilled birth attendants (SBAs); and
5. Weak management environment and lack of health services integration.

PAIMAN defined the following program goal and objectives to address each of these problems and went further by identifying expected outcomes to mark the achievement of each.

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<sup>3</sup>(1) delay in the decision to seek care, (2) delay in reaching a facility capable of providing care, and (3) delay in receiving quality care at the facility.

**Figure I. Pakistan Maternal and Newborn Health Programs Strategic Framework**



## PAIMAN PROGRAM GOAL

To reduce maternal, newborn, and child mortality in Pakistan, through viable and demonstrable initiatives and capacity building of existing programs and structures within health systems and communities to ensure improvements and supportive linkages in the continuum of health care for women from the home to the hospital.

## OBJECTIVES AND OUTCOMES

### 1. Increase awareness and promote positive maternal and neonatal health behaviors.

*Outcomes:*

- Enhanced demand for maternal, child health, and family planning services through a change in current patterns of health-seeking behavior at the household and community level.
- Increased practice of preventive MNH-related behaviors.

### 2. Increase access (including emergency obstetric care) to and community involvement in maternal and child health services and ensure services are delivered through health and ancillary health services.

*Outcomes:*

- Higher use of antenatal and postnatal care services, of births attended by skilled birth attendants, contraceptive use, tetanus toxoid coverage, enhanced basic and emergency obstetric care and reduced case fatalities.
- Reduced cost, time and distance to obtain basic and emergency care, ultimately saving newborn and maternal lives.

### **3. Improve service quality in both the public and private sectors, particularly related to the management of obstetrical complications.**

*Outcomes:*

- Greater utilization of services to improve maternal and newborn health outcomes.
- Decreased case-fatality rates for hospitalized women and neonates.

### **4. Increase capacity of MNH managers and care providers**

*Outcomes:*

- Increased skilled attendance for deliveries in the target districts.
- Decreased case-fatality rates for hospitalized women and neonates.

### **5. Improve management and integration of services at all levels.**

*Outcomes:*

- District MNH plans and budgets available.
- HMIS information used for MNH decision making.
- Better coordination between public, private, and community health services.

## **SCOPE, DURATION, AND FUNDING**

The life of project was originally from 8 October 2004 to 30 September 2010, with an initial funding level of US\$49,943,858. However, both the funding and the life of project changed over the course of the project, with various amendments to the original Cooperative Agreement between USAID and JSI. In December 2007, PAIMAN expanded activities in the Federally Administered Tribal Areas in Kyber and Kurram Agencies and Frontier Regions Peshawar and Kohat. PAIMAN also began working in the Swat district in April 2008.

The major change came in September 2008, at the time of the Mid-term Review, when the Agreement was amended to increase funding by US\$36,556,143, which, along with other amendments, brought the total project funding to US \$92,900,064. This increase was to cover geographic expansion (i.e., it added 14 more districts, bringing the total to 24 districts) and to extend the project by one year to 30 September 2010 (which later, through a no-cost extension, was further extended to 31 December 2010.) At the same time (i.e., July 2008), JSI received a formal letter from USAID requesting it to extend its programmatic activities to include “an effective child health delivery strategy...through an Integrated Management of Newborn and Childhood Illness (IMNCI) approach, including immunization, nutrition, diarrheal disease and acute respiratory infection (ARI) management.” In the same letter, PAIMAN was asked to extend *already on-going* activities in the ten original districts (including the integration of family planning counseling and service delivery with antenatal and postnatal visits and community support group activities) to those districts where the new to 15 border districts were being selected for expansion.

The decision to expand the project to more districts rather than extend it deeper into the districts already chosen was in keeping with the second phase plan as described in the original Cooperative Agreement.

## SELECTION OF DISTRICTS

The original ten districts were selected by the GOP in negotiation with PAIMAN and USAID/Pakistan. The expansion districts (14) were selected in much the same way but reflected USAID's expressed interest in extending the full range of PAIMAN activities into 10 to 15 remote and vulnerable districts in Balochistan, Khyber Pakhtunkhwa, Azad Jammu and Kashmir, where access to MNCH services was severely limited.

## BENEFICIARIES

From the beginning, the project has worked with communities, government, and local NGOs to strengthen maternal, neonatal, and child health to increase the health status of women and children. PAIMAN originally identified beneficiaries of the program as married couples of reproductive age (15-49) and children less than one year of age, and later added children under five years of age. It was estimated that the program would reach an estimated 2.5 million couples and nearly 350,000 children under one year of age in the first 10 districts, and an additional 3.8 million couples and 570,000 children under five years of age in the additional 14 districts.

## IMPLEMENTATION

The project was based on eight major inputs:

- A Communication, Advocacy and Mobilization (CAM) strategy based on quantitative and qualitative research and literature review that would focus on empowering communities to make appropriate choices in health-seeking behavior. This would be done through a combination of media events, formation of community-based committees, private sector outreach, and sub-grants to local NGOs.
- Establishment of a new cadre of Community Midwives drawn from the communities they would serve. They would be trained in an 18-month program with a follow-up of 3 to 5 months of practical experience and then returned to their communities and paid a temporary modest government stipend to help them become established as private practitioners within the community.
- Creation of Community Birthing Centers to bring access to safe delivery to the community and emergency transport schemes to facilitate transfer of complicated cases to the nearest emergency obstetric care (EmOC) facility.
- Training of TBAs, who are responsible for 52% of deliveries in the country, in safe-delivery techniques and recognition of danger signs requiring immediate referral.
- Up-grading selected facilities at the district and tehsil levels in order to create an environment for SBAs to work in.
- Training a variety of providers in normal deliveries, essential maternal and newborn care, comprehensive emergency obstetric and neonatal care (EmONC), the use of the partograph, and active management of the third stage of labor, infection prevention, and IMNCI.
- Strengthening health systems at the district level in recognition of the responsibilities for health care delivery that had recently been devolved to that level, which required establishment of multi-sectoral District Health Management Teams (DHMTs) and leadership and management training. This also required that the HMIS system be revised and a new District Health Information System be developed and rolled out.

- Integration of services, initially by coordinating inputs from both MOH and MOPH, and also by looking at ways to converge vertical national programs within the MOH for greater efficiency.

## MONITORING AND EVALUATION

The PAIMAN Monitoring and Evaluation (M&E) Plan cites as its five purposes to:

- Track implementation of project activities as planned and suggest corrective actions where needed;
- Document and disseminate lessons learned from project planning and implementation;
- Evaluate the impact of the project on maternal and neonatal health status;
- Provide evidence regarding the effectiveness and reliability of interventions for possible scale-up; and
- Increase the capacity of the health system, especially at the district level, to monitor and evaluate MNH activities.

Five primary MNH *outcome indicators* were selected in coordination with the then-current USAID strategic framework. The five indicators were:

- Percent of births assisted by skilled attendants;
- Number of (ten total planned) district referral facilities upgraded and meeting safe birth and newborn care quality standards;
- Percent of women aged 15-44 who received three or more antenatal care visits during last pregnancy;
- Percentage of women who report having a postpartum visit within 24 hours of giving birth; and
- Percentage of pregnant women who report receiving at least two doses of tetanus toxoid (TT) during last live birth.

One additional indicator was proposed by PAIMAN that was outside the USAID strategic framework:

- District health facility budgets show an increase of 50% or more over life of project (all sources excluding USAID).

The indicator percent of births that occurred 36 or more months after the preceding birth (i.e., healthy timing and spacing of pregnancy) appears in the M&E plan as a USAID SO 7 indicator, but does not appear to have been tracked by PAIMAN; reporting on this indicator is not readily identified in project reports and documents.

The Population Council was engaged as the project partner tasked with M&E functions. The Council retained primary responsibility for project evaluation, including baseline and endline household surveys and the conduct of special operational research studies. Aga Khan University was engaged as a country-based partner for the conduct of special assessments and (later) to design and conduct evaluative research studies. Project partner Contech International conducted the baseline and endline facility surveys envisioned in the M&E plan, and also conducted an assessment of the impact of the systems strengthening activities (SO5) of the project (which would have included the sixth outcome indicator noted above).

The M&E plan states that the purpose of program monitoring activities was to enable the tracking of progress toward achievement of program targets across all activities. The responsibility for routine program monitoring of *output indicators* was devolved to other collaborative partners over the project lifetime. A Routine Monitoring of Output Indicators (RMOI) system was developed in the interest of standardization of definitions and a common data standard for tracking 17 output indicators, some of

which are also cited in the project M&E plan. Project partners, in their turn, used a variety of computerized databases to collect RMOI data, including the (then current) Health Management Information System, the newly emerging District Health Information System, the Lady Health Workers Management Information System, and information from concurrently implemented programs, such as the Expanded Program on Immunization. Additional “soft-copy” records—such as health facility records, quality review and training checklists, NGO grant reports, and reports from private partners (e.g., private doctors, NGO sub-grantees, and CMWs in community practice)—enriched the fund of available information.

PAIMAN also kept very close account of the vast number of program activities (*process indicators*) that were proposed in annual work plans and detailed in annual reports. The Mid-term Evaluation (MTE) team recommended that PAIMAN turn its attention to the use of these data for decision-making, rather than simply counting activities performed. This recommendation was particularly timely as the MTE was conducted just prior to program expansion. PAIMAN had the opportunity to review the usefulness, efficiency and effectiveness of its interventions, and be selective in the types of programs that it would take forth for implementation in the 14 new districts as it negotiated contract modifications with USAID. Nevertheless, the vast majority of programs were replicated in the new districts, and new activities in child health were added. Annual reports indicate programmatic amendments only in the event of security situations, natural disasters, and an unstable national or regional political environment.

Reporting and recording on each of these three sets of indicators was noted by the MTE team to be fragmented and uncoordinated. The FET noted a similar diffusion of information. More importantly, the organization of reports and visual presentation of project outcomes differ from the project M&E plan in both the statement of the 37 objectively verifiable outcomes and the definition of outcomes delineated in that document. The FET spent several hours in an attempt to track information in various evaluation reports and documents that could be matched to the indicators cited in the M&E plan. The attempt was not successful for a substantial number of indicators. Some were differently defined in various documents. Some reports used baseline data that differed from the information presented in the M&E plan. (For example, the indicator “percent of births assisted by a skilled attendant” is reported in the endline survey as having increased from 41.3% at baseline to 52.2% at endline. The baseline figure cited in the M&E plan is 35.5%, with reference to the same pre-post household survey as the data source.) Other indicators simply could not be identified in the documents reviewed, although that does not discount the possibility that they were perhaps tracked, recorded and reported. Nevertheless, this finding does reflect the fact that the implementation of M&E was not in conjunction with the plan, which has an adverse impact on overall knowledge management for the project.

The date of publication of the M&E plan is January 2007. The scope of work in the later years of the PAIMAN Project was modified to amend the maternal newborn project to activities that would create an integrated maternal, newborn, and child health project. The original plan includes only a single indicator for family planning (contraceptive prevalence rates for modern methods) and no indicator for child health beyond the neonatal period. PAIMAN states that a revised M&E plan with additional indicators on child health and family planning was submitted to and approved by USAID. (This document was not among the materials provided to the FET; information was shared in post-evaluation correspondence.) These additional indicators include six items related to the distribution of contraceptive commodities and procedures; three indicators that track stillbirths, low birth weight and neonatal deaths; and seven indicators related to well-child assessment and treatment of childhood disease. The USAID-funded FALAH birth spacing project was running concurrently in many of the same PAIMAN districts, but outcomes of that project should be separately attributed. Mortality estimates available to the FET (full endline analysis not completed at the time of the visit) indicated improvement

(i.e., reduction) in perinatal, early neonatal and neonatal deaths for both skilled and unskilled birth providers, though only the reduction in early neonatal and neonatal deaths may be significant.

Program evaluation activities, including operations research, were proposed to assess whether interventions had led to actual changes in both conditions and behaviors (*project impact*) and to assess whether new approaches are effective for adoption and scale-up. Accordingly, authors of the project's M&E plan state that the plan was designed with the intention that it be able to define cause-and-effect relationships of the various project activities. The question arises, therefore, why the M&E plan did not propose from the outset to conduct a within-and-between-groups analysis of PAIMAN districts in comparison to demographically comparable non-intervention districts. The possibility to attribute an effect to PAIMAN interventions is severely constrained by this omission.

One very useful product of the M&E strategy was the generation of a profile of each of the ten PAIMAN districts, using geographic information system (GIS) mapping. These data offer a clear picture of the design of the health system at the district level, which should surely be useful for district management, planning and decision-making. The GIS reports present information on the location, staffing, and functioning of both public and private health systems, as well as information on resources at the community level (e.g., LHWs, Community Citizen Boards [CCBs], functioning of NGOs).

## RESEARCH

### Special Studies

Over the term of the project, several special studies were conducted which served a utilitarian purpose and were complementary to the routine project M&E agenda. Some of these studies are briefly described below for illustrative purposes:

- The Harvard School of Public Health, in collaboration with Contech International, conducted a study of the decision-making capacity of district-level health managers to assess their readiness to take on responsibilities related to district-level administrative tasks. Results of this *decision space analysis* were used to inform the system-strengthening components of the project (discussed in section SO5) and to shape the capacity-building training agenda (Bossert et. al., 2008). This study used a baseline and endline design with comparison districts.
- Contech International also conducted the baseline and endline assessment of health facilities. These data were used to inform the selection of facilities that would be upgraded via PAIMAN Project activities and then to attempt to attribute the positive impact of these upgrades in terms of utilization. Although it did not use comparison districts, it attempted to match results from PAIMAN up-graded facilities with other facilities in the same district that had not been upgraded.
- PAIMAN's behavior change communication media component was the subject of a special evaluation report. This study assessed the effectiveness of exposure to various media-based community outreach strategies and their effect on knowledge, attitudes and practices related to key maternal and neonatal health behaviors.
- The overarching communication, advocacy and mobilization strategy was itself evaluated, including a special focus on the effectiveness of outreach to religious prayer leaders (*ulamas*) on their knowledge of and attitudes toward maternal and child health issues.
- A very pragmatic assessment was conducted concerning the effect on knowledge acquired by participants who received a 7-day versus those who received an 11-day training in Community IMCI (C-IMCI) to inform the format and sequencing of training to be conducted in the future.

## Operations Research

The M&E plan proposed the conduct of operational research studies that would be designed to focus clearer attention on the effectiveness of PAIMAN interventions. To date, three operational research studies have been completed; results of a fourth study will be released in the near future. This list may not be all-inclusive, as project partners may have conducted other studies that are less prominent in their dissemination.

- The effect of Dai training on maternal and neonatal care (Population Council, 2010) explored the longer-term outcomes on knowledge and practice among dais who had been involved in an 8-day training program conducted in DG Khan. The content of this training focused on improving the ability of dais to recognize danger signs, conduct clean deliveries, and monitor the health status of mothers and their newborns in the immediate postpartum period. The results of this study are discussed in SO2.
- A qualitative study was conducted to assess the potential acceptability of the CMWs among rural residents of Pakistan. Results of this and the following study are discussed in SO4.
- An assessment of the CMW program was conducted, using both qualitative and quantitative approaches. The assessment addressed knowledge and skills retained and demonstrated, following graduation from the basic training program and establishment of the CMW practice.
- The details of the fourth operational research study are forthcoming, and full details were not available to the FET. The intervention tested in this study is inclusion of misoprostol as a component of the clean delivery kit. The availability of this temperature-stable oral uterotonic (Gülmezoglu et al., 2007; Sutherland et. al., 2010) would enable the practice of active management of the third stage in a wider variety of birth settings, including the home.

## Research Agenda

Aga Khan University (AKU) was engaged as a project partner to conduct more formally designed research studies that would help to determine the impact of PAIMAN interventions. Knowledgeable informants indicated that USAID expressed substantial reluctance to the inclusion of formal research into the M&E plan. Moreover, AKU was initially required to work through the PAIMAN M&E partner, rather than receive independent funding for a program of research; this caused a substantial delay in the initiation and implementation of some research activities. Proposed comparative research designs were most adversely affected because of the delay in documentation of baseline figures. Nevertheless, a substantial number of applied research (cluster randomized trials) and operational research studies have been conducted, and results from a majority of these studies have been reported. Results of other studies are anticipated by the end of the 2010 calendar year. The following list, though not exhaustive, is illustrative of these studies.

- Five PAIMAN districts across the county are each being compared to two control districts in an assessment of the impact of upgrading health facilities to promote care seeking and improvements in maternal, newborn, infant and under-5 morbidity and mortality.
- Contributory causes of stillbirths have been explored.
- Several studies of nutritional supplementation, exploring the added value of selected micronutrients (maternal vitamin D, neonatal vitamin A), have been initiated.
- The effectiveness of chlorhexadine as a prophylactic agent in newborn cord care has been assessed.
- Various interventions for early treatment of childhood diarrhea and pneumonia have been evaluated.



## MANAGEMENT AND ORGANIZATIONAL STRUCTURE

JSI Technical and Research Institute, Inc. (R&T) was the prime partner of PAIMAN in a consortium that began with seven partners and was then reduced to five at the mid-term of the project<sup>4</sup>. As Prime, JSI was responsible for the technical, administrative, and financial management of the Cooperative Agreement with USAID. Senior management included the Chief of Party (COP) and Deputy Chief of Party. PAIMAN had two COPs, and its last (and current) was a Pakistani national. The current Deputy COP is the only US national in the organization. All other members of the organization were Pakistani. Mid-level management includes Directors of Programs and Grants, Administration and Finance, a Technical Advisor for M&E, and indirectly, the five Country Directors of the Consortium Partners. All but the Administration and Finance Directors reported directly to the COP. Directors of Administration and Finance reported to the Deputy Director. The Table of Organization showed 90 posts, not counting the consortium partners.

JSI senior management was located in the main office in Islamabad. The country offices of the consortium partners were also in Islamabad and were maintained separately from the PAIMAN office. Even staff seconded to the PAIMAN Project maintained their office in the consortium partner country office, as many were involved in other development work outside of PAIMAN. The exception to this was the advisor from JHU who sat in the PAIMAN office as JHU did not have a Pakistan country presence. PAIMAN had provincial offices in each of the six provinces in which it worked, each headed by a JSI staff person as Field Operations Manager (FOM). As in Islamabad, the technical staff of consortium partners assigned to the provinces worked in their respective offices, although all PAIMAN activities in the province were coordinated by the FOM. There were five District Coordinators assigned to each of the provinces with the exception of FATA, where there was a Program Coordination Officer in the provincial office.

Decision making in PAIMAN is largely centralized in Islamabad and passed down to the provinces. While this has the danger of creating an unresponsive top-down structure, most felt that the situation was redeemed by the leadership style of the COP. Still, the FET found instances where centralized decisions were neither sensitive to nor adapted to district and community differences. The creation of this organizational atmosphere, while efficient for decision making and useful in moving project implementation forward on a fixed time-line, may not have yielded the most effective programmatic results and may even have resulted in some inefficiencies as not all training, construction, supplies, or management directives were tailored to the needs of the personnel across the highly varied landscape of the districts. On at least one occasion, the management was advised to adapt to local conditions but did not: the baseline finding of the decision space analysis noted that the individual needs of the districts were so varied that a one-size-fits-all approach would not be effective.

While some management decisions may have been called into question by participants, GOP, and even members of the consortium, the FET heard uniform praise for the COP's leadership of the project and commendation for the COP's ability to keep consortium partners working harmoniously together and with their counterparts in the national, provincial and district governments.

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<sup>4</sup> As mentioned above, the original consortium was composed of JSI with Save the Children-U.S., Aga Khan University, Contech International, Greenstar Social Marketing, Johns Hopkins Bloomberg School of Public Health Center for Communications Programs (JHU/CCP), The Population Council, and the Pakistan Voluntary Health & Nutrition Association (PAVHNA). PAVHNA and Greenstar left the project at the mid-term.

## Financial Management

PAIMAN was implemented by JSI Research & Training in collaboration with its seven consortium partners (four local and three US-based). Financial management, therefore, was done by the finance team of JSI, who coordinated with the financial managers of the resident partner organizations and also oversaw the grant activities of the sub-grantee NGOs in the project. PAIMAN produced quarterly reports that included a section in each on program management, including finances. In addition, there were quarterly financial reports submitted to USAID, monthly statements made to JSI/Headquarters (HQ), and periodic visits and reviews by the finance office from JSI/HQ in Boston. In this administratively highly complex project, the finance office provided guidance to and facilitated financial management of partner organizations, sub-grantees, provincial offices, and other staff relating to sub-awards and sub-grants. In doing so, it reviewed, processed, and approved all expenditures of the project and disbursed monthly stipends to the CMW students. There were only two audits done: a performance audit, including sub-grantees in February 2007, and a mid-term assessment performance audit in June-July 2008. There have been none since then. Audit reports were not available to the FET.

The project had an initial funding level of US\$49,943,858, which increased over the course of the project as 15 amendments were added to the original Cooperative Agreement between USAID and JSI. The first of the major budget increases came in December 2007, when PAIMAN expanded its budget by US\$4 million for activities in FATA. This was followed in March 2008 by an additional US\$2.3 million for an expansion into the Swat district. These two brought the total project budget to US\$56,243,857. PAIMAN began working in the Swat district in April 2008.

The major budget expansion came in September 2008, at the time of the mid-term review, when the Agreement was amended to increase funding by US\$36,556,143, which, along with other amendments, brought the total project funding to US\$92,800,062. This increase was to cover geographic expansion (i.e., it added 14 more districts, bringing the total to 24) and it extended the project by one year, to 30 September 2010 (which later, through a no-cost extension, was further extended to 31 December 2010). An addition of US\$100,000 in March 2009 for increased security brought the budget to its present level of US\$92,900,062. This budget included a US\$4,096,684 cost-share to be generated by JSI and the consortium partners, with more than half to be paid by JSI and JHU/CCP.

The Consolidated Budget is divided between management costs (including salaries, overhead, travel, and equipment), program costs and sub-recipient grants. The document in the Appendix is confusing as it details the budget breakdown of JSI Research & Training Institute, Inc., but does not provide a detailed budget of overall PAIMAN expenditures. What is missing from the Consolidated Budget are the details of the consortium partner budgets, which are aggregated in a single line under Program Costs: *Sub-recipients*. Despite frequent requests, a breakdown of this line was not available. Without having the detailed budgets of the consortium partners, it is not possible to determine the relative allocation of funds against approved Program lines, including allocation of funds to hospital renovations and purchase of ambulances, in order to allow comparison between the amount invested in infrastructure versus that invested in the training of health professionals, communication, M&E, etc.

Having said this, the *available* figures indicate that management costs accounted for 20% of the budget, while Program costs were 46%, and sub-recipients (i.e., budgets allocated to Consortium Partners), 34%. The Program budget for JSI, which is not the same as for the whole PAIMAN Project, is divided between approved budget line items as follows (with percentage of program budget in parentheses):

- Health System Strengthening (9.52%),
- Hospital Renovation (28.15%),

- Communication (10.95%),
- Training (18.04%),
- Medical Equipment (8.69%),
- Baseline/Endline Survey (0.54%),
- Program Support Activity (4.84%),
- Hospital Waste Management (0.22%),
- Monitoring & Evaluation (0.08%), and
- Sub-grants (18.98%).

Clearly, the highest priority for JSI programmatic funding went to hospital renovation, with sub-grants and training second and third, respectively. A total of 126 sub-grantee agreements were issued with approximate approved budgets totaling \$6.8 million. Monitoring and Evaluation received the lowest share of the budget. It is not possible to say if these allocations represent a change over the past two years since the mid-term evaluation given that the figures in the mid-term included the disaggregated program budget lines of the consortium partners.

Changes in proportions of budget expenditures can reflect alterations in the priorities of the project driven by programmatic or financial pressures, or they may reflect the dynamics of program expenditures with front-loading of expenses for communication and training, for example, matched by the slower uptake of construction projects in the more prolonged timetables of hospital renovations. In this case, the expansion into 14 additional districts increased construction costs at a rate higher than other line items.

As of June 2010, the unspent portion of the budget was estimated to be US\$527,266, although revisions in August 2010 put that figure closer to US\$2.4 million<sup>5</sup>. This, along with USD\$151,184 unspent in the FATA districts, amounts to approximately 2.75% of the total budget. This degree of spending over a 6-year period and for such a monetarily large project was reflected in a burn rate of US\$1.2 million per month in the 24 PAIMAN districts (not including FATA). The burn rate (monitored carefully by both PAIMAN and USAID/Pakistan) was US\$1.1 million at mid-term, and, although the project increased 1.5 times in the number of districts, the expenditures per month remained essentially the same.

Although the cost-effectiveness of interventions was not measured during the life of the project, there is intent to do so at its conclusion using final finance figures and results of research studies measuring the effectiveness of PAIMAN interventions. Although this clearly is too late to influence programming decisions for PAIMAN, it will be useful for subsequent decisions by other MNCH programs.

## Grants Management

PAIMAN's sub-grant awards to indigenous NGOs signaled its interest in building local capacity and extending its reach into underserved communities where there were no government workers (in this case, LHWs) in place. In the first half of the project (starting in 2006), sub-grants were awarded to 37 provincial and district/community NGOs. PAIMAN had intended these grants to be for two years (2006-2008) and was intending to phase them out by the end of 2008. However, in 21 instances, work being done by the NGOs was extended by one to two years. There were an additional 55 grants awarded in the second half of the project (2009-2010) after expansion, although support was not confined to the new districts in the expanded project. Some grants were given as 1- to 2-year extensions of already

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<sup>5</sup> US\$1.5 million has been allocated for Pakistan Flood Relief, leaving US\$900,000 unspent.

funded grantees. Awards were approximately US\$30,000 to US\$40,000 per year, though some of the later second-half grants were half of that. PAIMAN also granted an award of US\$959,608 to a US-based NGO (Mercy Corps) for community mobilization in Balochistan. This NGO did not continue its work for the second half of the project, as all community mobilization activities were consolidated under another US-based NGO, Save the Children-US. In total, the allocations to sub-grantees were US\$6,869,656. Projected end-of-project expenditures were US\$7,761,843 for a budget overrun of US\$892,187.

PAIMAN had instituted a transparent process for selecting NGOs to support with sub-grants. The process noted in the Mid-term Evaluation of widely publicizing the request for proposals, organizing pre-proposal workshops for the NGOs to explain the application and selection processes, and comprising selection committees of representatives of JSI, local communities, and district and provincial health officials to make the final selection was reportedly followed throughout the project to select 11 additional NGOs in Swat and 44 NGOs in the remaining 14 new districts. Selected NGOs went through training organized by JSI on program and financial management and communication skills that included technical information about MNH.

There was a standardized scope of work given to each of the NGOs that included community mobilization in non-LHW areas, including the formation of women's support groups, improving emergency transportation, orientation of TBAs, TT vaccination campaigns, and strengthening routine EPI through tracing and reaching defaulters, organizing free medical camps, and providing support to new Birthing Centers staffed by the CMWs.

Each NGO collected its own data on communities that were not being served by the public system and hence were outside of the DHIS. These data included information on births and birthing centers, immunization coverage, and vulnerable groups. Though the data may have assisted the NGO in its local decision making, because they were not being collated or aggregated as a part of the DHIS format, they did not fit effectively into that component of the District Health System Strengthening scheme. This may be understandable as the data collection methods of each NGO differed, which could lead to differences in the quality of data as well. PAIMAN reported that despite this, the data did not go unused: the NGO data were compiled at the national level (outside of the DHIS) and then shared back through PAIMAN quarterly reports and during district coordination meetings on a monthly basis. The degree to which these data were useful for district-level decisions was not clear.

The FET interviewed selected groups of NGOs in Islamabad, Rawalpindi, Khanewal, Multan, Buner, and Lasbela to gauge their participation in PAIMAN and to understand what elements of the project they valued or were concerned about. They uniformly valued the institutional capacity development that was a part of the project and the resulting expansion in knowledge. This was a very successful part of this project.

They did, however, express concern about the extension of work and sustainability of gains when PAIMAN was closed. Some had already started searching for replacement funds when PAIMAN grants were coming due; others were prepared to fall back on institutional funds that had sustained them before PAIMAN gave them their grants. Some were surprised to learn that the COP of PAIMAN (a member of the Board of Directors of the National Trust for Population Welfare [NATPOW]) approached NATPOW for support to sustain the activities of NGOs in underserved areas. NATPOW requested a list of sub-grantee NGOs, which was officially handed over to them. They have their own selection procedure and intend to contact the NGOs listed with the potential of registering some of them for NATPOW support.

The point is this: NGOs from the community (assuming they were not being created by PAIMAN) were in the community before PAIMAN and will continue their work in the communities after PAIMAN is finished. They are accustomed to fund-raising, for this is how they have survived to the present. Furthermore, with the increased skills, recognition and connections provided by their participation in PAIMAN, they are more likely to sustain themselves in the future. Of the many interventions of PAIMAN, this is likely to be one of the most sustainable in terms of upgrading services to vulnerable communities.

## **RELATIONSHIPS, COORDINATION, AND COLLABORATION**

PAIMAN was a consortium of seven partners, which presented its own challenges to coordination and communications. Major credit for the success of the PAIMAN collaboration will definitely go to the leadership, which seemed to be the main binding force. The evaluation team had the opportunity to meet or talk to the CEOs of each of the consortium partners. Respondents were unanimous in their opinion that each partner was provided a level field in terms of feedback on their proposed work plans, follow-up on activities, and some policy matters. However, it was the opinion of some that certain achievements at the partner level were not given due credit. It was also noted that partners were not invited to most meetings with the donor; these meetings were led by JSI and JHU/CCP.

Some partners pointed out that an exit strategy was never discussed at meetings. Keeping a year's extension in view, there was enough time to bring the exit strategy to the table. An exit strategy was provided to the FET, but the degree to which each consortium partner contributed to its development is unclear. Despite the complex nature of the project, which required implementation from policy to community levels, it was managed well. For example, when impediments occurred at the project-implementation level in provinces, the leadership demonstrated the capacity to resolve them expediently. This led to the perception that decision-making was a top-down process. One person commented: “[T]he process was very democratic, but decisions at times came as a surprise to partners.”



## **IV. TECHNICAL COMPONENTS**

### **SOI. INCREASING AWARENESS AND PROMOTING POSITIVE MATERNAL AND NEONATAL HEALTH BEHAVIORS**

#### **Communication, Advocacy, and Mobilization Strategy and Media Campaign**

JHU/CCP, a PAIMAN consortium partner, was responsible for the development of the design and strategies for the behavior change and the communication component of PAIMAN.

Key activities designed to increase awareness and demand for MNCH services were:

- Home visits and small group activities, such as LHW home visits and support groups, and private sector interpersonal communications (IPC);
- Theater events and health camps at the community level;
- Mass media initiatives (TV drama, video, advertisements, music videos);
- Community-based committees, e.g., community board (CCB); and
- Advocacy to government officials at all levels, journalists, and religious leaders.

Activities were implemented through four partner organizations: (i) JHU, which provided technical assistance for the development of mass media and innovative interventions; (ii) Save the Children, which conducted training for LHWs and community workers responsible for dissemination of the messages at the community and household level; and (iii and iv) PAVHNA and Mercy Corps, which collaborated in the first phase of the project. The activities of the latter two were undertaken by local NGOs, who implemented these same activities in selected districts.

#### **The Communication, Advocacy and Mobilization Strategy**

Project documents note that PAIMAN's CAM strategy was based on the outcomes of formative research conducted among the intended beneficiaries in the original ten districts of the project. The CAM strategy appeared to be well designed in terms of the target audiences, key messages, strategies and media to be used for dissemination, and in its plan for wide coverage of the population. However, extensive interviews with stakeholders and a thorough review of the PAIMAN products made it evident that lessons learned from previous campaigns in the country may not have been optimally used at the production stage. Despite the fact that the intended outcomes of the CAM strategy had been well drafted, some of the messages failed to make a desired impact because the "complete product" failed to convey the messages as intended. For example, the Behavior Change Communication (BCC) Media Evaluation Report by JHU/CCP mentions that only one third of the respondents in the survey reported being exposed to at least one episode of the drama series, but the overall exposure to the drama series was very low; therefore, viewers received only a very limited number of intended messages.

Moreover, although a national implementation plan had been defined, due importance was not given to the suitability of the national plan among smaller provinces and ethnic groups. The commercial spots prepared for different ethnic groups were not presented in the local languages, but only mimicked the style of non-Urdu speakers. The young actors who portrayed the characters in various commercial spots imitated residents of cosmopolitan cities of Karachi or Lahore. This character profile did not resonant with a majority of the intended rural recipients of the messages. The evaluation inferred that activities set and designed in large urban centers were not appropriate for the multicultural, multilingual scene in Pakistan. Therefore, beneficiaries in the smaller provinces were unable to recall these messages—leading to a negligible response to questions of message recall in many districts of smaller provinces.

Target Groups for the CAM strategy included:

- Traditional Birth Attendants (TBAs) and medical providers,
- Women of Reproductive Age,
- Decision-makers (husbands, family members, and influential members of the communities), and
- Advocates (government officials, *ulamas*, and journalists).

The sub-grantees had a substantial role in the CAM strategy in terms of mobilizing the community to take part in events. For example, sub-grantee outreach workers made individual home visits to invite community members to Health *Melas* (health fairs), which had a large attendance, demonstrating their popularity. On the other hand, ensuring participation of currently married women of reproductive age in regular support groups was difficult, given cultural constraints in certain communities that restrict the mobility of women outside of their home.

## **Dissemination to Outreach Workers**

### **Lady Health Workers**

LHWs are a government-supported network of outreach workers in PAIMAN districts. They are present in roughly 40% of villages. PAIMAN provided a 5-day training for LHWs in BCC methodology. The LHWs reported that they very effectively introduced support groups into their routine work. Community support groups met every two weeks to give women the opportunity to discuss problems, issues, and solutions to their own health needs. LHWs also conducted home visits and provided family planning, iron supplements, and other simple medicines. They gave women the opportunity to address concerns they may not otherwise have wanted to share. PAIMAN succeeded in training an already functioning cadre of government field workers to be behavior change agents. The support group strategy was a very effective medium for women to use for discussing health issues. It also provided a social venue in which women were able to meet outside of the house, often providing the only culturally acceptable opportunity to do so.

PAIMAN reported in its life-of-project target document that 47,653 support groups were formed, 437,396 support group meetings were held, and a total of over 4 million beneficiaries were reached. These numbers could not be substantiated by the FTE in any objectively verifiable manner. An estimate cited in one of the project documents was that 61% of beneficiaries of the CAM strategies were reached by LHWs. This intervention appeared to have the most impact and to be the most sustainable as the LHW is a government cadre and works within a well-structured network.

### **NGO Sub-grantees**

Sub-grants were provided to 92 local NGOs, which were tasked with accessing underserved residents of deeply rural communities not currently reached by LHWs. These NGOs implemented MNH outreach activities such as local events and community theater in their communities. NGO representatives reported that they had developed a cadre of approximately 740 CHWs, whose function was the same as the LHWs. NGOs were also instrumental in initiating Citizen Community Boards (CCBs) to respond to community needs (NGO activities to increase access to services by the underserved are covered under SO2).

### **Community-based Committees**

PAIMAN piloted four different types of community-based committees to promote messages based on the needs of pregnant women, newborns and young children:

- Village Health Committees (VHCs) consisted of men who help LHWs to carry important MNCH messages to other men in the community, particularly to non-supportive husbands.



- Facility-Based Health Committees (FBCs) created linkages between the community and the facility in collaboration with facility-based Quality Improvement Teams (QITs) in order to communicate to the community what level of health service might be most appropriate in time of need.
- QITs and FBCs were both aimed at improving links between communities and the nearest health facility, but the special role of QITs was to focus on the standards of care in the facility so that the health care required for a woman (or family members) could be of a high quality. The goal of QITs was to become a sustainable CCB that could assist communities to better access quality care.
- CCBs were government-recognized committees that received funds from district governments to help them deal with local issues. CCBs received 80% of the funding they required from the district but had to raise 20% within the community. However, the sustainability of CCBs is questionable, given the rollback of the local government program (including the budget that had been allocated for CCBs) in the districts, subsequent to Amendment 18.

## **Strategies for Dissemination of the Messages to the Communities**

### **Mass Media (videos and film)**

PAIMAN produced five commercials that were aired on national television for a 3-month period of time, on at least a daily basis during prime time. A 13-episode video drama series was produced and also aired on Pakistan TV. The videos were presented sequentially over a period of three months and repeated several times during that period. These media materials were launched at very public “mega-events” in order to draw attention to their release and stimulate interest in their dissemination. A feature film was produced, but, to date, only promotional clips have been viewed by a limited audience.

Of the informants interviewed outside the urban settings, few were able to recall health-related messages from the mass media. However, the number interviewed was too small to allow generalizations to be derived from the findings. Another consideration applicable to this low recall may relate to inconsistent power supplies, which limit access to electronic mass media. The film itself has not been distributed for general viewing because of mixed reviews when the promotional video was shown. On the basis of the evaluative information available at this time, the cost-benefit of this approach is questionable.

### **Theater**

Street theater and puppet shows are a traditional form of community entertainment. These CAM strategies were implemented by local NGOs during local events such as fairs or focal point gatherings. Community theater, particularly puppetry, had been used by other health programs and was thought to be an effective tool for communicating information because it was more likely to reflect the profile, language and interests of the community in which it was performed. The disadvantage of this form of media is in its limited audience reach, dependent as it is on a very high human resource commitment. The number of beneficiaries reached by this CAM strategy could not be ascertained by the FTE, so it was difficult to say what impact it might have made. Moreover, this outreach strategy had not been formally evaluated by PAIMAN in terms of effectiveness. The few community members interviewed by the FET could not recall the messages.

### **Community Events**

PAIMAN also sponsored larger-scale events such as health fairs or medical camps, during which health messages were disseminated. Project documents from 2008 indicate that a total of 395 of these events resulted in outreach to some 82,500 individuals. While these events helped promote PAIMAN’s assistance to the MOH and the availability of improved MNH services in the area, their impact on uptake of messages had not been evaluated, and the reach was low compared to the work of LHWs and CHWs. However, health fairs in rural areas may improve access to needed services (e.g., TT

vaccinations, antenatal checkups) and increase a community's belief in government-run services generally, which may enhance the value of this type of event.

### **Private Sector Outreach**

Greenstar, a consortium partner in the first half of the project, had promoted its Good Life private sector clinics (discussed further under SO2) through a variety of mass media (TV spots, billboards) and IPC activities. Greenstar's commitment to the PAIMAN Project was to ensure that private providers conducted free service days to encourage uptake of services by disadvantaged women in their catchment area. The challenge was to reach rural areas, where women had less access to quality services, as Good Life clinics were mainly urban.

### **Advocacy**

The PAIMAN Project strategized an outreach to groups—including members of the local government, *ulamas*, and members of the print media—that could influence and mobilize opinion. Messages were distributed to members of these groups through personal and organizational contact, and through orientation and training events that focused on the MNCH messages that PAIMAN hoped these groups would then transmit to others in their domain of influence. The FET thought this could be an effective strategy in order to achieve increased awareness of MNCH issues and enhance commitment to improving the situation for mothers and newborns because of the magnitude of the potential audience reach.

### **Prayer Leaders and Ulama**

Friday prayers include a sermon that offers advice and guidance. Friday prayers are largely attended by all men in the community; therefore, including MNCH issues during Friday prayer sermons was an innovative and potentially effective CAM strategy. An evaluation conducted to assess the effectiveness of this strategy (JHU/CCP, 2010) indicated that men paid attention to these messages. Therefore, when such issues as the responsibility of men to safeguard pregnant women were highlighted with the support of quotes from the Quran and *Sunnah*, the messages were expected to have a greater impact. This CAM strategy was noted to be particularly creative and important, given the difficulty in reaching this target audience (men) through other activities.

### **Conclusions**

The intended beneficiary population was very extensive and included a large number of target groups to be reached via an equally large number of activities and events. Some of these innovative strategies had the potential to have a substantial impact.

The project had been using means of outreach to the various community groups that had been found effective in other settings; however, individual events in individual community settings have likely not reached the number of the population that would be sufficient to produce evidence of a behavioral change. Mass media approaches can be effective in creating behavior change but are not invariably so (Wakefield et. al., 2010) and depend on a successful and simultaneous mix of other media as was the goal in PAIMAN. All events taken together, including the effect of mass media (such as music and drama videos), have not been evaluated for their effect on behavior change. There was evidence (from Lot quality assurance sampling and anecdotally acquired by the FET during field visits) that community members had increased their knowledge about the importance of antenatal care attendance and had actually taken up this practice in their most recent or current pregnancy. Interventions that demonstrated the most promise for success included the outreach via LHWs and other means of interpersonal contact, including the women's support groups and local NGOs. These could have been scaled up as the evidence of their effectiveness emerged over time.

The budget for the CAM components of PAIMAN was substantial. Due both to the considerable budget allocation and the number of innovative activities, PAIMAN estimated that they reached several million individuals through home visits, support groups, events and mass media. The SOI component of this project improved knowledge and awareness of MNCH issues, particularly among the LHWs who can sustain the dissemination of this awareness to their communities.

## **SO2: INCREASING ACCESS TO MATERNAL AND NEWBORN HEALTH SERVICES**

PAIMAN worked at two levels to increase access to maternal and newborn health services. Two activities were conducted at the policy level. An effort was made to involve private sector providers in the provision of maternal and newborn services through training private providers in best practices by the collaborating partner, Greenstar. Pakistan's private sector providers provide 35 to 60% of maternal health care services. Private sector providers include public sector employees (doctors, LHVs, etc.) who provide services in their off-hours. Substantial effort was invested in supporting the GOP PC-I initiative to create a new cadre of community-based midwives, which is discussed more fully under SO4. The CMW is expected to join the private sector service cohort.

Activities conducted at the community level revolved around the “first delay” (the decision to seek care). These activities were intended to reduce the cultural and attitudinal barriers to health care for women through greater community involvement in MNCH health promotion. Pragmatic activities addressed the issues related to the “second delay”—physical access to first-level health care services, across the home to facility continuum. These included orienting TBAs to the use of clean delivery kits, promoting the establishment of birthing homes in which CMWs would provide their services, conducting short-term medical camps where community members could obtain ad hoc services and be informed about the availability of on-going (and improved) services at public health facilities, and providing emergency transport ambulances, including training of drivers and paramedics in basic life support. Community mobilization activities included the involvement of community members (e.g., men, religious leaders, TBAs, and women of all ages) in identifying the social, religious, and financial factors that constrained access, and finding solutions (e.g., broadening the scope of authority for making these decisions, creating emergency loan funds).

### **Findings**

#### **Greenstar**

Greenstar is a social branding enterprise that engages private sector providers in a quality service network. Providers who join the network receive continuing education on practice topics and assistance in social marketing of their services. Providers are entitled to place the Greenstar logo, a symbol of quality service provision, at their practice site. Providers, in turn, are expected to participate in quality improvement supervision activities and to offer a certain proportion of their services free of charge or at discounted rates.

#### **Training**

Greenstar's contribution to PAIMAN activities included both training and service provision. Greenstar provided training to private sector lady doctors on MNCH practices, including basic and emergency obstetric and neonatal care. Greenstar notes that this “refresher training” was actually, in some cases, training for new skills not acquired in pre-service education, particularly with respect to newer evidence-based practices. However, these trainings were criticized by several knowledgeable informants

for the selective omission of certain skills, such as use of the partograph and the Active Management of the Third Stage of Labor (AMTSL) protocol, which were arbitrarily deleted from the training agenda.

### **Clinical Services**

Private providers included those who did and those who did not offer maternity surgical services. The training of private doctors in Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) resulted in the creation of a network of franchised, trained surgical service providers in the ten original PAIMAN districts. Greenstar also introduced to communities *Clinic Sahoolat*, a free consultation day performed by health care providers in the GoodLife network for residents of low-income urban communities in PAIMAN districts.

Some of these services were accessed by payment using a pre-paid voucher. A pilot program introduced in year 4 of the project in DG Khan enabled 2,000 pregnant women to purchase a voucher for Rs100 that entitled them to receive two antenatal care visits, two tetanus toxoid (TT2) injections, uncomplicated vaginal delivery (C-section at a modest cost), and one postnatal and FP counseling session. The women were also reimbursed transportation costs to access the private doctor. The voucher program addressed both the demand and supply sides of a “pay for performance” approach designed to increase access to health care services. Women were encouraged to seek care from Greenstar’s private practice network providers. The fee paid to providers was a financial incentive to provide covered services to women in need of such services who may not have previously looked to the private sector for this purpose. Greenstar reported that very little enthusiasm was generated by this scheme. Nevertheless, they were replicating the pilot in Jhang district. PAIMAN funds were replaced with funds from the German Development Bank (KfW) and the local government.

Both Greenstar and PAIMAN reported that they encountered a substantial barrier in collecting data about services provided, particularly with respect to collecting data on the number of births and obstetric emergencies managed by these private partners and in maintaining contact for follow-up of those trained. Baseline data are not available; therefore, it has not been possible to quantify any impact the project may have made. PAIMAN points to this fact as a major reason for ending its contract with Greenstar in the final years of the project. Greenstar notes that they had little or no control over follow-up of private providers and that providers moved out of the network with high frequency. Greenstar did experiment with the use of mobile phones as a data collection tool and reports about 50% efficiency from this pilot project.

### **Traditional Birth Attendants**

The majority of births in Pakistan take place in the client’s home, and the vast majority of these home births (52%, cited in PDHS data) are attended by TBAs (a.k.a. *dais*). Therefore, an essential component of any strategy designed to impact the decision to seek care is the inclusion of TBAs in this decision-making process. The impact of training TBAs on maternal and neonatal outcomes has been studied extensively, using data from a quarter century of emphasis on this strategy. A meta-analysis of these findings indicated a promising role for TBAs in recognizing danger signs and encouraging referral to health facilities (Sibley & Sipe, 2006; Sibley et. al., 2007). Similarly, recent research has emerged that demonstrates the added value of the use of a clean delivery kit in reducing neonatal and maternal infections (Darmstadt et. al., 2009).

The GOP/MOH acknowledges that TBAs (*dais*) will continue to be the first point of contact for many women in the country and particularly for rural residents. For that reason, PAIMAN included the orientation of TBAs as a core component of its strategy for increasing access to care. Two partners and two models were utilized.

PAIMAN engaged Greenstar Social Marketing (the private practice collaborative partner) in the conduct of a 4-day TBA orientation. (Documents vary, some noting a 4- and others noting a 6-day program.) The agenda included discussion of clean delivery practices, an emphasis on recognizing danger signs during pregnancy and in the newborn, and creating networks and linkages between TBAs, the CMWs that would be moving into communities, and providers in the health facilities (LHVs and lady doctors). TBAs were introduced to the various outlets from which the clean delivery kits could be purchased. A one-day follow-up was conducted. The TBA orientations conducted by Greenstar were sub-contracted to the Midwifery Association of Pakistan (MAP) because Greenstar did not have prior experience in working with this cadre. PAIMAN states that the client-centered approach favored by PAIMAN was not included in the orientation agenda. However, a client-based assessment of the effectiveness of this orientation was incorporated into the program design. A health services officer went into the field to question mothers as to whether the TBA had used the clean delivery kits in any or all of the deliveries she had conducted.

JSI also conducted a TBA orientation designed on the model established by the SMART Project in DG Khan (see below). The program included a client-centered 8-day orientation focused on clean delivery practices, recognition of danger signs, and referral to and coordination with other community-based workers. The strategies for provision of follow-up in the JSI program are unclear.

The effect of dai (TBA) training was the subject of an operations research study conducted by The Population Council. The dais who were the subjects of this assessment were trained under the SMART project, a PAIMAN predecessor, in district DG Khan. The operations research study reviewed the retention of knowledge and the application of skills, using a prospective comparison design in which dais who had not participated in the training but who would have met eligibility criteria for training were used as the controls. Results of the study indicated that dais who had participated in the training demonstrated higher levels of knowledge about recognition of danger signs in pregnancy (including eclampsia) and actions to take in the event of postpartum bleeding. Trained dais were observed to perform cleaner delivery practices and were more knowledgeable about how to care for the newborn (resuscitation, warming, cord care and the initiation of breastfeeding). These orientation curricula used in the PAIMAN dai training had similar content; therefore, similar positive outcomes might be anticipated.

## **Birth Stations**

PAIMAN established birthing centers to improve access to MNH services via public-private partnerships in remote areas. These birthing centers were established by the sub-grantee NGOs in collaboration with the concerned district health departments at redundant and non-functional health facilities. The NGOs paid the salaries for the staff of these facilities, which included one LHV, one TBA and one security guard. These staff resided at the birthing center and provided round-the-clock services. District health departments were responsible for the supplies, utilities and repair/maintenance of the buildings. These birthing centers provide antenatal care, postnatal care, neonatal care services and TT vaccination. There is little discussion of this activity in the fifth and sixth year annual reports. PAIMAN Project staff noted that the project stopped providing financial support for these stations in the spring of 2010 and asserted that each of the stations is still in operation around the clock, with support received from local community committees, the Peoples Primary Health Initiative, or the government. However, the FET found during a site visit to Buner District that the birthing station at Basic Health Unit (BHU) Korea had, in fact, been closed as of August 30, 2010. The sustainability of other birthing stations under these local and government-supported strategies is certainly an open question.

## Emergency Transport

PAIMAN's approach to improving access to emergency MNCH services was multifaceted. Interventions at the grass-roots level included helping the community establish a variety of emergency loan schemes or transport services. For example, in one BHU visited by the FET, a male member of the community who owned his own vehicle had let community members know that they had only to call upon him and he would provide the necessary transport free of charge. A CMW at her own birthing station had identified several male community members who had agreed to arrange the transport of women experiencing complications at or following delivery, using any means available (e.g., tractor, motorbike, automobile). Men and women interviewed in various communities informed the team that they had established emergency loan funds for the purchase of vehicle fuel, to be repaid in installments over time.

PAIMAN also provided substantial numbers of emergency transport vehicles to a broad variety of health service facilities, from BHUs through to tertiary care hospitals. The ambulance drivers and paramedic staff of these ambulances received training in basic life support.

## Community Involvement

The gentleman who had offered the use of his personal vehicle was a member of a CCB. The development of CCBs had been fostered by PAIMAN as one strategy for promotion of greater community involvement and attention to community health challenges. CCBs were designed to serve as an intermediary between the community and the administration and staff of the associated government health facility; to share responsibilities for care, uptake, and improvements in the service delivery settings; and to solve community problems such as the need for emergency transport.

Other community-focused activities to promote increased community involvement were less evident in project documents, through field visits or in interviews conducted at the community level. Certainly, some of the communication strategies, such as LHV support groups discussed in SO1, could be considered as one such strategy. The outreach to religious leaders could be another example. Various project reports speak about additional activities, such as medical camps and screening of blood donors, to create an available pool of identified blood group donors in the event of emergencies. The activities proposed in the Cooperative Agreement are worded very vaguely, and it is noted that this initiative will be left mainly in the hands of local community groups and largely unmonitored.

## Results

The following project outcomes were anticipated for SO2:

- Higher use of antenatal and postnatal care services, of births attended by skilled birth attendants, contraceptive use, TT coverage, enhanced basic and emergency obstetric care, and reduced case fatalities.
- Reduced cost, time and distance to obtain basic and emergency care, ultimately saving newborn and maternal lives.

## Maternal Health Care Services - PAIMAN

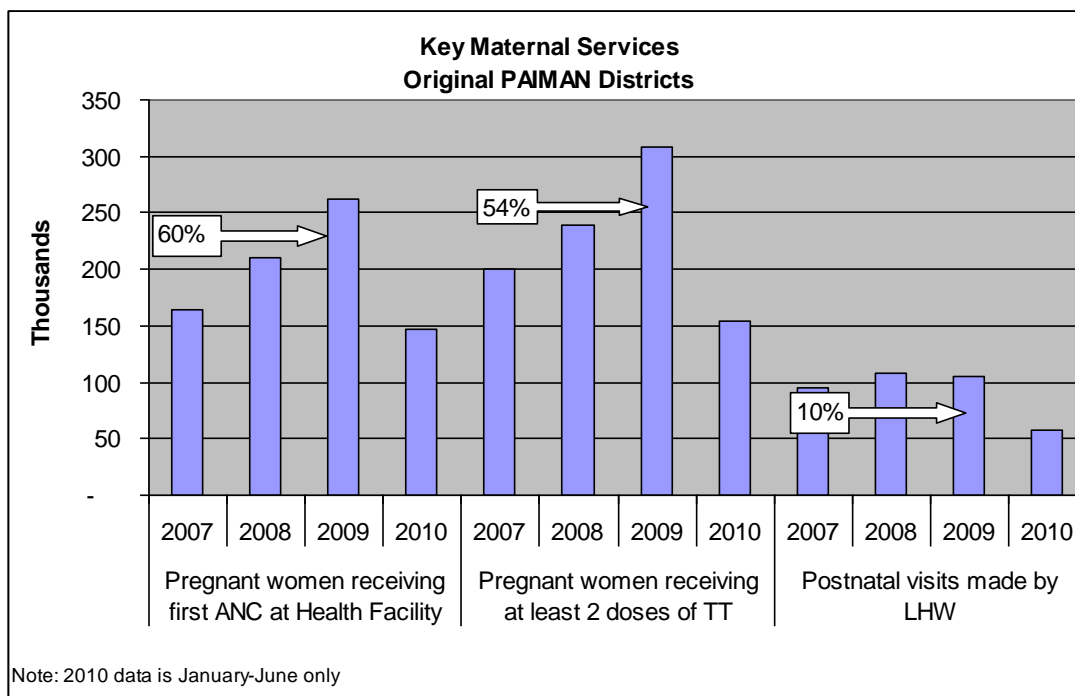
Figure 2 depicts project outcomes from 2007, 2008 and 2009, and the first half of 2010, drawn from health facility data in the ten original PAIMAN districts. The figures were generated by PAIMAN, and because numerator and denominator data are not provided, it is not possible to compare changes as rates, but only as changes in numbers. (Therefore, some of the increase could be attributed to an increase in population.) The figures denote that the number of women using prenatal care increased by 60% and TT2 immunization by 54% over the 3-year period. These figures indicate a positive trend

toward increases in two important maternal care services. However, as previously noted, without comparative data with non-PAIMAN districts, these increases cannot be conclusively attributed to PAIMAN's efforts to increase access to services.

The data in Figure 2 are drawn from the RMOI and thus do not reflect private provider services. Consequently, the figures cannot be compared to similar trends that might have been occurring in the general population as a result of generally increased community awareness of the importance of these health care services. Endline household survey data indicate that the vast majority of respondents in that survey (71.2%) were receiving antenatal care services from the private sector.

The postnatal care visits by LHWs increased by only 10%. This less impressive finding has implications for the health of both the mother and her newborn because a large proportion of both maternal and neonatal morbidity is clustered in the vulnerable 72-hour post-birth period. It is likely that TBAs also visit the client home during this period, and it is therefore laudable that the TBA training orientation included alertness to danger signs and encouragement of referral when indicated. A total of 391 TBAs were oriented by Greenstar, and 1,884 were oriented by PAIMAN. A total of 50 facilitators were trained to conduct these orientations.

**Figure 2: Key Maternal Services Original PAIMAN Districts**



Source: Contech Endline Survey, 2010

Data from the endline household survey indicates that skilled birth attendance had increased from 41.3% to 52.2%, and that the proportion of normal vaginal deliveries taking place in the home had decreased from 63% to 52%. Ignoring the minor differences in proportions, it is, in fact, possible that the majority of deliveries that occurred in places other than the client's home were, in fact, facility deliveries assisted by SBAs, either as vaginal, operative-assisted or C-section births. (The very minimal proportion of births that may have occurred in CMW maternity homes are not addressed in this discussion.) These findings would indicate a positive trend toward SBA-attended births taking place in facilities in the PAIMAN

districts in which these household surveys had been conducted. This interpretation is supported by 2008 MICS data, which denote a facility delivery rate of 56.5% in all urban settings.

Still, a majority of births occurred in the client's home attended either by TBAs or some cadre of skilled provider (e.g., LHV, CMW). A total of 50 facilitators were trained by JSI for the purpose of orientation of TBAs to ways of attaining better/improved practice. A total of 2,275 TBAs were oriented (1,884 by JSI, 291 by Greenstar/MPA) against a total target of 2,250. The TBA is self-identified but very visible at the community level in the country. Informants stated that the TBAs invited to this training were those who practiced in the vicinity of health facilities and private providers. There would be little way of knowing what proportion of TBAs in PAIMAN districts were included in this training activity; nevertheless, this figure of over 2,000 training participants is remarkable.

There are few data available in any PAIMAN-generated documents addressing contraceptive prevalence rates. It is not possible to comment on achievement of that objective. The case fatality rate indicator had been dropped on recommendation of the MTE team, given the small incidence per facility (and therefore unstable estimates and parameters). Enhancement of basic and emergency obstetric care is discussed in SO3.

### **Maternity Health Care Services via Public/Private Partnership – Greenstar**

Given the high proportion of providers in the private sector, the number of private practice providers engaged by Greenstar could be considered rather modest. However, both end-of-project targets were achieved or exceeded. A total of 50 GoodLife surgical clinics and 569 non-surgical clinics were established. The Greenstar GoodLife network also provided free consultations through *Clinic Sahoolat*. The clinics are free consultation days performed by health care providers of the Greenstar GoodLife network. PAIMAN monitoring data indicate that more than 3,000 free days of service were provided and over 68,000 women benefitted from these services.

### **Emergency Transport**

A total of 76 purpose-built ambulances were provided for emergency obstetric cases and other emergencies. An additional 50 Suzuki vans were converted to ambulances for use by communities in five districts to transport patients to health facilities. Thirty vehicles were distributed to district or private hospitals; 17 at the THQ and 29 at the RHC level in each of the country's districts, FATA and KPK. At least one ambulance was provided at each of the 31 facilities upgraded by PAIMAN. The financial cost of these vehicles was not available to the FET, so it is not possible to comment on the cost-utility of this project activity. This was a major project expense and a very focused strategy for improving access to MNCH services; therefore, it is regrettable that PAIMAN did not do more to track the impact of this intervention following hand-over to the government and/or community.

The vehicles were intended solely for the purpose of transport between facilities when referral to a higher level of care was required and were intended to be used primarily for transfers of those in need of MNCH services. The service is intended to be free of charge, but anecdotal evidence suggests that users are asked to offer small compensation to the driver or to pay for fuel. A structured system for tracking the appropriate intended use of these ambulances has not yet been developed. Accountability has not been assigned at any level.

A second approach for provision of emergency transport services was the development of a comprehensive community emergency ambulance service strategy. Fifty Suzuki Bolan vans were procured and converted to ambulances. These vehicles were handed over to District Health Departments and in rural areas are operated by NGOs. There is little additional information available in



project documents that describes the strategies employed to verify the use “as intended” of these vehicles or their current operational status. PAIMAN reports this activity to be another example of public-private partnership.

Finally, via a public-private memorandum of understanding, the private charity Edhi Ambulance Service agreed to give priority to all obstetrical/gynecological emergencies in seven of the ten original PAIMAN districts (excluding Jaffarabad, Upper Dir and Buner). Again, the FET could not derive any further information on this topic from project documents.

The indicator of “reduced cost, time and distance” is more difficult to quantify. The endline data show no difference from baseline in median time to get the transport (20 minutes) and median time to reach the health facility (30 minutes). These findings offer little information about the impact of the ambulance intervention on “timely care.” However, the total of 50 minutes for seeking and reaching care is well within the limits cited in the United Nations Process Indicators for basic (2 hours) and comprehensive (12 hours) care. Anecdotal evidence derived from interviews conducted with community members indicated that local users of the ambulance service appreciated its availability. Interviews with health personnel indicated the perception that women had reached referral facilities in time to receive the benefit of more timely care (steps 3 and 4 of the pathway to care and survival; the second and third delays).

## **Lessons Learned**

The voucher system for payment of MNCH services has proved promising in its applications in other countries. It did not receive the thorough evaluation it deserved in the context of the PAIMAN pilot. However, a replication project is ongoing in Jhelum, which was designed on the basis of lessons learned from the PAIMAN experience. These additional data may offer information about the suitability of voucher programs in Pakistan’s private sector market (Bashir et. al, 2009).

Facility management contracting is another approach to increasing quality and access through public-private partnership. This approach has been tested through the Punjab Rural Support Program. Greenstar is replicating this approach in Sindh Province. They have upgraded two rooms in each of 10 BHUs, displayed the Greenstar logo, and instituted a modest fee for services. This approach also warrants further assessment for client acceptability and financial viability.

## **Conclusions**

Public-private partnerships offer another avenue for increasing access to services. They could prove to be of particular importance and value if avenues for penetration into the rural private practice network are exploited.

The procurement and deployment of ambulances to public health delivery settings is an important asset for those facilities. However, budget commitments and allocations must be made to ensure fueling and proper maintenance of the vehicles over time. Accountability mechanisms must be established to ensure their free use by the public for the purposes for which they were intended.

## **SO3. INCREASING QUALITY OF MATERNAL AND NEWBORN CARE SERVICES**

PAIMAN addressed the issue of quality of maternal and newborn care services through two primary approaches. First, PAIMAN supported upgrades to the facility infrastructure in selected government health facilities to enable the provision of basic and emergency obstetric and neonatal care. Second,

PAIMAN provided training and re-training of providers in both the public (Save the Children) and private (Greenstar) sectors to deliver client-focused services, with an emphasis on standardized procedures, infection prevention and the strengthening of referral systems.

## **Findings**

Contech conducted a baseline Health Facility Assessment (HFA) survey in 2005 to assess the existing status of health facilities regarding the quality and coverage of MNH services in the ten original PAIMAN districts. The list of indicators that would determine facility readiness or facility need was developed and agreed upon by a core team of consultants drawn from among consortium partners. The criteria that guided the selection of which facilities would be upgraded, with respect to all others also in need of upgrading, is not at all clear in any of the project documents provided to the FET prior to or during the site visit. Nevertheless, PAIMAN reports that consultation meetings were held and that minutes of those meetings (which would also include identification of meeting participants) are available. The facility assessment endline evaluation was conducted as a component of the District Health System Strengthening activities of the PAIMAN Project (SO5).

### **Basic MNCH Care**

Findings from the baseline HFA indicated that only 23% of 44 RHCs, 40% of 20 THQs, but each of eight DHQs was capable of providing all essential BEmONC services. PAIMAN improved MOH facilities in the PAIMAN districts by upgrading building infrastructure and providing equipment and supplies necessary for the provision of basic MNCH care services. Living quarters for staff were also renovated where necessary in order to attract or retain service providers. This made the upgraded facilities capable of providing full-time (24 hour/7 day) services.

In terms of underuse, misuse or overutilization, the FET received mixed messages regarding the equipment that was procured for the facilities. For example, evidence exists (directly observed by FET) that some deterioration (of both major and minor consequence) has already occurred in the infrastructure of renovated facilities and (via anecdotal evidence) that, in insurgency areas, some of the equipment has been intentionally damaged or used for unintended purposes (thus, of course, outside the control of PAIMAN).

As noted, PAIMAN reported that consultations were held prior to infrastructure renovation and equipment upgrades. However, the FET observed several instances in different facilities in which new birthing tables had been pushed to the side of the room in favor of continued use of the older tables. When questioned about this fact, providers noted that they had not been queried about their preferences, were not in favor of the features of the particular bed-type, and were not inclined to use it except in cases when the older equipment was already in use. Site visits in Buner and Lasbela Districts identified the presence of anesthesia, ultrasound and computer equipment that was never put to use because the government had not assigned staff to the facility who had been trained in its operation.

An ultrasound machine provided to one hospital visited by the FET was being used on a daily basis. Physicians noted with some pride: “Now we can provide each woman with up to four ultrasounds during her pregnancy.” The physicians were also quick to note: “We practice evidence-based medicine.” There are documented benefits for performing ultrasound in early pregnancy (Whitworth et. al., 2008) and for specific diagnostic purposes (such as measurement of amniotic fluid volume). However, there is little evidence to support routine repetition of the procedure (Bricker et. al., 2008). Clinical updates for evidence-based “best practice” in use of obstetrical ultrasound was not noted on the clinical teaching topics agenda (see SO4). This could be considered both a missed opportunity and a training gap.

Many respondents who held administrative responsibilities expressed the concern that the MOH would not provide sufficient budget allocations for maintaining the facility infrastructure or the equipment in the future. In fact, the FET was witness to discussions by some district health officers about reallocation of funds for the purpose of flood relief. There was evidence that renovation budgets were easily sacrificed to short-term needs.

### **Management of Maternal and Newborn Complications**

The baseline HFA identified 20% of THQs and 63% of DHQs as being capable of providing comprehensive services, including obstetrical or gynecological surgery. The C-section rate as a proportion of total births was documented as 2.6% (189/7084) in THQs and 16% (1304/8069) in these facilities at baseline. Major infrastructure development occurred at certain hospitals. This included building and equipping operating theatres in a number of referral facilities. PAIMAN upgraded the existing maternal and newborn units in one hospital in Multan and built an entire second floor equipped to provide operative and interventional surgical services. Neonatal incubators were provided in selected settings, but the FTE did not observe them in use.

### **Provider Training and Staffing**

PAIMAN's ambitious training agenda is described in SO4. Public and private sector doctors received updates designed to improve quality performance of signal functions of basic and emergency maternal and neonatal care. PAIMAN also supported the salaries of staff members in selected facilities where there were not sufficient personnel to provide 24-hour coverage for delivery of CEmONC services. Gynecologists and anesthesiologists were contracted to enable performance of C-sections in selected upgraded facilities.

The FET spoke with a number of these contract personnel. They expressed a high degree of satisfaction with the quality of the training they had received, noting in a few cases that the content of the training was new information, not re-learning or refresher training.

The lack of available human resources, particularly lady doctors and surgeons, presented a substantial challenge to enabling around-the-clock MNCH services. Various PAIMAN reports indicate that the human resource issues were addressed first by advocating with district health governments to fill vacant positions and monitor the presence of providers where assigned. The engagement of staff on a contract basis was acknowledged to be a time-limited solution, concurrent with the availability of PAIMAN funds.

### **Client-focused Services**

PAIMAN conducted training for all levels of health service workers on the provider/patient communication strategy called *the client-centered approach for delivery of reproductive health services*. The methodology, approach and outcomes are described in a peer-reviewed publication from the Population Council (Sathar et. al., 2005). A trainer's guide was available from that PAIMAN collaborative partner.

### **Standardized Protocols and Guidelines**

The annual work plans for later years of the PAIMAN Project set activity targets for ensuring that basic EmONC (BEmONC) and neonatal practice protocols and guidelines were available to private providers and would be present in each of the PAIMAN-supported facilities in each of the ten original districts. The work plans provided for the production of the protocols in both the English language and Urdu translations. However, the extent and format of these protocols, the process by which they were developed or adopted, and the identity of individuals who contributed to that process are not well

described in the various quarterly or annual reports. It is to be noted that hospital-based protocols for newborns were prepared by Aga Khan University.

The FET noted poster displays on the walls of essentially every facility visited depicting step-by-step procedural guidelines for management of emergency situations. The most commonly occurring poster theme was that of adult life support (adult resuscitation). Higher level health facilities also displayed protocols for management of hemorrhagic shock and newborn resuscitation.

## **Referral System**

An important aspect of the home-to-facility continuum is development of linkages and strategies to ensure that providers at each level of health care delivery have a well-established referral mechanism. Components include a means of communication and transport system that is necessary for making the transfer to a higher level of care. The transport ambulances were an important asset to the referral system in every district facility to which they were deployed.

PAIMAN documents speak about the identified need to develop linkages between TBAs, other health providers and health facilities, and to track the number and outcome of such referrals. Pictorial referral slips were developed for non-literate TBAs during Project Year 4. These slips were designed to have a second copy so that the client could bring this information back to her primary health facility after the personal situation had been resolved and be provided appropriate follow-up.

## **Results**

The following outcomes were proposed as measures of project success:

- Greater utilization of services to improve maternal and newborn health outcomes
- Decreased case-fatality rates for hospitalized women and neonates

The case fatality rate indicator was dropped in response to a recommendation from the mid-term evaluation team. Utilization of services was measured by changes in service uptake over time.

## **Facility Renovations**

A total of 79 public health facilities were equipped to provide emergency obstetric care services in the original and expanded districts, the two Frontier and the two FATA agencies (information cited on PAIMAN website). This up-grading covered all district headquarters hospitals (one per district), about half of the tehsil headquarters hospitals (one per district) and a quarter of the rural health centers (one RHC or BHU) in the original ten districts (Table 3). Renovations also included the creation of 158 Oral Rehydration Therapy corners and 86 Well Baby Clinics. Fourteen hospitals were assessed for Baby Friendly Hospital criteria.

A total of US\$11.5 million was spent by JSI on facility upgrades and US\$3.5 million on equipment to enable provision of both basic and comprehensive care<sup>6</sup> for mothers and newborns. An additional US\$90,000 was used to improve hospital waste management practices.

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<sup>6</sup> There are six basic EmOC functions. They consist of three related to administering medications by injection (antibiotics to treat an infection, anticonvulsants to treat a seizure, or oxytocics to treat excessive bleeding) and three manual life-saving skills (manual removal of the placenta, assisted vaginal delivery, and removal of retained products of conception). Comprehensive EmOC consists of these six, plus Caesarean section and blood transfusion. Basic newborn care includes newborn resuscitation, warmth (e.g., drying and skin-to-skin contact), clean cord care, early and exclusive breastfeeding, and eye prophylaxis.

International standards suggest that for every 500,000 population, there should be at least four facilities providing BEmONC and at least one facility providing CEmONC.

**Table 3. Upgraded Facilities**

Type of facility	Total in 10 districts	No. upgraded by PAIMAN
DHQ hospitals	9	9
THQ hospitals	22	10
RHCs	40	11
BHUs	452	1
MCH clinics	54	0

Overall, anecdotal evidence obtained during site visits and on-site interviews was strongly in support of the benefit of these expenditures. For example, providers at DHQ Kanewal stated that obstetrical emergency services had been increased threefold following renovations in that particular facility. Vaginal deliveries had increased from about 35 to over 100 each month. As many as 30 elective C-sections were being performed on a monthly basis.

The floods of 2010 damaged a number of these upgraded facilities:

- Two RHCs in Sibi were each approximately 60% damaged.
- RHC Paharpur in D.I. Khan was partially damaged.
- The DHQ female section Dera Allah Yar in Jafarabad was partially damaged.
- The Civil Hospital Madyan in Swat was lost completely.

The findings presented below were generated prior to the floods. However, the same level of facility performance cannot be relied upon in the future until reconstruction has once again been accomplished.

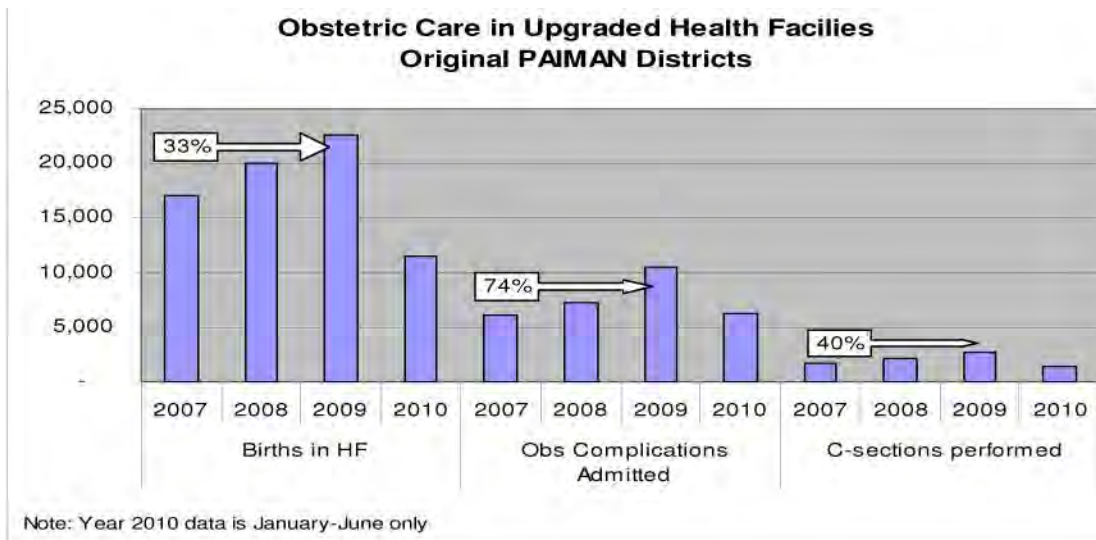
### **Key Obstetric Services**

The utilization indicator is derived from the endline facility assessment survey and is depicted in Figure. 3. Key obstetric services provided in upgraded facilities over the period 2007 through 2009 included an increase in facility births of 33%, 74% more obstetric complications admitted to the facilities and a 40% increase in the performance of Caesarean sections.

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Comprehensive care includes the additional capacity to resuscitate the newborn and provide supportive care in incubators and special nursery environments.

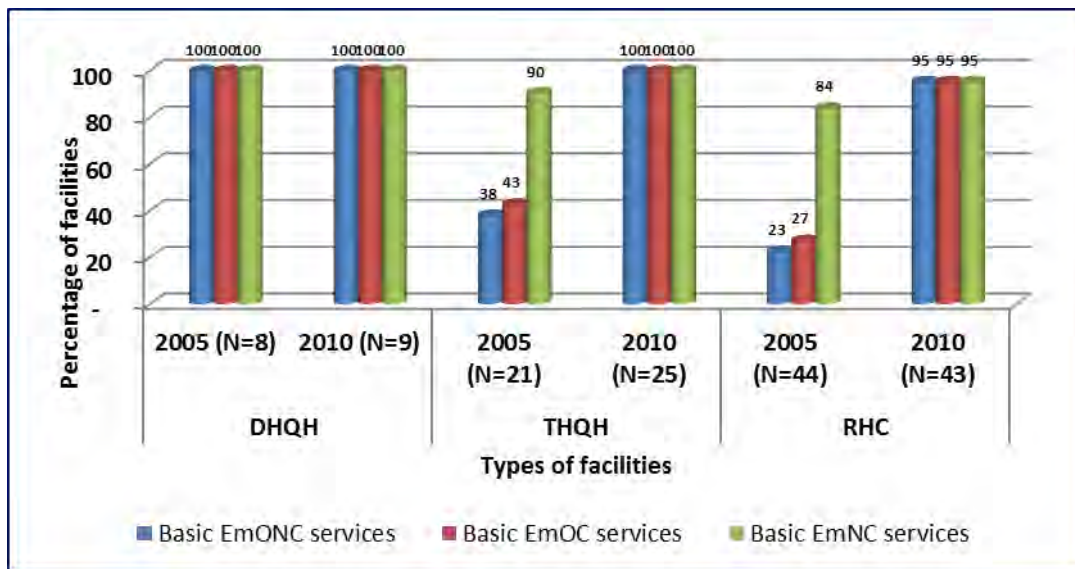
**Figure 3. Obstetric Care in Upgraded Health Facilities - Original PAIMAN Districts**



Source: Contech Endline Survey, 2010

Basic EmONC services were available in all the DHQs at both baseline and endline. The proportion of THQ hospitals in which these services were available improved from 38% to 100%, and from 23% to 95% in RHCs (Figure 4).

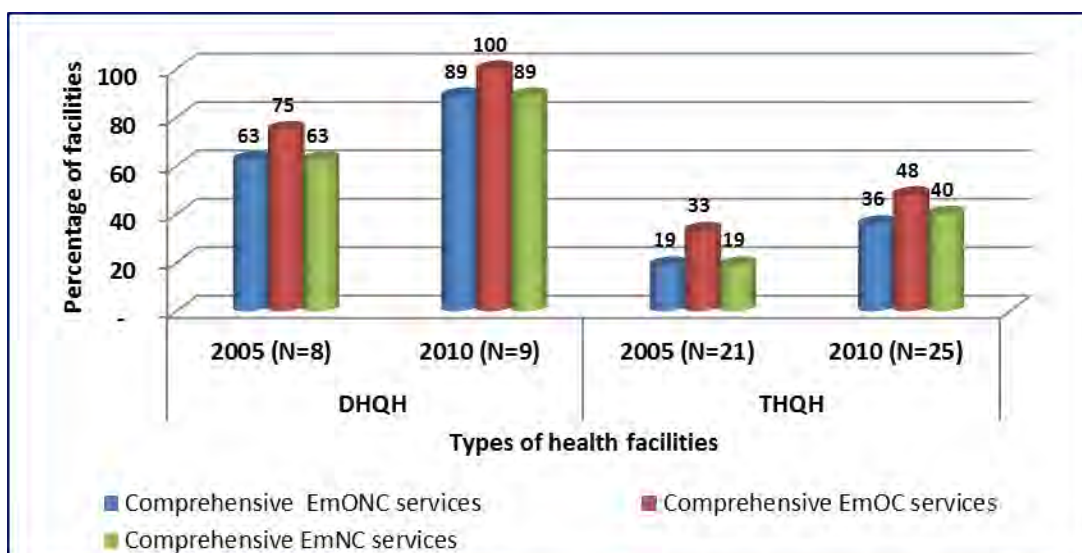
**Figure 4. Availability of Basic EmONC Services**



Source: Contech Endline Survey, 2010

The endline survey data also indicated an overall improvement in availability of comprehensive services for mothers and newborns (Figure 5). Newborns continue to be less well served than mothers in all DHQ and THQ facilities. Endline findings indicate that additional efforts are required to achieve 100% availability of comprehensive EmONC services (including blood transfusions), sufficient and reliable supplies of essential drugs, availability of current service delivery protocols, and a full complement of human resources.

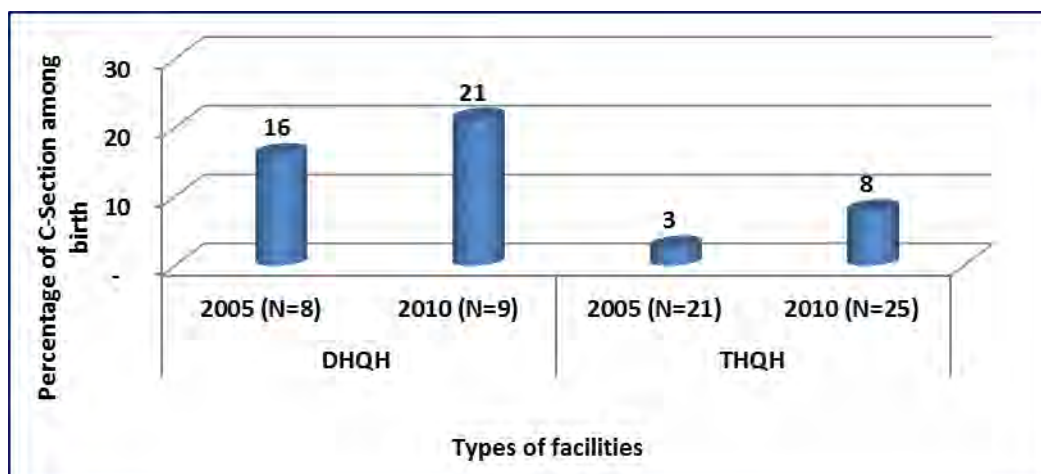
**Figure 5. Availability of Comprehensive EmONC Services**



Source: Contech Endline Survey, 2010

C-sections as a proportion of total births in health facilities have increased in both DHQ and THQ hospitals (Figure 6). The proportion has been raised from 16% to 21% in DHQs and from 3% to 7% in THQs in comparison to baseline. This indicator is positively associated with the improvement of facilities for comprehensive EmONC services. UN process indicators have established a benchmark of not less than 5% and not more than 15% as a proportion of all births in the population by Cesarean section as an indicator of a sufficient quantity of such services. Higher proportions of birth by C-section (above 15%) should trigger quality case reviews to identify overutilization of elective surgical procedures. While the figure in the DHQs may be excessive, it might also reflect an increase in the transfers of women with obstetrical complications that required surgical interventions (i.e., not elective) to that facility. The case fatality rate is an indicator of quality. That indicator has been deleted from PAIMAN M&E because the denominator of births by facility does not allow the computation of reliable estimates.

**Figure 6: C-sections as a Proportion of All Total Facility Births**



Source: Contech Endline Survey, 2010

## Lessons Learned

Infrastructure upgrades contributed substantially to enabling the provision of 24/7 basic and comprehensive emergency obstetric and neonatal care in each of PAIMAN's original districts. Comparison data are not available for assessing this impact in the expansion districts. Nevertheless, infrastructure improvements, while necessary, are not sufficient to ensure that services will continue to be provided at a high level of quality. Training providers to perform the signal functions of EmONC is an essential corollary, and this was addressed by PAIMAN (see discussion in SO4). However, the role of the MOH in the deployment and retention of these personnel is critical to sustainability. The MOH also has an important responsibility to ensure a system of continuing education, supportive supervision and continuous quality improvement for providers, and for essential maintenance of the care environment.

It is also clear that the costs of these improvements can be quantified but that cost-effectiveness remains elusive and challenging to measure. Trends in uptake of services are an indication of service quantity, but not necessarily of service quality. Comparative data are essential if a clear picture of the impact of interventions is to emerge. Although PAIMAN had this opportunity from the outset of the project, it did not craft the M&E strategy to accommodate such a between-groups design. An important learning opportunity has been lost.

## Conclusions

The facility renovations were a very valuable investment that increased the ability of the MOH to meet international guidelines for provision of basic and comprehensive emergency obstetric and neonatal care in some of its service settings. Funds for the long-term maintenance of facility infrastructure must be given protected status in provincial and district health budgets. Human resource deployment policies that ensure that qualified staff are assigned to those facilities over the longer term must be a concurrent priority for the MOH. Infection-prevention procedures and policies and procedures for infectious waste management require urgent attention in all health delivery settings.

## SO4. INCREASING CAPACITY OF MATERNAL AND NEWBORN HEALTH CARE PROVIDERS

The PAIMAN approach to developing the capacity of MNCH providers was to recognize the critical importance of the continuum of care and the essential importance of the enabling environment. This awareness required that PAIMAN address the training needs of all health service providers at all levels of care, from home, through community-based services, to referral services provided at tertiary level facilities. The importance of appropriate facility infrastructure as an element of the enabling environment has been addressed in the discussion of SO3 (strengthening quality of services).

## Findings

### Clinical and Leadership Training

PAIMAN and its project partners, including Aga Khan University, were engaged in the development of competency-based training modules and materials on a wide variety of maternal and newborn health topics addressing current "best practices" in the care of women and newborns. A cohort of master training teams drawn from each district was developed so that future training could be conducted at the district level. Training participants were drawn from both the public and private sectors, and represented the full continuum of community- and facility-based health providers, such as TBAs, LHWs, LHVs, the new cadre of CMWs, fully qualified midwives, and physicians.



The focus of this training was fully described in the Mid-term Evaluation, and several suggestions were made for improvements in the content of training over the remaining life of project. Specific recommendations were made to include certain evidence-based “best practice” topics in the training curriculum (in particular, use of the partograph and the AMTSL protocol) and to increase the opportunity for clinical practice of skills that were modeled by simulation only. The Karachi Declaration signed in October 2009 by leaders in the Ministries of Health and Population Welfare affirmed the commitment of the GOP to scaling up MNCH/FP practices and called for scale-up of seven clinical best practices, including the two named above.

SAVE, the PAIMAN partner primarily responsible for the training agenda, developed the training strategy, designated the participants, adapted already developed competency-based training materials (for resource efficiency), and designed a quality assurance model for following up the short- and longer-term outcomes. SAVE chose to use an external monitor for assessing clinical skills in order to add objectivity to the process.

The training agenda for facility-based providers included:

- Normal delivery;
- Essential maternal and newborn care (antenatal and postnatal care, management of normal deliveries, management of nonsurgical maternal complications, essential newborn care, and management of asphyxia, sepsis, jaundice and low birth weight);
- Comprehensive EmONC (surgical intervention skills); and
- Infection prevention.

Essential maternal and newborn care training was offered to health care providers from all upgraded facilities and from all other facilities where a health care provider was posted. The coverage estimate was 80 to 100% of all eligible providers in Phase I.

The later years of the project also included a focus on children. Consequently, topics in infant and young child feeding and community-based IMNCI training were introduced, but topics that might have improved the status of youth reproductive health were absent from the communication strategy and most programmatic content.

Phase II training in EMNC, IMNCI and IYCF was provided primarily to staff in upgraded facilities and a very few other providers who were selected or designated to attend. The coverage approved by USAID was a target of 70% of facility-based staff and 60% of community-based staff in all districts. The criteria for selection and nomination of health staff are outlined in the training strategy developed by SAVE.

Additional training was targeted to increase the skills of providers to be effective leaders at the facility level and among community members. These training topics included:

- How to organize and conduct community-based support groups;
- The client-centered approach to care; and
- Leadership skills.

Many informants commented on the nature of these training events in terms of length, learning venue and value to practice. The majority of these informants spoke of the value of participation in the training. On the other hand, a number of individuals who had personally participated in one, and often more than one, of these training courses described them as “duplicative,” “uncoordinated” and “fragmented.” Several informants stated their perception of a focus on “numbers trained” rather than “value acquired.”

The Mid-term Evaluation had, in fact, recommended that training in EmONC be consolidated and unified so that the content of any single training event was consistent with international standards. PAIMAN apparently disputed the comment and recommendation of the Mid-term Evaluation and asserted that training materials were developed according to international standards and that training sessions were taught by tutors from highly respected teaching institutions (such as Aga Khan University). Since all training events had been completed by the end of the project, the training materials were not further evaluated by the FET. However, as evidence continues to emerge, training materials already developed would have to be reviewed and possibly amended to reflect clinical updates prior to any next use.

Informants also noted that learning acquired in training conducted outside of the practice environment (e.g., in hotel venues) was not necessarily, readily, or easily transferred to the practice setting where specific equipment or supplies (as modeled in the training) might not be available and when there was no follow-up to ensure transfer of skills. The MTE had also called for a more judicious selection of training participants, i.e., those who worked in facilities which could be considered an “enabling environment” for practice according to quality standards and for follow-up of lessons learned. The SAVE representative and the PAIMAN COP acknowledged that the project was handing over a list of participants to MNCH so that future training could be targeted to include those individuals who had not yet received any training and those who were more recently employed in relevant health delivery settings.

The occurrence of the country’s flood disaster concurrent with the timing of this evaluation gave rise to the opportunity to inquire about the value that the training may have offered to the country in terms of disaster preparedness and disease mitigation. Provincial and district health officers who were interviewed stated quite affirmatively that the training related to basic maternal and child health and cIMNCI had been particularly valuable and important to the quality of the work conducted in the relief camps. The training provided to female health workers (e.g., LHVs, lady doctors, and even a few CMWs who were known to have volunteered their services) was particularly valuable.

The training in infection prevention initiated at the midpoint of the project and the life-of-project was very modest (360 participants). PAIMAN joined efforts with UNICEF to build the capacity of health care providers and managers in infection prevention and control (IP&C) capacity. Lady Aitcheson Hospital, Lahore, was selected as a model hospital and training center for IP&C training. Two sets of training were designed: 3-day and 6-day versions. Facility IP&C plans for each facility were developed as a learning exercise and pilot tested in eight selected health facilities. Facility upgrades (discussed in SO3) included provision of incinerators in ten PAIMAN-supported hospitals.

However, the observations of the FET concerning infection prevention practices generated some substantial concern, most particularly in practices surrounding solid waste management. These observations were consistent at all service delivery levels. Most facilities deposited their waste (including needles and sharps) in open pits, to be buried when the pit had reached three-quarter capacity. Incineration was used only by the higher-level facilities and, even then, not in all cases. The FET considered this to be a very weak element, if not a missed opportunity, for PAIMAN in its training agenda.

## **Community Midwives**

According to knowledgeable informants, the need to increase access to SBAs at the community level has been acknowledged for some time and particularly since Pakistan became a signatory to the MDGs. The interest in achieving a rapid scale-up of the SBA workforce seemed to be a factor that prompted decisions by the GOP MOH and its MNCH program to move forward with creation of a new cadre of health workers to be recruited from the community and expected to return to live and work in the

community (UNFPA, 2010). Development of this cadre is a specific strategy outlined in the GOP MOH National Maternal Newborn and Child Health (MNCH) Program plan for 2006 – 2012 (PC-I). PAIMAN's commitment to this strategy as stated in the cooperative agreement was "to assist the GOP in further testing an obstetrical support network in which the community midwife becomes the focal point of the community-based obstetrical services."

The PC-I states explicitly that the CMW was expected to be educated to the level of "skilled birth attendant." WHO defines a skilled attendant as:

*an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (WHO, ICM & FIGO, 2004).*

The International Confederation of Midwives defines the midwife as:

*a person who, having been regularly admitted to a midwifery educational program, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery (ICM, 2005).*

Many countries have initiated national or local efforts to improve and expand maternal and newborn health services in both urban and rural settings through expansion of a midwifery workforce (Calrow & McCall, 2005; Currie et al., 2007; Ireland et. al., 2007; Temmar et. al., 2006; Rukanuddin et. al., 2007; Baker, 2009; Roxburg et. al., 2009). A synthesis of findings from evaluations of these expansion efforts indicates that improvements in maternal and newborn health have come when midwives have received a firm educational foundation for practice; receive ongoing continuing education, mentoring and support; and practice in an enabling work environment. Both the WHO and the ICM have established international standards and guidelines for quality of midwifery educational schools and programs (ICM 2005; Morin & Yan, 2007).

The cadre of "community midwife" would be acknowledged as an SBA for the country of Pakistan as it meets the international definition of a midwife, according to country-based criteria. Ideally, however, the design of the education program should be in accord with the relevant international quality standards established for midwifery education (WHO and ICM). According to the WHO definition, the CMW would also be considered an SBA if the graduate has been "trained to proficiency" in the basic knowledge and skills competencies related to the management of pregnancy, childbirth, and postpartum and newborn care.

Accordingly, the ICM criteria have been used as a framework for the assessment of the education strategy as developed for the country. The outcomes (i.e., "trained to proficiency") will be assessed using information generated by PAIMAN through operations research, through research conducted by other development organizations also engaged in support of the CMW strategy, and by the PNC, who administers the qualification examination.

### **Pathway to Midwifery**

Pakistan has been engaged in the education of midwives for several decades, through various education access pathways:

- All registered nurses (RNs) in Pakistan are enrolled in a fourth academic year which provides midwifery training as an adjunct to nursing training.

- Lady Health Visitors, who are trained in their own network of public health schools, receive 1 year of midwifery training following their 1-year training in public health.
- A cadre of “pupil midwives” is trained in a number of public and private hospital-affiliated schools in a 15-month course of direct-entry (non-nursing) studies.

Aga Khan University has submitted a proposal for creation of the first baccalaureate (undergraduate) program in direct-entry midwifery. This pathway, if approved, will also provide for career ladder options for midwives who have been educated through other pathways. It will also provide the option for progression through graduate (master’s degree) studies.

Graduates from each of these education pathways are eligible to register with the Pakistan Nursing Council and be acknowledged as a midwife. However, knowledgeable informants, including the Registrar of the Pakistan Nursing Council, noted that the majority of the approximately 40,000 RNs do not engage in the practice of midwifery. This dual licensure inflates the estimate of midwives included in country statistics about the midwifery cadre.

The CMW cadre represents a new midwifery direct-entry pathway. There was an overlap in the timelines of the dissemination of the PC-1 and the development of the infrastructure for CMW education. Many informants have questioned whether it might have been a more useful, efficient, and cost-effective strategy to focus on enhancing the technical competence and educational profile of one or more of the existing cadres for which educational infrastructure is already established, rather than creating the new CMW cadre, which involved the reconfiguration of many existing nursing and midwifery educational institutions and a realignment of responsibilities for tutors.

Where possible, PAIMAN engaged with existing public schools of nursing to serve as the educational setting for the Cooperative Agreement target of 2,000 CMW students (of a total government target of 12,000 as stated in PC-1) who would be educated with project support. These schools were affiliated with secondary or tertiary care facilities where students were assigned for clinical experience. Students had to compete for access to clinical experiences with all other cadres of student learners in these settings. Tertiary level health facilities host the clinical education of many cadres of health workers, and CMWs had little or no priority for access to mentorship from either physicians or midwifery clinicians (preceptors) in that setting. There was no provision for midwifery academic educators to accompany students to the clinical setting; therefore, CMW students had no advocate for obtaining experiences, and little or no midwifery mentorship or supervision of the critical learning experiences. There was a distinct separation between teachers in the classroom and clinical settings.

Each of the education program directors with whom the FET visited acknowledged that this fact represented a substantial challenge to acquisition of skills and demonstration of competence, and also noted that these decisions were not in keeping with the spirit of community-based midwifery education. Community-based immersion experiences at RHCs and BHUs were incorporated into the educational model as it evolved in order to address this need for clinical practice access, in general, and, in particular, for practice experience that reflected the realities of the community setting. Still, in many instances, students were allowed to exit the program without having had the minimum number of clinical practice experiences defined in the PNC curriculum. Some graduates noted that they have had as few as five (minimum criterion is five supervised and ten independent) “hands-on” deliveries.

### **Competency-based Curriculum**

PAIMAN Project personnel were involved in the earliest efforts to develop the curriculum of studies for the CMW cadre, in collaboration with other stakeholders (e.g., Pakistan Nursing Council), donor

agencies (UNFPA) and international consultants. The curriculum development task was initially given over to a physician consultant. Informants noted that this consultant was not skilled in the theory and practice of curriculum design, and perhaps had little understanding of the practice outcomes expected of this new provider cadre. Initial discussions and working documents included consideration of a 6-month curriculum of studies, but this proposal received little support from educators and even less support from the PNC and the Pakistan Midwifery Association (PMA). An 18-month (1,800-hour) curriculum of study (398 hours of theory and projects [25%] and 1,402 hours of practical training and evaluation [75%]) was eventually designed by a coalition of stakeholders (described as “curriculum by-committee”) and approved by the PNC. The PNC has recently recommended an extension of the curriculum to 20 months (or 24; informed sources vary) in order to accommodate the need and opportunities to acquire clinical practice experiences, but no practical implementation plan has yet been disseminated.

There are many existing models of direct-entry midwifery curricula, including the model contained in WHO's *Strengthening Midwifery Toolkit* (WHO, 2000; revised 2010). It is unclear whether any of these models were ever fully exploited during the discussions leading to curriculum design for the CMW, and individuals who were interviewed for this evaluation were inconsistent in their report of the timing of inclusion of external consultants in the process. Nevertheless, the curriculum of study presently approved does not meet the competency-based standards established by either WHO or ICM for programs of midwifery study. Specifically, the presently approved *Community Midwifery Curriculum* (PNC, undated):

- Does not reflect the totality of basic (essential) competencies defined by the ICM;
- Does not provide for a career pathway through advanced education programs;
- Is not consistent with the designated balance of (minimum) 40% theory (minimum) 50% practice; and
- Does not meet the minimum length of 3 years of study for direct-entry midwifery education programs.

### **Student Recruitment and Admission**

The CMW was envisioned in the PC-I to be a community-based private practitioner. Accordingly, it was deemed appropriate that the applicants be recruited from their residential communities, to which they were expected to return to establish their practices. This recruitment strategy has been demonstrated to be very successful in other countries, such as Ethiopia (the Hamlin College of Midwifery) and Afghanistan (Currie, et. al., 2007).

Eligibility to the CMW programs of study is restricted to females who have passed a matriculation examination (10<sup>th</sup> grade equivalent) with a minimum of 45% marks and who are between the ages of 18 and 30 (with some flexibility in special circumstances, such as lower or higher ages at entry). PAIMAN had difficulty in recruiting students from one province, as they could not identify a sufficient cohort of applicants who met these already very low eligibility benchmarks. PAIMAN provided an educational enrichment course that enabled the students to sit the matrix graduation examination and then proceed to application for enrollment in CMW studies.

The eligibility criteria presently approved do not meet the standards established by ICM for programs of midwifery study. Specifically, the eligibility of applicants with a 10<sup>th</sup> grade equivalent of education is not consistent with the standard of completion of secondary education as the minimum entry level of students.

## Midwifery Tutors and Preceptors

The tutors and preceptors who were tasked (by government) or requested (by PAIMAN) to engage in the education of this new cadre were drawn from existing schools of nursing or public health in the country. RN instructors would have received midwifery education in their own basic program of study. It was the opinion of informants that some, if not all, of the “nursing instructors” in the public teaching institutions were prepared for the teaching role through study in a two-year diploma program of “ward and teaching administration.” The PNC noted that they were proposing development of a two-year program that would emphasize both teaching skills and midwifery clinical practice to generate a cadre of midwifery tutors, but that program has not been formalized.

A universal opinion was expressed by each principal interviewed by the FET that few or none of the nursing instructors who were selected to teach the theoretical content had any recent clinical practice experience in the midwifery role and were therefore not fully prepared to teach the clinical skills component of the CMW curriculum, even in simulated practice. Principals of the teaching schools also expressed their concern that the preceptors (physicians and LHVs who supervised students in the clinical practice setting) were unfamiliar with the expected outcomes of CMW education and needed a more in-depth orientation to the scope of CMW practice.

These plans and strategies for crafting a midwifery tutor and preceptor workforce do not meet ICM standards for midwifery education programs in all cases. ICM standards require that midwifery faculty:

- Demonstrate competency in midwifery practice, generally acquired through two years of full-scope midwifery practice; and
- Maintain competency in midwifery practice and education.

PAIMAN and the USAID-sponsored TACMIL project that was conducted simultaneously with PAIMAN CMW training (December 2007 to December 2009) both provided extensive knowledge and skill-building “refresher” training to strengthen the capacity of tutors and preceptors. This training may actually have represented “new learning” for tutors who had not been engaged in midwifery practice in recent years, as the scope of evidence-based midwifery practice has evolved.

Several informed respondents expressed some regret about the awkward timing of the TACMIL project with respect to its role and responsibility for strengthening specific aspects of the CMW strategy (tutor training, regulation). These opinions serve to reinforce the concern that the PC-I required that the CMW strategy be implemented prior to design and implementation of critically essential quality components (e.g., an established cadre of qualified tutors, sufficient academic and clinical infrastructure, and the existence of a strong regulatory process and authority).

The director of the midwifery program at the Aga Khan University had a very recent opportunity to evaluate the PAIMAN- and TACMIL-affiliated tutors and preceptors across the country, and was of the opinion that they had benefitted from the skill-building sessions conducted by either of the projects and were functioning in the academic teaching role at a very satisfactory level. At the same time, the report repeats the finding of a disconnect between clinical and academic learning, and calls for action to strengthen the clinical aspects of teaching at the hospital and community level.

The majority of physician preceptors in hospitals and in BHUs responsible for CMW education who were interviewed by the FET expressed some concern about the clinical competency of the students they had previously (PAIMAN-sponsored) or were currently (both PAIMAN- and MOH-sponsored) supervising. They stated rather affirmatively that the CMW required a much longer clinical learning

experience, and a long-term (up to one year) period of close supervision after their graduation and deployment.

Principals and tutors of the PAIMAN-affiliated schools expressed their support of the project for its efforts to:

- Engage tutors in competency-building training for both teaching and clinical skills;
- Provide certain teaching materials and educational supplies to the school; and
- Support the reinvigoration of a private school (United Christian Hospital), leading to its re-accreditation.

However, principals and tutors of the PAIMAN-affiliated schools, reflecting on their past experience with PAIMAN-sponsored students and comparing that to their current engagement with students sponsored by the MOH, expressed the following concerns and opinions:

- Midwifery tutors in the schools of nursing were tasked to take on this new cadre even though the differences in curriculum between the RN-4<sup>th</sup> year midwifery and/or LHV midwifery curriculum with which they were most familiar and expectations of the CMW scope of practice were not made clear to them.
- The eligibility criteria for students are problematic. Lack of education in the sciences is a particular deficit in their academic preparation for the content of the program of studies. A recent development has been the directive to lower the matrix mark from 45% to 40% in order to fill enrollment targets. These students were considered by the educators to be simply not well enough prepared for higher-level academic studies.
- Many students are simply too young (18 is stated as the minimum age) to accept the level of responsibility for the independent decision-making required of the midwife in practice.
- The community midwife should meet much higher standards of quality given that they are intended to practice independently; therefore, admissions and graduation and registration requirements should be at least equal to those of RN/midwives or LHV midwives.
- The very low teacher-to-student ratio made it impossible for tutors to accompany students to the clinical setting in most cases. The PC-I designates 2 tutors for each 25 students. This ratio varied by education program; 2 to 3 tutors for up to 40 students was acknowledged by several principals. The theory/clinical interface was considered to be particularly important with respect to the distant community-based sites because immediate assistance is not readily available to the student in the event of an emergency, as it is in tertiary hospitals.
- This lack of continuity had a substantial adverse impact on the relationship between classroom and clinical learning, and led to “de-skilling” of the academic tutors who had received the clinical upgrade training.
- The pass/fail standard for both written and oral examinations is set by the PNC and was believed by tutors to be too low for determining quality. The pass/fail standard is higher for LHVs who share the identical midwifery responsibilities.
- The supplemental monetary support given to tutors (including physician lecturers) authorized by the PC-I was appreciated at the time. However, once the PAIMAN source funds ended and MOH became the source, receipt of payments was less reliable and timely, and many of these individuals are now refusing to provide the same level of service (Riddle, 2010). The lack of a reliable source of supplemental faculty salary has not been accompanied by any change in the teaching burden. Some MOH CMW classes are now being taught in the evening after a full day of RN teaching responsibilities have been fulfilled.

- Certain schools had, in fact, lost teaching positions following withdrawal of PAIMAN support, further increasing the teaching burden on remaining faculty.
- Administrators noted a perception (whether or not founded in fact) that other types of funding support had been given to PAIMAN students and to the schools in which they were educated (e.g., computers, printers, teaching equipment). They noted that this had created an unsustainable mode that did not reflect the program design realities which would be expected to be forthcoming from the MOH.
- The majority of administrators and tutors were of the opinion that the 18-month length of the academic program is simply not sufficient to achieve the intended outcomes of quality theoretic or clinical education for this cadre.
- The students do not acquire transferrable academic credits. There is no career pathway.

The statements of midwifery students and their clinical preceptors concerning the lack of availability of clinical practice experiences, and the statements by graduates themselves that they had not acquired the minimum number of required clinical experiences raise serious questions about whether the current strategies for CMW education are capable of generating a CMW SBA workforce that has been “trained to proficiency.”

### **Accreditation of Schools and Regulation of the Practitioner**

The Pakistan Nursing Council serves as the regulatory authority for registration of midwives for entry into practice. The PNC grants approvals to the schools, sets standards for teachers, and establishes eligibility criteria for students. An independent Nursing Examination Board (NEB) functions in each province. The provincial boards develop and administer a qualifying examination and establish the pass/fail criteria, which (according to knowledgeable informants) has not been standardized across provinces from time to time. School graduates who pass the NEB assessment are awarded a diploma, which can then be presented to the PNC, and a license to practice (provisional or final) can then be awarded. Information from the PNC indicated that the NEB was challenged to keep pace with the examination of the volume of CMW applicants. The NEBs in two provinces were disputing several procedural matters, including the wording of the diploma that they would award.

The Pakistan Nursing Council was involved in the early discussions about the creation of the new CMW cadre. The PNC informant indicated reluctance on the part of the existing nursing registry authority to become involved in the registration of the CMW, expressing the concern that there could be confusion about roles and responsibilities between the existing cadres of midwives already recognized by the PNC and this new “direct-entry” (non-nurse) midwifery practitioner. However, the PNC recognized that having a role in approving schools and examining the candidates at the time of entry into practice would be in the best interest of maintaining some quality control; therefore, it accepted the responsibility for those activities. Nevertheless, to date, there are no written or approved standards of practice for the CMW. There are also no requirements for continued education and/or re-registration following initial licensure.

The Pakistan Midwifery Association and several other key midwifery informants expressed the opinion that the PNC had no role in the regulation of midwives, who ideally should be governed by their own regulatory authority. The majority of midwives in the country are, in fact, not also educated as nurses, and the RN/Midwives already hold separate licensure in each discipline.

The GOP has been engaged in extensive external consultation about this issue. *The Global Consultation on Strengthening the Nursing and Midwifery Services* was held in Islamabad in March 2008, as a collaborative effort between the GOP, WHO, ICM, and the International Council of Nurses. This meeting resulted in



promulgation of the Islamabad Declaration, which outlines critical elements essential for strengthening both the nursing and the midwifery professions in the country (Searo, 2008). This meeting was followed by a national consultation that generated a road map for nursing, midwifery and LHV education reform. Governance and accountability of the midwifery profession is discussed in that document.

## **Deployment and Retention**

The PC-I anticipated that the CMW would be a private practitioner who would work in the rural communities. CMWs would have their most direct linkage with the Basic Health Unit, where physicians and LHVs would offer support and receive referrals. The LHV has emerged as the de-facto “supervisor” of CMWs. Monthly meetings are arranged and seem to have been adopted as a uniform strategy across at least the PAIMAN-supported districts, although no formal supervision system has been approved to date. (Informants state that a plan has been developed and submitted to the MNCH program for consideration. This may be the same plan that can be found in the draft documents prepared by DfID that were shared with the FTE.) The CMW submits monthly reports of her activities to the LHV, who incorporates this information into the monthly reports from the facility. There is no clear or standardized mechanism for ensuring that these data are included in District Health Information Management system.

DfID has developed an extensive deployment plan for CMWs that takes their intended independent status into account. PAIMAN offered substantial support to the CMWs trained by the project to establish their practice settings. The graduates were given essential equipment and supplies (e.g., birth tables, office furniture, expendable supplies) to enable the creation of maternity homes in their own residences or to establish a free-standing birthing center in the community. The national MNCH program has proposed that CMWs establish these independent free-standing facilities, rather than residential birth homes. The difference in community access as a function of either design has not been studied. A concern has also been raised about the issue of personal security in the free-standing settings.

The GOP/MOH intends to provide each CMW with a monthly stipend of \$2000 Rs as a retention strategy for at least two years. However, the GOP assumption of this responsibility has not been timely; payments have been delayed to CMWs currently in practice.

The stipend was intended to be supplemented by fee-for-service income. PC-I explicitly notes that the MOH will not set or recommend a standard fee as it is expected to vary from place to place. (There is also some disagreement in various documents [DfID and MOH] about the wisdom of establishing the CMW as a private practitioner, charging a fee for service.) The CMWs interviewed by the FET responded that they have set their fees according to their knowledge of the community economic profile. A sliding scale had been established by all CMWs interviewed, with fees ranging from free or in-kind service (approximately 20% of clients) to as much as 5,000 Rs. The TACMIL project provided training in “business skills” to some CMWs in recognition of their intended status as entrepreneurs. The infrastructure support provided by PAIMAN was likely a fundamental factor in making this business financially viable for the CMWs who established their business during the period of PAIMAN support. A few informants had had the opportunity to review the deployment guidelines developed by DfID and adopted by MNCH (according to informants) and noted that there is some discussion in that document about provision of similar infrastructure support. The FET did not have the opportunity to review that document during the site visit, although it was provided in the after-evaluation period. Dissemination of the document throughout the country has itself been delayed for an indefinite term.

The success of the business will be largely dependent upon the trust that the CMW can establish in the community. The CMWs interviewed by the FET had conducted a community mapping exercise and had

engaged in individual outreach to advertise their services. They were also being supported by LHVs and LHWs, who helped to spread the news of this new community-based service.

An operational research study conducted by the Population Council assessed the potential of these CMWs to integrate their practices into the communities (Population Council, 2010). A major finding from focus groups conducted among district health personnel and community residents was that there was a perceived need for such a health worker and that the CMW would be accepted. LHVs and TBAs already present in the community noted that the CMW would be judged primarily on the quality of her performance and on how well she aligned her practice with that of other practitioners (both in terms of collaboration and in terms of fee for service).

The FET made a visit to a non-PAIMAN-supported BHU and queried the facility personnel about the CMWs who were practicing in that community. Facility staff knew of four CMWs who were present in the community, but none of these women was conducting deliveries on her own accord. They were providing a valued antenatal care service and were referring clients to the BHU for deliveries. The LHV in the facility stated that she had offered to allow the CMW to observe the conduct of deliveries in order to gain additional experience. The LHV remarked that the CMWs lacked “confidence” to perform their full function.

### **Outcomes Assessments**

A second operational research study conducted by PAIMAN assessed community midwifery services in rural Pakistan (Population Council, 2010). The stated goal of that study was “to provide necessary evidence for future decisions regarding the training, practice and placement of community midwives.” The sample of 106 CMWs interviewed in this study included CMWs who had received their training with PAIMAN support, either for training or for establishment of their community-based practices (Population Council, 2010). The findings from this study indicated that only half of the sample had met the clinical educational standard of 15 deliveries during the training period and that one fourth of the sample had experienced difficulties in arranging the community-based portion of their training, including lack of introduction into the community and reluctance of women to accept services from them due to the young age of the CMWs.

An assessment of the knowledge acquired during training indicated a very poor level of performance on several key “best practices” essential to skilled attendance of mothers and newborns. Less than half (for some skills, less than one third) of the respondents were able to state danger signs of pregnancy and delivery, the protocol of eclampsia management, the appropriate approach to management of prolonged labor, the steps of active management of the third stage of labor (AMTSL), or the essentials of infection prevention. Only one in ten could describe the appropriate steps in management of newborn care; only 20% of respondents could describe how to prevent neonatal tetanus.

These findings were augmented by an independent assessment conducted by the midwifery faculty of the School of Nursing & Midwifery, DHQ Hospital Jhelum, who were concerned about the quality of their graduates. A clinical checklist was used in the observational assessment of CMWs as they conducted AMTSL and postnatal care. Infection prevention practices and record keeping were found to be particularly poor, and family planning commodities were not available. Refresher training for these CMWs was arranged by the school in the interest of their own quality.

An extensive evaluation conducted by DfID of the entire CMW strategy was reported in August 2010. This external evaluation is of particular importance because it reviews the CMW strategy as enacted by all implementing partners and thus offers an overall and objective view of the strategy. The assessment used random sampling methods within districts in which PAIMAN operated; as a result, some PAIMAN-

supported schools and graduates were equally likely to have been among those included in the review. Findings included the following:

With respect to training:

- Schools had an adequate number of theory tutors, but clinical trainers were not designated.
- The educational proficiency (educational knowledge and skills) of CMW tutors and clinical trainers reported and observed were deficient, and they lacked orientation to CMW training.
- Skill labs and labour rooms lacked equipment, drugs and supplies.
- Clinical training was extremely deficient both at the facility and in community settings; 16% of CMW graduates had not conducted a single delivery in the hospital or community (46%) independently.
- Supervision and monitoring were unrealistic.
- Logbooks did not include the full range of competencies to be mastered.
- Clinical experience logbooks were signed by faculty, but not verified prior to giving students permission to appear in the exam; more than 50% had not conducted the required number of deliveries (ten) to qualify for entry to the final exam, but were allowed to appear for the exam.

With respect to capability and competence of the CMW graduates:

- 73% of the CMWs were practicing, but 43% had not conducted any delivery in the last three months.
- Only 18% of CMWs could list all the activities included in their scope of work (as delineated in PC-I and the CMW curriculum).
- Significant proportions of CMWs had some theory-based information, though very few had comprehensive knowledge; they were unable to critically assess, synthesize and formulate appropriate responses to given clinical scenarios covering critical clinical topics (problem identification, management of bleeding). The DfID report noted the following:

*[T]his is alarming since one of the core responsibilities of these frontline skilled birth attendants is early identification of complication and timely referral which is vital to reduce maternal mortality in the country.*

Findings from these various studies clearly indicate the need for continued education and strong supportive supervision of this cadre. They also point to the need for some re-thinking about the basic approach to CMW education.

## **Results**

### **Provider Training**

Table 4 depicts the topics addressed in the various “refresher” trainings, the training participants, and the number of individuals trained by PAIMAN by end-of-project.

Additionally, 164 women from the Khyber Pakhtunkhwa and Balochistan areas were supported to achieve 8<sup>th</sup> grade education for LHW eligibility.

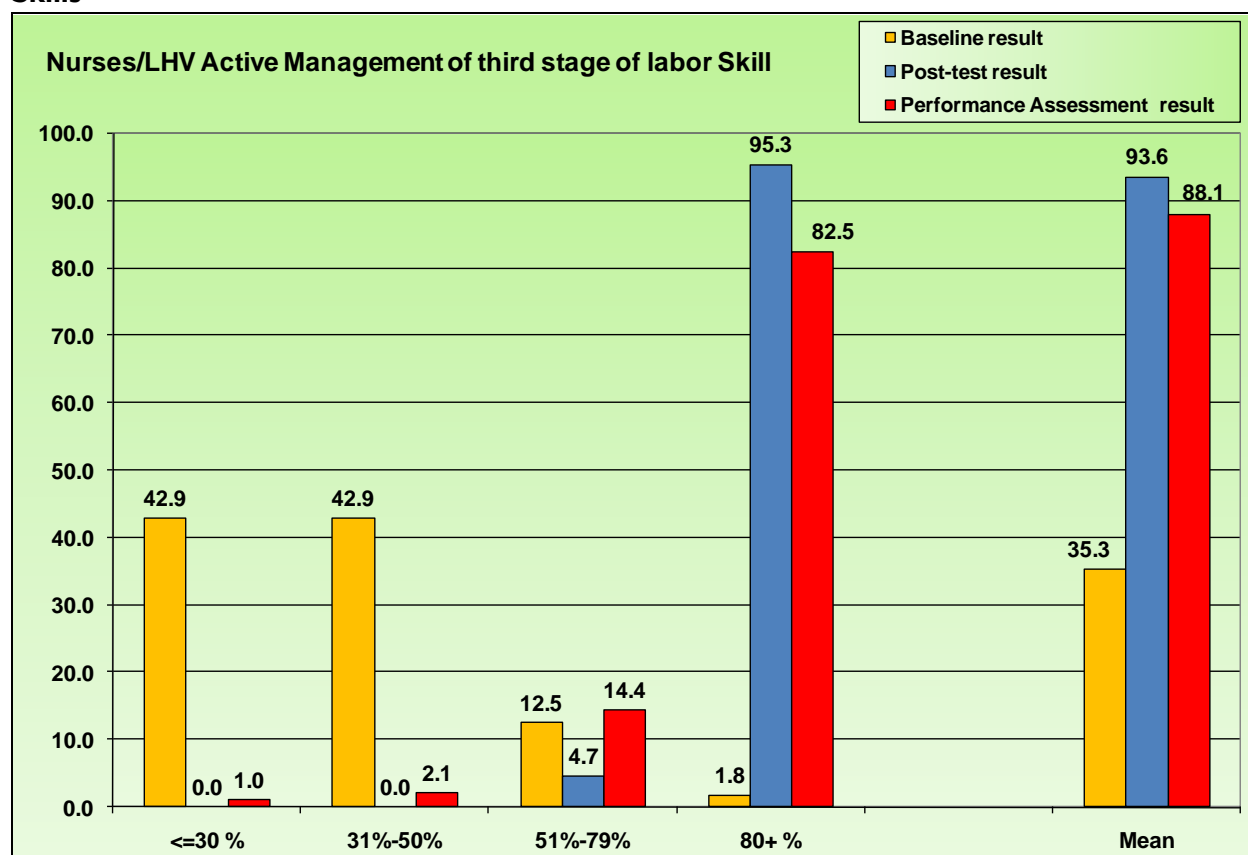
End-of-training assessments conducted for many of these training courses indicated at least short-term improvement in knowledge. A strategy was developed by SAVE for follow-up of outcomes of learning over the longer term to address retention of knowledge and, even more importantly, to document that these trainings had changed provider behavior in practice, particularly in improvement in clinical skills. Only limited information concerning these follow-up assessments was available in project documents.

**Table 4: Training Conducted**

Focus of the training	Provider cadre (Length of training)	No. of training participants
Essential maternal and newborn care	Master trainers (6 days)	140
	Health care providers (6 days)	2,240
	Health care providers (4 days)	495
	EMNC monitors (1 day)	142
	Private providers	569
Comprehensive EmONC training	Health care providers (10 days)	74
	Specialists	42
IUCD insertion	Health care providers	120
Minilap procedures	Health care providers	35
Essential surgical skills (MNCH/FP)	Health care providers	312
Vasectomy	Health care providers	28
Advanced maternal and newborn care	Private providers	50
IMNCI/C-INMCI	Provincial trainers	122
	District trainers	642
	Facility level health care providers	1105
	LHWs	6,582
IYCF	Health care providers	384
AMTSL and use of partograph	Health care providers	622
Clean delivery practices	TBAs	2275
Infection prevention	Health care providers	360
Basic life support	Ambulance drivers and paramedics	276
Support group methodology	Master trainers	87
	District level trainers	1603
	LHWs	11,057
Client-centered approach for delivering RH services	District trainers	27
	Doctors and paramedics	402
Leadership skills	District management staff	161
<b>TOTAL</b>		<b>29,952</b>

Figure 7 depicts the very positive findings from one training assessment that did include a clinical performance assessment component at the end of training. Longer-term follow-up data to assess retention of learning or determine whether the skill had been incorporated into daily facility practice are not readily available for comparison. However, these results may re-open the question of whether to focus more training on the existing cadre of LHVs.

**Figure 7: Nurses/LHV Active Management of Third Stage of Labor Skills**



Source: Contech Endline Survey, 2010

The Population Council CMW assessment (previously cited) was particularly discouraging with respect to infection prevention knowledge and behaviors. Correct hand washing technique was demonstrated by less than three-fourths of the CMWs directly observed and by none of the CMWs observed in two districts (Khanewal and DG Khan). Proper use of a clean delivery kit was demonstrated, on average, by only half of the CMWs, but by none of the CMWs in DG Khan.

The intended outcomes by which the effectiveness of these clinically focused trainings were to be measured were:

- Increased skilled attendance for deliveries in the target districts; and
- Decreased case-fatality rates for hospitalized women and neonates.

On the recommendation of the mid-term evaluation team, the case-fatality rate was dropped as an outcome indicator given the small numbers in the smaller district-level health facilities, which are not meaningful. The skilled attendance figure is noted in Section SO3.

An intriguing finding is noted in the endline data, but is otherwise unexplained and should be further explored. The neonatal mortality estimates reported in the endline are far more substantive for *unskilled* attendants than for skilled attendants. The project target was a 25% reduction in neonatal mortality. Endline estimates indicate a reduction of 5% for births attended by skilled personnel and a reduction of

41% for unskilled attendance. Maternal mortality estimates are currently being compiled and are anticipated to be available by late 2010.

### Community Midwives

PAIMAN was instrumental in soliciting external technical assistance as it engaged in the development of its own CMW training activities. For example, a widely respected international consultant (Della Sheratt) was engaged to teach the master trainers and to critique the curriculum. The President of the International Confederation of Midwives, who was visiting at Aga Khan University, was invited by the University to comment on the program design. USAID also supported the TACMIL project, which ran in parallel to PAIMAN, and there was some interaction between the two USAID-funded projects.

The MNCH PC-I has established a target of 12,000 CMWs to be educated by 2012. DfID reports that 6,574 CMWs were enrolled or had completed their training by January 2010 (Table 5).

**Table 5: CMWs by Province**

Province/Region	Total planned	Currently enrolled	Completed training	Total # of CMWs, currently enrolled and completed training
Balochistan	1,200	344	221	565
Punjab	6,355	2,099	1,570	3,669
Khyber-Pakhtunkhwa	1,810	1,451	27	1,478
FATA	255	74	0	74
Sindh	1,960	316	173	489
Gilgit-Baltistan	140	61	0	61
AJK	270	92	46	138
<b>Total</b>	<b>11,990</b>	<b>4,437</b>	<b>2,037</b>	<b>6,474</b>

The PAIMAN Project accepted responsibility in the Cooperative Agreement for training 2,000 of these providers. To that end, PAIMAN engaged in the following activities:

- 44 master trainers were prepared to teach the new midwifery training curriculum.
- 219 midwifery tutors were oriented to the elements of the CMW curriculum.
- 22 tutors were prepared to conduct a 2-week refresher midwifery training.
- 750 health care providers were offered refresher training in selected elements of birth attendance included in the midwifery curriculum.
- 1,623 students were enrolled in the 18-month new midwifery training curriculum.
- 80 women were supported to achieve a 10<sup>th</sup> grade certificate to be eligible for CMW enrollment.

PAIMAN supported a total of 31 CMW schools in five districts from December 2006 to March 2009. This support included substantial contributions to some schools to upgrade teaching facilities or student hostels and to subsidize the salaries of tutors (as provided in PC-1).

Both PAIMAN and the various training institutions have attempted to keep track of student progression, graduation and deployment. For example, the principal of the School of Nursing and Midwifery at DHQ Hospital Jhelum reports that the 41 students from the first two cohorts who completed the program (of 56 who entered) all passed the examination and have established birthing stations in their communities. Principals from other schools in the northern provinces report similar enrollment, progression and

graduation rates. The experience of Balochistan, Buner and Lasbela is less favorable. The FET member who visited those provinces conveyed the information, imparted by knowledgeable informants, that many graduates have already been lost to follow-up or are known to have accepted employment in another field.

PAIMAN reports the following aggregate statistics:

- 1,623 admissions,
- 142 drop-outs (8.7%) for personal or academic reasons,
- 1,121 graduates who applied for the exam to date, and
- 952 who passed the exam (varies from PNC information).

The PNC Registrar reported that the number of PAIMAN-supported CMWs actually registered by the PNC as of August 2010 was 344. Some of the program graduates will take the examination in September 2010. It was also suggested that some of those who passed the examination were not aware that the PNC was, at least for a short period of time, accepting both the certificate of completion (awarded by the school) and the diplomas awarded by the NEB (which as noted below was delayed in two provinces) as evidence of eligibility for registration with the PNC. However, the discrepancy in numbers reported from the two sources cannot otherwise be resolved.

PAIMAN paid the NEB examination registration fee for every student from PAIMAN-sponsored schools. The MNCH program had indicated its intention also to pay this fee, and MNCH has, in fact, paid the fee for four schools in Baluchistan Province. However, the Principals of two schools in Punjab Province noted that the registration fees for their most recent MNCH-sponsored student cohorts have not been paid; as a result, these students have not yet had access to examination (or therefore graduation, registration and deployment). It is very likely that these MNCH graduates will be asked to pay this fee directly.

The PNC reported that the examination pass rate for 2009 was 71.6% at the national level. The total number of CMWs examined was 1,746, of whom 1,250 achieved a passing score. This figure is consistent with information reported by DfID (2010), in which they state that a total of 6,113 CMWs were enrolled and trained in the country by MNCH and other development partners through August 2009; of that number, 1,501 took the midwifery examination and 72.2% (n=1085) passed. The next 2010 examination is scheduled for September 2010.

This favorable pass rate is tempered by the fact that the pass/fail score established by the NEB and PNC for this examination has been set at 50%, which raises substantial concern, given the critical “life and death” decisions that these CMWs may face while in their clinical practices. This standard is even lower than the standard established for the RN/midwife or the LHV with midwifery skills. The pass/fail rate also differs by province. PAIMAN staff queried voiced no objection to changing these criteria and raising the standard to pass.

**Table 6. Graduate Pass Rates CMW Programs \***

Province/Territory	N of applicants	Timeline	Pass (pass percentage)
Punjab	955	Sept 2008 – March 2010	723 (78.8%)
Sindh	Sindh Province has had an acting Controller who did not have the authority to sign diplomas for those who passed the exam. The position has only recently been filled. Successful examinees are only now able to request registry with the PNC.		
Khyber Puktoonkhwa	591	March 2010	479 (81%)
Balochistan	Unable to contact NEB because of country situation		

\* Information obtained through telephone inquiry of Province National Examination Boards; otherwise unverified.

## Lessons Learned

The rapid scale-up of the CMW cadre led to some unfortunate conceptual and practical gaps in both the academic and clinical programming for education of this cadre. Consequently, more than one knowledgeable informant noted that “there is still no skilled birth attendant in the community.”

The PNC and other informants stated that more attention should have been given to the strategy of expanding the education and scope of practice of the LHV because the educational infrastructure has already been established, the scope of their practice already included limited midwifery skills, results of assessments indicate a better grasp of material (see Figure 7), and the cadre has already been well integrated into and well accepted by the communities.

Outcome evaluations clearly indicate that the CMWs educated to date require continued and refresher education and mentorship to increase their knowledge and reinforce their clinical skills in critical life-saving BEmONC signal functions. As DfID noted:

*Urgent action is required to improve quality, particularly in all aspects of clinical training in order for CMWs to achieve a level of competency and proficiency which will allow them to practice safely, as an effective member of the primary level team.*

DfID has completed an exhaustive review of the current situation and has generated a substantial number of guidance documents (some in draft, others in final form) related to deployment, retention and supervision of the CMW cadre. UNICEF has also offered to do an evaluation of the CMW program to document gaps and opportunities for improvement. The FET strongly encourages that this evaluation be conducted and strongly recommends that (a) the international standards established by ICM (as endorsed by WHO) be used as the criteria for program assessment and incorporated into any effort at program redesign of the midwifery education program; and (b) an assessment of whether the present program design has the potential to “train to proficiency” be used as the non-negotiable benchmark of program effectiveness.

## Conclusions

The promotion of midwifery as a professional skilled birth attendant cadre for the country should be strongly encouraged. The deployment of SBAs, including fully qualified midwives to increase access to health care at the community level, is a solution that has been tested around the world and has been demonstrated in many countries to have a very positive impact on the reduction of maternal and neonatal morbidity and mortality. However, these improvements have been demonstrated only in those circumstances where midwives have received a firm educational foundation for practicing, receive ongoing continuing education, mentoring and support, and practice in an enabling work environment.



The considerable expense of time and resources that the GOP and its international donor partners have invested in the training of CMWs who do not meet international standards of education and clinical proficiency, in the immediate interest of addressing health workforce needs, may have diverted attention from the priority of educating SBAs and may have created an unsustainable model of education and clinical deployment and practice.

Professional (fully qualified) midwives must play an integral role in any deliberations about the future of midwifery education in Pakistan. The Midwifery Association of Pakistan should be strengthened through leadership development initiatives so that the future of midwifery in the country can be shaped by those who are most invested in the quality of midwifery education and clinical practice.

## **SO 5. IMPROVING MANAGEMENT AND INTEGRATION OF SERVICES AT ALL LEVELS**

### **Findings**

This strategic objective grew out of the political atmosphere in Pakistan at the time when the project was being developed. The decentralization process written in the radical Local Government Ordinance of 2001 devolved power from province to district and rendered local governments directly accountable to the people by basing their tenure on the people's vote. It also allowed public participation in decision-making and established the means for citizen participation in electing local government officials and for active participation in local development concerns. The changes brought about by the LGO 2001 have been summarized in five points<sup>7</sup>:

1. Devolution of political power to the three tiers of district government (district, tehsil, and union administration) that are empowered to make decisions based on local conditions.
2. Distribution of resources to the district: powers were given to district governments to raise taxes, along with the transfer of some fiscal responsibilities from higher to lower tiers of government, i.e., formula-based fiscal transfers to the districts through Provincial Finance Awards.
3. Diffusion of the power/authority nexus: monitoring by citizens, civil society's involvement in development work, and adequate checks and balances.
4. De-concentration of management functions: focused approach, meritocracy, and performance-based appraisal systems.
5. Decentralization of administrative authority: more operational autonomy to the district-level departments.

This resulted in new accountability of the district administrations: *downward* to the population that elected them and *upward* to the province and Federal government, who continued to provide most of the funds. The new accountability included health services. It was felt that the districts were not prepared for this sudden change, and in the creation of the PAIMAN Project, this strategic objective was established to prepare district health sectors for their new responsibilities.

Guidance for this process was provided by a 2005 decision space analysis conducted by researchers from the Harvard University School of Public Health and partners from Contech. This was done to appraise the preparedness of district administrations for decentralized decision making and to identify areas for PAIMAN intervention. The question examined was how health sector decentralization had

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<sup>7</sup> *Decentralization Support Program*, at <http://www.decentralization.org.pk/lg.asp>, 3 September 2010, accessed 3 September 2010.

affected delivery of health services and the functioning of local health systems (and, by extension, health outcomes). It measured the degree of decision-making authority at the district level (the decision space), the institutional capacity of district-level officials to make decisions in that environment—including the availability and access to resources necessary for those decisions to be acted upon—and the accountability of local officials to make sure that decision choices actually led to improved services and care. It examined these three components as they affected performance in human resource management, budgeting, and service delivery.

The decision space analysis revealed significant regional differences in all three components (i.e., decision space, capacity, and accountability) and recommended a district-by-district approach by PAIMAN to tailor this strategic objective to the specific needs of each of the ten districts. PAIMAN, however, opted to standardize its approach and introduced a standard set of interventions in each of the districts, under the unifying intervention of an established District Health Management Team (DHMT). The DHMT concept, not new to Pakistan, was underdeveloped in most provinces and, where introduced through previous programmes, had not been sustained. It was designed as a multi-sectoral body chaired by the District Coordinator, an official appointed by the provincial government but accountable to the elected head of the district, the *Nazim*.

Other key interventions, selected according to the generic needs of a district administration in a decentralized environment, were (i) infrastructure development, (ii) training on various management topics, (iii) district health planning and the development of District Annual Operational Plans (DAOPs), and (iv) the development and implementation of a District Health Information System and a variety of assessment and benchmarking exercises for monitoring and evaluation.

The strategic objective was evaluated through two major evaluations, with the participation of a key PAIMAN consortium partner: *Endline analysis of decision space, institutional capacities and accountability in PAIMAN districts*, published by researchers from the Harvard School of Public Health and Contech International in draft form in 2010, and the *District Health System Strengthening – Endline Evaluation*, completed in 2010 by Contech International and published by JSI. The findings from these two evaluations were supplemented and in some cases validated by FET interviews with officials at the provincial, district, tehsil, and union levels in the seven districts visited.

### **Decision Space Analysis Results**

The decision space analysis provided a critical view of the potential for the interventions in this strategic objective to lead to changes in actual performance and health service outcome by:

- Sampling 15 districts, the original 10 PAIMAN districts plus 5 comparison districts;
- Comparing results of the 2007 baseline survey with data collected in 2009 from the same districts;
- Analyzing changes in decision making, institutional capacity, and accountability across four management areas: strategic and operational planning, budgeting, human resources and service organization and delivery; and
- Highlighting the difficulties in arriving at effective decisions when resource capacity constraints were present (e.g., limitations in human resources were a constraint to many decisions and led to significantly reduced institutional capacity).

The results, though not statistically significant, showed general improvement in widening the Decision Space (i.e., resulting in greater opportunities to take decisions) in the PAIMAN districts, most notably in human resources and in service organization and delivery. Decision space in budgeting, however, remained unchanged. This could be interpreted as evidence of incomplete devolution of financial management from the federal and provincial levels to the districts. The data reflect the fact that district-

level decision makers are not able to match fiscal resources to local health system needs, despite decentralization. Of note is that improvements occurred in both PAIMAN and comparison districts (in some instances decision space was better in comparison districts than in PAIMAN districts), which clouds the attribution of these positive changes to the effect of PAIMAN training and inputs.

Where PAIMAN strengths were revealed, however, was in the increase in health workers' training experiences in PAIMAN districts as opposed to comparison districts. In addition, there was a greater percentage of health officials in PAIMAN districts in 2009 who reported having been trained in procurement, preparing contracts, and logistics than in 2007 (2007 levels of training in strategic/operational planning were unchanged). This represents an important finding, as training can enhance institutional capacities, which can lead to a greater ability to use decision space. The findings were not strong enough to provide irrefutable evidence of positive impacts of PAIMAN interventions, but they do suggest that health sector officials in PAIMAN districts developed a greater potential to make choices consistent with good health sector performance compared to several years ago. The use of DHMTs as forums for sharing of training knowledge also increased between 2007 and 2009 among PAIMAN districts.

To the analysts, the bottom line was how these changes in Decision Space, Institutional Capacity and Accountability impacted on MNCH outcomes. Here the data was confusing. Findings suggested that changes in MCH outcomes in comparison districts were better than in PAIMAN districts in the study period. Two examples were cited: (i) the percentage of women receiving ANC services and having a birth attended by an SBA increased in PAIMAN districts, but the increase was greater in comparison districts; and (ii) the percentage of children who received tetanus toxoid fell in both PAIMAN and comparison districts but, again, by a greater degree in PAIMAN districts. Without further analysis, it is difficult to know what to make of these findings, but they underscore the vital importance of introducing a comparison group in each evaluation design.

Finally, there were two conflicting statements regarding increases in the share of district budgets for health. One said, "Consistent with these survey findings, the health sector share of district governments budgets fell between 2006/2007 and 2009 in PAIMAN districts" (Bossert, et. al., 2008), while the other stated: "The percentage of the health sector budget in the overall district budget increased between 2006/2007 and 2009, but decreased in comparison districts" (Bossert, p. 42). The table of results that was presented supported the latter statement. Regardless of which of these comments holds, it was clear that budget *utilization* rates in PAIMAN districts fell, indicating that while decision space may have increased, it needed to be matched by institutional capacities throughout the system so that decisions could be implemented accordingly.

### **District Health System Strengthening – Endline Evaluation**

The Endline Evaluation of District Health System Strengthening was less useful as it examined only the PAIMAN districts without comparisons. It used a pre-test, post-test design, though it changed the selection of institutions (i.e., from public and private in the Baseline to just public in the Endline) and it changed some of the indicator criteria, particularly those measuring use of Out Patient Departments (i.e., it changed from women attending facilities for Ob/Gyn in 2005 to all women in 2010 and changed from baseline measures of visits by all children and neonates to only visits by children under 5 years old in the endline; the evaluation explained that due to a change in the questionnaire, the data on health facility management status was not comparable with 2005 and was not available for comparison.)

There were also some discrepancies between text and figures: in the conclusions to the section on comparison of upgraded and non-upgraded facilities, the evaluation noted that daily Out Patient Department attendance of children in both THQ and RHC upgraded health facilities had increased,

while the graph on the previous page showed that visits by children in non-upgraded RHCs were actually higher than in upgraded facilities (Bossert, p. 69). Such errors could undermine the credibility of the study. The methodological problems and interpretation of OPD visits was the most important since this was one of only two indicators that measured the impact on local health-seeking behavior of all the interventions in health system strengthening.

These problems, however, should not detract from the real advances made in facilities over the course of the 5-year period under study. There were positive changes in availability of EmONC and EmNC services in the DHQH. This was not unexpected as these were the hospitals uniformly upgraded by the PAIMAN Project. Positive changes in availability were also measured in the THQs throughout the district, even though only one of these had been upgraded. There was an increase from 16% to 21% in C-sections done in DHQs. An increase in C-sections from 3% to 8% was also measured in the THQs from baseline to endline. This more modest improvement was of great importance as most of these facilities were not upgraded, yet they still showed the capacity to provide EmOC. Unfortunately, the study did not describe the causes behind the THQ improvements, and without comparison districts, it was not possible to tease out the PAIMAN effect from other temporal factors.

Each Strategic Objective had a series of outcomes expected as a result of the PAIMAN interventions. The Study provided some positive evidence on each. Based on a desk review of meeting minutes, the survey showed that District Health Management Team meetings were held on the average of two to three times a year, and at almost all of these meetings the District Annual Operating Plan was discussed. The study reported on district budgets and noted that health sector budgets increased in nine of the ten districts by an average of 72%, though this figure was skewed by a reported 780% increase in the budget in Khanewal between 2005 and 2009, and by an 875% increase in Upper Dir. Other budget increases were more modest (see Table 7).

**Table 7: Overall Increase in Health Budget**

Health Sector Budget				
Sr. No.	District	2005	2009	Overall % of increase in health budget
1	Rawalpindi	235,598,000	483,147,000	105.07
2	Jhelum	158,081,000	280,085,000	77.18
3	Khanewal	1,300,000	11,450,000	780.77
4	DG Khan	175,657,312	393,805,000	124.19
5	Dadu	330,302,700	332,414,600	0.64
6	Sukkur	199,007,336	17,811,931	(10.50)
7	Buner	49,636,171	90,266,424	81.86
8	Upper Dir	12,555,519	122,488,140	875.57
9	Lasbela	92,404,000	129,268,000	39.89
10	Jafferabad	45,069,499	56,511,189	25.39
<b>Total</b>		<b>1,100,604,400</b>	<b>1,899,435,531</b>	<b>72.58</b>

*Source: DSA study data collected from district*

Using data for decision making varied from district to district, from 54% in Jafferabad to 100% in Dadu. This assessment was made on the basis of a desk review of DHMT meeting minutes. The report says that a third of all decisions taken were implemented by the district. Based on the brief examples,

decisions taken, many of them in provinces outside of Punjab, seemed related to functions and facilities at the district central level: the opening of a TB center, posting of specialists, civil work in the DHQ hospital, etc. In Punjab, more DHMT decisions related to decisions that improved MNCH services overall: increases in the use of contraceptives, EPI rates, and antenatal as well as postnatal coverage.

Much as was described in the decision space analysis, human resources remain an obstacle to performance. The Endline Report notes increases in the numbers of gynecologists at the DHQH, no changes in the number of pediatricians, and an increase from 25% to 44% in the DHQHs that report having an anesthetist on staff. The numbers indicate once again how pervasive and persistent the problem of human resource sufficiency is, particularly in hospitals removed from the center. There was greater disappointment in the THQH data: fewer gynecologists and pediatricians in 2010 compared to 2005. The only improvement was from 10% to 20% of THQHs reporting anesthetists—a positive improvement, but still a rate-limiting number as the practice of Comprehensive EmOC depends on the full-time availability of an anesthetist.

### **Qualitative Data**

The FET visited health facilities at the provincial, district, tehsil and union levels. It met with health officials in all sites and interviewed key informants in an effort to validate findings in the two evaluation studies and to assess the opinions of the PAIMAN staff. Because of the security situation and flooding in the country, most of the visits were to districts in Punjab Province, two of them adjacent to the national capital. These visits provided examples of the best performance in this strategic area. In particular, the output from DHIS in all four of the Punjab districts visited was excellent.

In the two other districts—one in Balochistan and one in Khyber Pakhtunkhw—visited by the Eycon team, the results were not as encouraging: they seemed to contradict some of the evaluation data and contrast with findings in Punjab. In Buner, information from DHIS was not being used in decision making, the health budget was not increased (in fact, there was some suggestion that it had been cut as a result of the donor input), and, in general, the management was unclear about how gains from PAIMAN would be sustained as the inputs from the government did not keep up with the donor's in the upgrading of facilities. In addition, in both Buner and Lasbela, there was no follow-up of training to evaluate the use and impact of skills, optimize deployment or determine future training needs. Though the upgrading of equipment and facilities was appreciated, it was not based on need; equipment was standing unused after many months. Further, there was little evidence that deliveries had increased in the government hospital. The FET noted that the dual role of providers functioning simultaneously in the public and the private sector had created a serious conflict of interest, with the suspicion raised that private cases were being recorded as public hospital cases. Similarly, some data on increased utilization for ANC and institutional deliveries could not be verified by the FET, who felt that an independent review should be done. The conflict of interest issue was heard from other districts in Punjab as well and is serious. Some public sector doctors have a greater investment in their own nursing homes and private hospitals, and have no interest in seeing the public hospital take patients from their practice. As a result, they work against the promotion of the public sector and funnel patients to their own practice.

Of the Health System Strengthening activities that were implemented by PAIMAN in these districts, the ones that stood out the most were the DHIS, the infrastructure improvements, and some examples of the management training. In Jhelum, Multan, and Rawalpindi, data were presented in a coherent fashion on a number of topics, some process oriented (e.g., utilization rates at BHUs and stock-outs of medicines and vaccines), some coverage related (e.g., measles vaccination rates), and some disease related (e.g., ARI, Malaria, and Diarrhea rates by Unions.) It was very clear from the enthusiasm of the staff assigned to the DHIS that the system had great potential for development and use, and could become a cornerstone for decision making at all levels of governance. While the minutes of the DHMT

meeting from Rawalpindi showed how the data could be used for decision making, it was less clear to the team how these data were being used by decision makers at the RHC and BHU levels. In Buner, there was no dedicated computer staff, so the DHIS was maintained by a local clerk who handled the software and data entry. Without a DHIS coordinator, there is no feedback on data submitted, so no evidence-based decisions can be taken.

There was general anxiety expressed about the future of the DHIS. This was also mentioned in the Contech Endline evaluation: district health managers said they would need on-going technical support to handle issues related to the software if DHIS was to be sustained. They expected ongoing support from donors and district governments.

Training was also seen as a positive input by the PAIMAN Project, though the FET had less of an opportunity to gauge its impact. There was one comment by a member of the district management in Khanewal regarding the leadership training: “It was very good, though we’re not sure how we can apply it to our situation.” The FET found that in most instances, a training needs assessment was not done in advance of training to guide curriculum in the training programs. Training impact was also lessened by the frequent transfer of staff and the lack of a continuing education approach that could offer reinforcement of lessons and refresher training on new materials.

Finally, the upgrading of infrastructure facilities was very popular and was show-cased in all visits. It also formed the largest portion of project expenditures, made a significant difference to the work and care environment for staff and patients, and tended to draw more of both into the system. Its sustainability was frequently questioned by those both in and outside of the project. The FET saw an example of this in Multan, where PAIMAN had just added a floor of distinctively high quality to the hospital. A second floor was to be completed by the government, but it was already evident that with the flood crisis in the country, all funds for this kind of construction would be frozen and diverted to recovery activities. In another hospital, floor tiles were already coming loose, and when staff were asked why they did nothing to repair them, they said that they did not have the resources and that this was a PAIMAN Project improvement. The implication was that as long as these structures were viewed as a product of PAIMAN and not the government, the government would shrug off its responsibility, citing insufficient resources as its reason.

## **Integration of Services**

From the onset of the project, it was recognized that the mother and child health functions of the MOH and of family planning and birth spacing services of the MOPW were closely related and should be synergistic. MOH staff offer counseling on family planning; staff from MOPW offer some MNCH services in their Family Welfare Clinics. However, staff from both ministries have traditionally operated independently and in some cases redundantly, with community-level facilities and staff operating in the same areas but without coordination or convergence. A trial in Rawalpindi completed at the time of the Mid-term Evaluation explored ways to bring the two ministries together at the national, provincial and district levels. The study identified nine areas for functional integration, among them service elements, utilization of providers, contraceptive logistics, monitoring, and communications. The pilot met with modest success.

During this final evaluation, the FET saw some evidence of progress in integrating the functions of the two ministries at the national and province levels. It was less evident at the district and community level, although contraception and family size were discussed in the Women’s Support Groups. There was little question at the higher levels of government that functional integration would make sense and could even be used to improve the coverage and reach of both ministries without expanding either of their budgets. In conversation with the MOPW in Islamabad, senior ranking members of the Ministry pointed out how

they could benefit from the integration by having access to the more extensive staff of the MOH throughout the country (i.e., LHWs and LHVs). All recognized that with the upcoming changes in government structure with the implementation of the 18<sup>th</sup> Amendment, the question could become irrelevant, as the MOPW is scheduled to be abolished at the central level, while the MOH is exempted from that, at least for now.

There was also discussion of another form of integration that many thought was as important as that between the MOH and MOPW: the need to integrate—or at least converge—the various vertical programs at the community level. There are six national programs that fall into this category, requiring greater coordination and collaboration to reduce inefficiencies:

- National Programme for Family Planning & Primary Health Care (LHW Programme),
- Expanded Program on Immunization,
- National Maternal, Neonatal and Child Health Programme,
- National Programme for Prevention and Control of Hepatitis,
- National AIDS Control Programme, and
- National Tuberculosis Control Programme.

Each has separate staff with different, though often overlapping, mandates. There seems to be little initiative to bring these together, though the current health budget crisis brought on by the floods may prove to be the necessary catalyst to stimulate joint programming and integration.

## Lessons Learned

1. The discrepancies in the findings of the decision space analysis (which was reviewed in draft only) detracted from its full impact but did not minimize the importance of decision space analysis. Lessons can be taken from this exercise that can be used to evaluate the effectiveness of PAIMAN interventions and serve as inputs for future MNCH programming: the inter-relationship between Decision Space, Institutional Capacity, and Accountability suggests an indivisible triangle; success—in terms of MCH outcomes—is not likely unless progress is made in all three. Therefore, it would be unreasonable to expect a single project to be able to have an impact on so many fronts of government, politics, management, logistics, financial and human resources, etc. With even significant input to only one or two of these areas, evaluation will fail to show impact, despite marginal gains that result from those inputs. This underlines the fact that System Strengthening is a long-term process with multiple inputs (as proposed in SO5), but requiring multiple partners in both the public and private sectors and at every level of the government and the community.
2. One cautionary pattern arose in the endline analysis of the use of the DHIS: although 100% of THQs and RHCs reported sending in DHIS reports in the previous month, only 40% received written feedback on their reports. If this pattern does not improve (i.e., acknowledged responses and oversight of data submissions), it is likely that the quality and quantity of reporting will deteriorate over time.
3. It would have been helpful here to have comparisons with the private sector hospitals in the Contech Endline Evaluation as was done in the Baseline Survey. One of the intents of the up-gradings was to create an environment for practice in the public sector that would be similar to that in the private sector and that would attract patients back into the public sector (most people still turn to the private sector for their health care).
4. The feeling that the DHIS could not be sustained without outside input was disappointing. Of the elements that the FET reviewed in the field related to this Strategic Objective, the DHIS and the training that was imparted to district managers seemed like the most sustainable of activities. Following a capital investment, these systems once adopted by the government should be sustainable

in a cost-effective way. The DHIS appeared to be the system with the greatest government ownership. The problem goes back to the decision space analysis: without greater institutional capacity (i.e., budgetary in this case), even correct decisions when taken by local officials will not be implemented.

5. Integration of the MOPW and MOH seems inevitable and desirable within the current political climate.
6. Equal emphasis should be put on the convergence (rather than integration) of vertical programs through a systems analysis at the community level to understand how efficiencies could be improved in staffing, training, supplies and logistics, and monitoring.



## **V. IMPACT OF RECENT POLITICAL DEVELOPMENTS IN PAKISTAN ON MNCH**

Since the formation of a new coalition government early in 2008, there have been two major developments that will impact MNCH programming in the provinces and districts: (i) the 18<sup>th</sup> Amendment, along with many other changes in the constitution, will result in partial or complete transfer of the powers and programs of certain ministries from center to province; and (ii) the local government system established in 2001, which formed the rationale behind the district health system strengthening component of PAIMAN, is temporarily suspended and undergoing revisions before the next local government elections are held. The details are as follows:

### **18<sup>TH</sup> AMENDMENT**

The National Assembly unanimously passed the 18<sup>th</sup> Amendment (GOP, 2010) to the Constitution in April 2010. More than an ordinary amendment, it was a constitutional reform package aimed at restoring the constitution to its original form of 1973. It grew out of the unease that both major political parties had felt about repeated military takeovers and amendments under “rubber stamp parliaments” that had weakened the constitution and dangerously distorted the balance of power in the democracy.

One of the several amendments within the 18<sup>th</sup> grants autonomy to provinces as stipulated in the 1973 constitution. Complete provincial autonomy and federalism had been a long-standing issue that was brought to the forefront after the Pakistan People’s Party (PPP) came into power and formed a coalition government in the center and provinces. As part of the devolution to the provinces, many ministries, including health, education, and local government, will be transferred to the provinces by a June 2011 deadline. Ministries have been tasked to prepare their respective transfer plans and submit them to the Implementation Commission. As the plans are still under preparation, the potential exists to influence future provincial health plans through the use of field- and research-based evidence.

### **LOCAL GOVERNMENT SYSTEM<sup>8</sup>**

The Local Government Ordinance promulgated in 2001 devolved the administrative and fiscal powers of provincial governments to the district and lower levels. Under this system, district, tehsil and union councils (assemblies) were formed and public representatives were elected to manage district affairs along with government functionaries. Line departments (e.g., health, education, social welfare, local government) were completely decentralized, with functions and resources transferred to district governments.

The districts received their budgets from provinces as a single line item and then decided how to spend it. Twenty-five percent of district development budgets were set aside for Community Citizen Board (CCB) projects. This budget was fully protected and could not be re-allocated or lapsed if unspent. The CCBs were registered entities and could apply for district funds reserved for CCB projects<sup>9</sup>.

However, after completion of the district assembly’s tenure in October 2009, the political parties and provinces sought to revise the local government laws as they considered them to be the legacy of a non-democratic dictatorship in power at the time of their creation, which was dedicated to weakening the provinces and strengthening the rule at the center. As a result, until new amendments to the local government system are made and fresh elections are held, civil servants appointed as “Administrators”

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<sup>8</sup> Commonly known as “Devolution of Power” or “Devolution” for short.

<sup>9</sup> Government funds covered 80% of the project cost, whereas CCBs were required to contribute 20%.

run the affairs at the district level. Due to the recent flood emergency, local government elections have been postponed and are not expected to be held until later this year. The extent of revision and the shape of a new and revised local government system are still unclear.

## VI. CONCLUSIONS

The PAIMAN Project was a complex one—administratively more than programmatically. It was a complicated consortium of, at one point, eight partners with different agendas, varied work styles, different organizational structures, different accounting and reporting requirements, and staff from different cultural backgrounds—all at work in one of the most politically, socially, and geographically complicated countries in the world. Yet, to a large extent, it worked. Partners were able to combine their comparative advantages to bring together a remarkable array of skills and experience in training, communication and behavior change, monitoring and evaluation, information technology, construction and logistics, management, finance, and administration. It established a network from the national capital to provincial and district headquarters, and into the community through sub-grants to over 90 local, indigenous NGOs. Its leadership kept it visible, with a positive image and with brand and name recognition that matched organizations that had been working in the country for decades.

By comparison, programmatically it was quite simple. It focused on maternal, neonatal and (recently) child health. It attacked clearly defined health problems with indicators that showed their size, scope, nature and even location. It worked to implement interventions that were not new: almost all were both time- and field-tested, evidence-based, research-proven, and effective. The interventions were known, and they were known to work, even in the difficult conditions of the developing world and in the challenging environment of South Asia. And there were new variants and types of interventions being added on a regular basis—programmatic up-grades resulting from continuous new efficacy and effectiveness studies published daily.

The administrative complexity of PAIMAN was obvious. Ironically, the missing programmatic complexity was one of the PAIMAN Project's biggest problems. There was little structure for continuous training of staff and beneficiaries to upgrade current knowledge and practice, or to reinforce previous training on topics of maternal and neonatal health and nutrition. Rather than take its initial approach and critically analyze it for weaknesses and potential dangers, and then identify ways to improve and enhance it, PAIMAN was urged to take a more standardized approach in topic and technique and duplicate it in an ever-growing number of districts. Where this was most evident was in the core of the PAIMAN Project, the development of the Community Midwife program.

The recommendations made in this report are intended not only to consolidate the gains that were made in this project—the emphasis on community midwifery, using data for decision making, forming community groups and strengthening community NGOs, projecting a media mix for reaching a wide audience of people, analyzing decision space, linking communities with facilities, demonstrating that many different agencies can work together for synergy, and so on—but also to identify and suggest ways to strengthen those areas of intervention that must be improved before they are ready for future application.

While there will be no recommendation to extend PAIMAN I into PAIMAN II, the first recommendation is that funding should be extended for technical assistance and monitoring of MNCH interventions (particularly in the 14 expansion districts) for at least two years to transition from project to government ownership and to strengthen and consolidate PAIMAN Project inputs. The PAIMAN Project in its present form has served its purpose with the remarkable number of lessons that can be learned from its strengths and its imperfections. It has put community midwifery on the map in Pakistan and has demonstrated both the need for this new cadre and the dangers of launching it prematurely. It was among the few large-scale maternal and child health projects that identified and then focused its interventions on the perinatal period as the most critical time for mother and child survival. When one “googles” *mother and newborn care*, PAIMAN is among the top three websites visited out of 240,000

listed. The program designers of this project knew that this period was where the greatest risk and the greatest gains were in achieving the MDGs.

It is understandable but somewhat regrettable that the project then lost that focus and moved into the more routine interventions of child health—diverting resources and effort to an age group and target population that was not as vulnerable as the newborn and not as dependent on maternal health for survival, into an area where others were already working and into an intervention (IMCI) that had been difficult to effectively implement in the countries in which it had been tried. It is perhaps this and the choice to rapidly expand geographically and economically, rather than to consolidate and extend deeper in the original districts, that have left the gains of the last half of this project more difficult to measure and harder to perceive.

It has become increasingly clear in the recent literature that the secret to child survival, health, and development lies in maternal survival and health. Rather than push ahead to older age groups of children, the suggestion is that PAIMAN might have gone further back into the origins of the problems of the perinatal period by looking at the health and nutrition of women, particularly young primigravida women and adolescent girls, many of whom (13%) had started their childbearing by the age of 18, at a time when they themselves were still growing (PHDS 2006-7). By using its wealth of resources and abilities, further PAIMAN contributions could have come from its investigation of innovative ways to prevent early pregnancy and reduce intercurrent infections, anemia and other micronutrient deficiencies in pregnancy that contribute to maternal deaths, low birth weight of babies, and stunting of children and later mothers—all key components in the perinatal period. It might have used the power of its public image to address more complex problems of gender inequality and the consequences of women's inferior status in the more conservative parts of the country, or tried to find ways to introduce topics of adolescent sexual and reproductive health into its beautiful communication materials to reach areas where a man will not even discuss his wife's pregnancy in public. The challenge of adding this complexity to its programs would be to build this framework of prevention at the same time it was perfecting its more immediate and equally important lifesaving interventions in community midwifery—interventions that provided a safe delivery for all women by an accessible skilled birth attendant or provided a simple and affordable referral method should a woman need institutionally based emergency obstetric care.

PAIMAN started on this road by organizing and promoting one of the most important and sustainable parts of the project—the Women's Support Groups. These groups demonstrated many important lessons: they were community-based; they grew out of women's needs for more knowledge and for a social environment where they could talk and share their ideas and news; women who participated seemed genuinely interested in attending; some even brought their adolescent daughters to participate with them. These groups reduced the house-bound isolation of women in conservative societies that had kept them from reaching their own full potential. In this way, they helped women begin the process of empowerment necessary to change the environment towards more healthy practices. Given the chance, and with a constant infusion of material from the LHWs, these groups could last indefinitely because they answer women's needs to be and work together. Anything that can support the support groups—revolving funds, microfinance, etc.—should be implemented in the follow-on to this project.

The “control” group in this experiment is the men's community committees. They were difficult to organize and difficult to sustain in part because they were not as well understood by men and did not answer a particular need (men had various other forums to meet and talk); moreover, there did not seem to be any particular demand for them. The FET saw no examples of men's community groups that had become established and felt doubtful that they would be sustained beyond the end of PAIMAN's interventions.

PAIMAN's other significant contribution was also at the community level. The sub-grants to indigenous local NGOs stood out as a notable success. With PAIMAN's guidance, these organizations served vulnerable populations in the most-underserved parts of the provinces. They did this for, on average, \$30,000 per year per grant. As mentioned in the text of this report, these were organizations that already worked in a difficult environment and had survived economically and administratively—some of them for years. They knew the community and, in reports to the FET, were accepted and trusted by the communities they served. They were eager to learn more to help the community and welcomed the capacity development that PAIMAN offered. They were in the community before PAIMAN, and it is likely they will continue their work in the communities after PAIMAN is finished. Small NGOs have learned to live within a shortened and more modest funding environment. The sustainability of this part of the PAIMAN Project will be a result of their survival skills in fund-raising and advocacy. With the increased skills, recognition and connections provided by their participation in the PAIMAN Project, they are more likely to sustain themselves in the future.

The conclusions drawn by the evaluation team from these two examples—the women's support groups and the sub-grants to local NGOs—were that community-oriented and community-based interventions were less expensive and more sustainable, and tended to have a greater impact on more people's lives since they were functioning where the vast majority of the people targeted by this project lived: in underserved rural communities and urban slums. These conclusions apply to support groups, community health care providers, community-oriented communication strategies, information systems, NGOs, etc. However, for even these community-based interventions to succeed, the lesson from PAIMAN was that they should not be developed without consulting the community and responding to the community's needs at every step along the way.

In contrast to these community-based interventions, the larger share of the PAIMAN budget was spent on infrastructure development and up-grading of hospital facilities. There have been indications in the national press that in the present economic environment, budget cuts for POL, maintenance, and a general lack of government ownership could make this the least sustainable component of the project. Even prior to the recent national flood disaster, however, there was evidence that the up-keep of everything from floor tiles to incubators and operating tables was not sustainable because of "insufficient resources." The lack of ownership or commitment to take on improvements of institutions without donor funds was seen in the upgraded facilities themselves. Newly tiled and polished floors and walls were already stained by water marks from leaking roofs; dirty wards without hygienic or hand-washing facilities remained side by side with renovated labor rooms and delivery theaters; there was even a report of a recently installed air-conditioner in a lecture room that had no glass in the windows. At least some of the equipment purchased and provided was not based on need: there were reports of newborn incubators that were never used and of new and elaborate delivery tables pushed to the side to make room for older, more user-friendly models.

The degree to which public institutions are "sabotaged" by private practitioners intent on not seeing the public sector succeed lest it interfere with their own practice is apparently wide-spread. In addition, some of these same practitioners use the new equipment and materials to supply their own offices, often located within a short distance of the public hospital. This must be addressed directly, not by confrontation but through collaboration. New models of public-private cooperation need to be developed to turn the public and the private sector into partners rather than competitors.

The questions most frequently raised by the FET are these:

- How will the gains that PAIMAN has created be sustained?

- Who will examine the CMW training schools and argue for improved teachers and tutors, or pay the stipend and the registration fees for the CMWs and give the incentives to keep tutors and mentors engaged in the CMW training?
- Who will maintain and continue to improve the work and care environments of the hospitals and health centers where the poorer members of the population have begun increasingly to go for care?
- Who will examine existing communication materials for those that are most effective, and continue to provide them to facilities and communities, while making decisions to drop the ineffective ones?
- Most importantly, who will become the monitoring presence in the field—the person who notices and reports on what is or is not being done, and who distinguishes good work from bad?

These were all among the positive things that PAIMAN accomplished.

PAIMAN Project activities have recently gained momentum. A level of trust has been built in the community around the work of indigenous groups and local health care providers like the LHW and LHV. CMWs, though presently poorly trained in hands-on practice, are increasingly recognized as necessary service providers in the community. Upgraded facilities and indicators point toward enhanced utilization of services provided in PAIMAN-supported facilities. The concern is that an abrupt transition to another program or a complete cessation of the PAIMAN approach without building on the lessons learned would be a setback for those who have committed years of hard work and funding resources. The following recommendations offer suggestions that the FET hopes will be used in answering these questions.

The final conclusion is that the PAIMAN Project made a substantial contribution to the women and children of Pakistan. That contribution can be measured in its many positive and visible achievements in training, infrastructure development, district administration and community development. Its contribution can also be seen in the lessons learned mentioned in this report: that CMWs need more and different training in order to practice safely in the community and that community-based interventions are more likely to be sustained than those that focus on urban-based hospital infrastructure, even though both are important. The challenge is to find the right structure to move ahead so that the contributions of the past six years will not be lost.

## **VII. RECOMMENDATIONS AND FUTURE DIRECTIONS**

### **GENERAL RECOMMENDATIONS**

#### **Exit Strategy and Future Directions**

1. Extend funding for technical assistance to and monitoring of MNCH interventions (particularly in the 14 expansion districts) for at least two years to transition from project to government ownership and to strengthen and consolidate PAIMAN Project inputs; supplement technical resources within MNCH with international experts to assist in the design, implementation and monitoring of the CMW program.
2. Support phased graduation of districts out of the technical support system according to a check-list of evidence-based capabilities.
3. Increase program and project spending on interventions at the community level (e.g., community support groups, community NGOs) that lead to sustainable outcomes.
4. Establish a rigorous joint monitoring team, including province, district and local officials along with staff of the MNCH, to sustain improvements and maintenance of the infrastructure development projects funded by PAIMAN and to identify future projects. A monitoring system of this nature would make infrastructure development more attractive to the GOP and to other donors.
5. Focus in-service training of community health workers on C-IMCI for greater impact on beneficiaries at the community level. Continue the process of integrating IMCI curriculum in pre-service training (e.g., medical and nursing schools).

#### **Missing Elements for Consideration in Future MNCH Programs**

6. Increase the emphasis on reduction of low birth rate as an intervention to benefit both mothers and newborns (the present rate is 31%).
7. In subsequent projects, introduce a new emphasis on premarital youth or at least increasing the focus on the primagravida/newlywed.
8. Introduce nutritional supplements to primagravida women with low BMI.
9. Introduce multi-micronutrient sprinkles to all primagravida women or at least iron/folate to all women 19 to 25 years of age, given that the prevalence of micronutrient deficiency is so high in the communities served.
10. Support development and finalization of the National Nutrition Strategy and incorporate it into MNCH.
11. Encourage and fund research and evaluation of all key MNCH programs and interventions (including the communication and advocacy component) and use a comparison group design wherever possible in order to increase the possible attribution of effect.

### **RECOMMENDATIONS SPECIFIC TO THE STRATEGIC OBJECTIVES**

#### **SOI. Increasing Awareness & Promoting Positive Maternal and Neonatal Health Behaviors**

12. Sustain women's support groups and increase membership to include young girls and young women.
13. Consider expanding community-level consultations for development of new communication material (including formats) and for establishing monitoring of their reach, appropriateness and utility. Local development and even production would allow greater sensitivity to the demographic, ethnic, and

linguistic profile of the communities in which they will be used. The detailed formative research<sup>10</sup> done by PAIMAN for the first phase was useful in developing messages and content. It could be more useful if it were linked to local materials and media development as well.

14. Do formative research in all districts preceding communication and media interventions as each district poses different problems of beliefs and practices.
15. Mass media approaches can be effective in creating behavior change but are not invariably so. Evaluate the impact on behavior change of various communication and media strategy mixes and materials to identify those which have the greatest cost effectiveness in the Pakistan country context.

## **SO2. Increasing Access to Maternal and Newborn Health Services**

16. Explore a variety of options for increasing the proportion of private sector partners in the delivery of maternal and newborn health services, with particular outreach to providers who reside in rural and hard-to-reach areas. These options could include variations of voucher schemes or other public insurance mechanisms.
17. Continue the emphasis in future TBA training on topics that evidence has demonstrated are useful and appropriate in the context of their practice, including, but not limited to, recognition of danger signs, referral, clean delivery, and the elements of essential newborn care. Promote and enhance partnerships between TBAs and the public and private health providers and systems to increase the degree to which referrals between the community and facility settings are encouraged.
18. Establish appropriate budget and accountability policies and mechanisms to ensure that ambulance vehicles that have been transferred to District Health Departments and that are operated by the local community at the health facility level continue to be equipped and immediately available for emergency transport purposes.
19. Establish and/or confirm budget and accountability policies and mechanisms that allocate and reserve a fixed portion of health services budgets directed to facility and equipment maintenance and enhancement, not subject to re-allocation to other purposes.

## **SO3. Increasing Quality of Maternal and Newborn Care Services**

20. Design and implement a quality assessment (QA) process to verify the retention of learning as an essential component of all training programs. Integrate this QA process into a longer-term continuous quality improvement (CQI) initiative. Ensure that both QA and CQI strategies include documentation of skills as applied in the workplace.
21. Design and implement a continuing education program integrated and coordinated with other MNCH and national health programs to reinforce and update the skills and knowledge of community-level health workers.
22. Continue a focus on training in infection prevention for all health providers, in all health facilities, including content on proper disposal of medical waste, as appropriate for the health care setting.
23. Identify and enhance the education of LHWs, CMWs, and LHVs on perinatal care to include additional supportive strategies to prevent maternal deaths:
  - Reduction of anemia,
  - Reduction of malaria in pregnancy, screening for TB/UTI/STD, etc., and

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<sup>10</sup> Formative research done for the first ten districts was not available to the FET for the districts of the second expansion phase.



- Family planning for healthy timing and spacing of pregnancies.

#### **SO4. Increasing Capacity of Maternal and Newborn Health Care Providers**

24. Suspend admissions to the NMCH CMW program for a period of up to two years. During that time, refocus the program so that it is in full alignment and compliance with current international standards for direct-entry (community) midwife programs with respect to:
  - education level of students at the time of recruitment (completion of secondary education),
  - minimum length of direct entry education programs (3 academic years),
  - clinical competence of midwifery educators (tutor) and midwifery preceptors (demonstration of competence in teaching and clinical practice, generally acquired after a minimum of 2 years of full-scope clinical practice prior to service as a tutor or preceptor),
  - compliance of the curriculum with all basic content elements of the *Essential Competencies for Midwifery Practice*, and
  - compliance with the proportional guidelines for theory (40%) and clinical practice (50%) within the curriculum.
25. Educate a robust body of midwifery educators, well skilled in both teaching and midwifery clinical skills, and ensure their placement in each school of CMW education, preferably before additional enrollments are authorized.
26. Create a separate regulatory body for all categories of midwives educated in the country (e.g., a Pakistan Midwifery Council), with authority and leadership vested in midwives, rather than professionals of other disciplines.
27. Design and test feasible models for supervision of the community midwife in practice, preferably in alignment with existing public-sector supervision strategies, with supervision provided by individuals qualified to provide clinical and technical guidance and support in the functional role of midwives.
28. Promote strong collaborative linkages with colleges and universities which are involved in the education of midwives to craft an education career ladder for midwifery professionals.
29. Define the role and responsibility of the office staff of the EDO Health and MNCH program at the district level for the CMW cadre to increase accountability and to strengthen this private/public partnership.
30. Define a method for including CMW statistical data into the DHIS so that a true picture of community-based maternal and neonatal morbidity and mortality can emerge (see SO5 #32, below).

#### **SO5. Improving Management and Integration of Services at All Levels**

31. Extend the decision space analysis to the MNCH program by training local researchers in its use. Use the results to identify the specific weaknesses in the health system in each district or tehsil, and design training and other interventions that are aligned with those particular weaknesses.
32. Discuss with JICA the updating of some of the indicators in the next iteration of the DHIS; one in particular—ANC I coverage—would be meaningful if it reflected the WHO standard of four visits. The FET recognizes that a new indicator will not have a precursor for comparison. Nevertheless, continuing to collect data on an indicator that has little meaning is a waste of time and money.
33. Challenge each District Health Management Team (DHMT) to develop ways to integrate NGO data into their system, possibly by invitations to local NGOs to participate quarterly in the DHMT meetings and report on findings in remote areas. The same might be considered for the private sector data (including CMWs).
34. Using the experience of PAIMAN, have MNCH examine interventions that would facilitate the process of integration of MOH and MOPW: joint training, joint M&E tools and indicators,

application of decision space analysis broadened to encompass both ministries at the provincial level, etc.

35. Sponsor a study of system streamlining at the community level that would improve the efficiency of all vertical programs by identifying areas of synergy and collaboration in order to reduce resource demands.
36. Encourage (or require) all MNCH-sponsored programs that operate concurrently to work collaboratively in the design of all program elements (e.g., BCC and training materials) in the interest of avoiding duplication of effort and promoting harmonization of approaches. Encourage this same approach to be adopted by all international donors who contribute to the MNCH program portfolio. This includes the conduct of population baseline studies within provinces and districts.

# APPENDIX A: SCOPE OF WORK

FINAL Evaluation

Maternal NewBORN and Child Health Program

USAID/Pakistan

(Revised: 07-28-10)

## I. PURPOSE

The purpose of the subject evaluation is to provide the United States Agency for International Development's Mission to Pakistan (USAID/Pakistan) with an independent end-of-project evaluation of its Maternal Newborn and Child Health (MNCH) program. The MNCH program is managed by USAID's Health Office, and implemented under a Cooperative Agreement by JSI Research and Training Institute, Inc.<sup>11</sup> in partnership with Save the Children-U.S., Aga Khan University, Contech International, Greenstar Social Marketing, Johns Hopkins Bloomberg School of Public Health Center for Communications Programs, Population Council, and the Pakistan Voluntary Health & Nutrition Association (PAVHNA).

As part of USAID/Pakistan's due diligence, a final evaluation is being commissioned to assess the effectiveness of the program components and the resulting impact on morbidity and mortality, document lessons learned, and identify areas where the Government of Pakistan (GOP) could provide continuity in services and scale up.

The objectives of the evaluation are to:

1. Assess whether the MNCH program has achieved the intended goals, objectives, and outcomes as described in the Cooperative Agreement and work plans;
2. Evaluate the effectiveness of key technical inputs and approaches of the MNCH program in improving health status of mothers, newborns, and children compared to baseline health indicators;
3. Explore the impact of the Pakistan Initiative for Mothers and Newborns (PAIMAN's) technical approach on maternal, neonatal, and child morbidity and mortality in at least the 10 districts originally covered by the project, as possible with the current available data;
4. Review the findings, conclusions, and recommendations and provide brief suggestions/options for ways in which project components might be able to be continued and scaled up by the GOP's health entities (MOH, MOPW, provincial and district counterparts).

Findings and recommendations will be used to ensure that USAID's MNCH program serves the overall objective of improving maternal, newborn and child health in Pakistan in the most effective way.

This evaluation will be shared with partners but not widely distributed. Sections of the evaluation may be shared with outside sources at the discretion of USAID management.

## II. BACKGROUND

Pakistan's maternal mortality ratio (MMR) is 276, which means that a woman's lifetime risk of dying of maternal causes is roughly 1 in 89. A full third of all maternal deaths are due to hemorrhage, reflective of the inadequacy and poor quality of preventive measures and obstetric care. Sixty-one percent of pregnant women receive antenatal care from a skilled provider but 35% receive no prenatal care at all.

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<sup>11</sup> JSI PAIMAN \$92m five year Cooperative Agreement 2005 - 2010

Sixty-five percent of women still deliver at home and only 39% of all deliveries are attended by a skilled provider. Fifty-seven percent of women receive no postnatal care. Pakistan's child health indicators have improved little over the past several decades and are among the worst in Asia. Infant mortality is 78 deaths per 1,000 live births and the under-five mortality rate is 94 deaths per 1,000 live births. Neonatal mortality represents more than half of this under-five mortality, at 54 deaths. The main causes of child death include birth asphyxia (22%), sepsis (14%), pneumonia (13%) and diarrhea (11%).

Many traditional social values discriminate against women, lowering their status and affecting their food intake and nutrition, education, decision making, physical mobility, and health care. Husbands, in-laws, religious and community leaders all play significant roles in these customs. Women, families, and providers focus little attention on behaviors related to preventive care and planning for either normal deliveries or potential maternal and newborn emergencies. In addition, only a few women, families, or attendants are aware of newborn complications like fever, respiratory problems, pre-maturity, and cord infection.

Although Pakistan has an extensive network of public sector delivery facilities, they reach only about a third of the country's population: the rest (70%) is served by the private sector, at least for curative services. The public sector health program needs improvements in several areas, including: the number of female health care providers; physical facilities; safe water supply; privacy for female patients; supply of drugs; logistics and equipment; and provider capabilities, especially in counseling and clinic management.

While most curative services are provided through private providers, private sector health services in Pakistan are unregulated, leading to questions of quality. While the GOP, as part of its devolution strategy, promotes delegation of health services planning and management responsibilities to the provinces, management systems at the provincial and district levels are weak, including referral systems, supervisory systems, health information systems, and coordination between the public and private sectors. With Pakistan's planned devolution of health programs from the federal to the provincial level, provinces will need to take greater ownership of health programs, including vertical programs that are currently administered by the federal government.

Pakistan's Constitution guarantees basic human rights for all citizens, including equitable access to health and social services. The Government of Pakistan (GOP) is aware of the huge burden of preventable deaths and morbidity among women and children and is committed to improving the health status of these groups. Unfortunately, concerted efforts to improve the health of mothers and children have been lacking. Short-term localized programs and projects have failed to achieve significant and sustainable improvements in Maternal, Neonatal, and Child Health (MNCH) indicators. Such improvements can only be achieved through a national, comprehensive, focused and effective program that is owned and managed by the districts, and is customized to meet districts' specific needs.

In 1990, Pakistan adopted its first National Health Policy to provide vision and guidance to the development of the national healthcare delivery system. Its goal was to provide universal coverage through enhancement of trained health sector staff. The policy put emphasis on maternal and child health and primary health care. The National Health Policy was revised in 1997 to introduce a vision for health sector development by 2010.

The National Reproductive Health Services Package (NRHSP) was introduced jointly in 2000 by the Federal Ministries of Population Welfare and Health. Its effectiveness and application since its introduction have remained incomplete and unsatisfactory.

In June 2001, the Federal Cabinet approved the current National Health Policy, which envisages health sector reforms as a pre-requisite for poverty alleviation, gives particular attention to strengthening the

primary and secondary tiers of health services, and calls for the establishment of good governance practices in order to achieve high quality health services.

A 2010 Health Policy draft, not yet approved, aims to enhance coverage and access of essential health services, especially for the poor, by supporting primary and secondary health care facilities and preventive care.

The Population Policy of Pakistan (2002) focuses on integration of reproductive health services with family planning, building on successful elements of the program, increased participation of the private sector, greater emphasis on social marketing, and broadening the scope of family planning services. The Ministry of Population Welfare has shifted its emphasis in mass communication campaigns from population control to women's health. The salient features of the 2010 Population Policy include: attain the replacement level fertility by 2030; achieve universal access to safe reproductive health, including family planning, services by 2030; reduce the unmet need for family planning from the current 25% to 5% by 2030; and increase the Contraceptive Prevalence Rate from the current 30% to 60% by 2030.

The ten-year Perspective Development Plan 2001-2011 places emphasis on improving the service delivery mechanisms for reducing preventable diseases. The policy focus is on continuous shift from curative to promotion and preventive services through primary health care.

Pakistan is signatory to several international agreements on improving MNCH, including the Millennium Development Goals (MDG):

Goal 4 – Reduce child mortality by two-thirds between 1990 and 2015. The indicators to measure progress toward this MDG include the under-five mortality rate, the infant mortality rate (IMR), and the proportion of one-year-old children immunized against measles. Pakistan's target is to reduce the IMR to 40 deaths per 1000 live births and to increase measles the immunization rate to >90% by 2015.

Goal 5 – Improve maternal health by reducing the maternal mortality ratio (MMR) by three-quarters between 1990 and 2015. The indicators to measure progress toward this MDG include the maternal mortality ratio and the proportion of births attended by skilled health personnel. Pakistan's target is to reduce its MMR from 276 to 140 deaths or fewer per 100,000, and to increase skilled birth attendance from 39% of deliveries to 90% by 2015.

In addition, Pakistan envisions increasing the Contraceptive Prevalence Rate to 60%, increasing the proportion of pregnant women receiving antenatal care to 100%, and reducing the total fertility rate from 4.1 to 2.1 by 2015 (DHS 2006-07).

The Pakistan Planning Commission Form I (PC-I) for the National Maternal Newborn and Child Health program states that in all districts of Pakistan maternal, newborn, and child health care services will be strengthened for the population through improving primary health facilities, secondary hospitals and referral systems, and placement of skilled birth attendants at the community level in rural areas and in underserved urban slums. Despite support from the UK, Australia, and Norway, the national MNCH program has had a slow start and GOP contributions are dismal. To date the GOP has released only 26 % of the total budget.

The primary MNCH implementing partner for USAID is JSI Research and Training Institute, Inc. (JSI), whose project summary is included here:

## **Pakistan Initiative for Mothers and Newborns (PAIMAN) John Snow Inc.**

Effective maternal and newborn care consists of a continuum of health care interventions, beginning before pregnancy and covering the prenatal, delivery and postpartum periods, and addressing the individual health of women and children. In the Pakistan context, in order to have an immediate effect on mortality rates, the focus must be on labor, delivery, and the immediate postpartum period – from the onset of labor through day seven. The PAIMAN Project promotes skilled attendance as the long-term goal for all deliveries in Pakistan. The Life of Project is 10-08-04 to 09-30-10; funding level is \$92,900,064.

Evidence in public health literature shows that maternal and neonatal survival depends upon a whole set of socio-cultural, economic, and geographic determinants in the Pakistan context. These factors need to be addressed to generate comprehensive and sustainable solutions to the problem of maternal and neonatal mortality. USAID's MNCH program therefore calls for a multi-pronged strategic approach, combining individual health care with public health and community-based interventions.

The JSI team bases the continuum of care represented in the MNCH program on a strategic framework referred to as "*The Pathway to Care and Survival*" that follows a series of steps necessary to increase the likelihood of survival of a mother and her baby in the event of complication or illness. At each step, Pakistani women and children face various interrelated issues, which prevent them from obtaining quality care and threaten their subsequent survival. We have classified these issues in five main categories:

1. Lack of awareness of risks and appropriate behaviors related to reproductive and neonatal health issues, resulting in poor demand for services;
2. Lack of access (both geographic and socio-cultural) to and lack of community involvement in MNCH services;
3. Poor quality of services, including lack of adequate infrastructure in the health facilities;
4. Lack of individual capacity, especially among skilled birth attendants;
5. Weak management environment and lack of health services integration.

For each of these "problem categories" PAIMAN has defined a program objective and a series of interventions to address them.

### **PAIMAN Program Goal and Objectives**

**Goal:** To reduce maternal, newborn, and child mortality in Pakistan, through viable and demonstrable initiatives and capacity building of existing programs and structures within health systems and communities to ensure improvements and supportive linkages in the continuum of health care for women from the home to the hospital.

**Objectives:**

Based on the "*Pathway to Care and Survival*" framework, PAIMAN has the following program objectives, interventions, and outcomes:

- I. Increase awareness of and promote positive maternal and neonatal health behaviors.

*Outcomes:*

- Enhanced demand for maternal, child health, and family planning services through a change in current patterns of health seeking behavior at the household and community level.

- Increased practice of preventive MNCH related behaviors.
2. Increase access (including emergency obstetric care) to and community involvement in maternal and child health services and ensure services are delivered through health and ancillary health services.

*Outcomes:*

- Higher use of antenatal and postnatal care services, of births attended by skilled birth attendants, contraceptive use, tetanus toxoid coverage, enhanced basic and emergency obstetric care and reduced case fatalities.
  - Reduced cost, time and distance to obtain basic and emergency care, ultimately saving newborn and maternal lives.
3. Improve service quality in both the public and private sectors, particularly related to the management of obstetrical complications.

*Outcomes:*

- Greater utilization of services to improve maternal and newborn health outcomes.
  - Decreased case-fatality rates for hospitalized women and neonates.
4. Increase capacity of MNH managers and care providers

*Outcomes:*

- Increased skilled attendance for deliveries in the target districts.
  - Decreased case-fatality rates for hospitalized women and neonates.
5. Improve management and integration of services at all levels.

*Outcomes:*

- District MNH plans and budgets available.
- HMIS Information used for MNH decision making.
- Better coordination between public, private, and community health services.

**Beneficiaries:**

The project works with communities, government, and local NGOs to strengthen maternal, neonatal, and child health to increase the health status of women and children. It is estimated that the program will reach an estimated 2.5 million couples and nearly 350,000 children under one year of age will benefit from the program. PAIMAN has identified beneficiaries of the program as married couples at reproductive age (15-49) and all children under one year of age.

**PAIMAN Time Frame:**

PAIMAN originally planned to begin working in three or four districts and gradually phase in the remaining districts. In actuality they started activities in all ten districts from the beginning of the project. In December 2007 PAIMAN expanded activities in the Federally Administered Tribal Areas (FATA) in Kyber and Kurram Agencies and Frontier Regions Peshawar and Kohat. PAIMAN also began working in Swat district in April 2008. Today the project covers 24 districts total.

## Fit with the Mission's Strategic Objective

This evaluation will help the Mission plan effective health programs for the future within the context of U.S. foreign policy objectives for Pakistan.

## USAID Assistance in Health

The health program began in 2003 and includes activities to improve maternal and newborn health services, promote family planning, prevent major infectious diseases, and increase access to clean drinking water. The program is nationally-focused, working in underserved rural and urban districts in Sindh, Balochistan, Punjab, North West Frontier provinces, and the Federally Administered Tribal Areas (FATA).

Current health program areas include:

- *Maternal, Newborn, and Child Health:* The Pakistan Initiative for Mothers and Newborns (PAIMAN) is USAID's flagship project designed to reduce maternal and neonatal mortality. The project is being implemented in 24 districts of four provinces of Pakistan. (Prime Partner: JSI Research and Training Institute, Inc.)
- *Family Planning:* USAID/Pakistan's project to address the need to increase and improve family planning services including capacity building, monitoring and evaluation, and project management through a project called Family Advancement for Life and Health (FALAH). (Prime Partner: The Population Council)
- *DELIVER:* Commodity Logistics and Management (Partner: JSI Research and Training Institute, Inc.)
- *Strengthening TB Prevention and Control:* USAID assists the GOP to consolidate and accelerate complete treatment of TB patients. (Implementing Partner: KNCV TB Foundation)
- *Polio Eradication:* USAID provides assistance to national polio immunization campaigns and surveillance to eliminate polio from Pakistan. (Implementing Partners: WHO and UNICEF)
- *Safe Drinking Water and Hygiene Promotion:* USAID is providing technical assistance in hygiene and sanitation promotion and community mobilization along with extensive capacity building in order to complement the GOP's installation of water treatment facilities nationwide. (Implementing Partner: Abt Associates)
- *Developing and Strengthening Institutional Capacity in Public Health Training and Research:* (Implementing Partner: Health Services Academy, Islamabad)
- *Field Epidemiology and Laboratory Training Program (FELTP).* (Implementing Partner: U.S. Centers for Disease Control)
- *Engaging Religious Leaders for Health:* (Partner: Pathfinder International)
- *Child Health in the Federally-Administered Tribal Areas (FATA) of Pakistan:* USAID is working to improve the availability, quality, and demand for child health services throughout the FATA. (Implementing Partner: Save the Children-U.S.)

## III. STATEMENT OF WORK

The independent final evaluation team will review the technical, managerial, and programmatic strengths and weaknesses of the MNCH program as approved and financed by USAID – the *Maternal and Newborn Health: The Pakistan Initiative for Mothers and Newborns (PAIMAN)*. Based on these findings, the team will formulate lessons learned as well as recommend future technical, programmatic, and administrative actions that will support overall strengthening of MNCH programmatic efficiencies and effectiveness.

The team is expected to answer the following key strategic and priority questions:



6. Has the MNCH program met its benchmarked activities as outlined in the Cooperative Agreement and subsequent annual work plans?
7. What are the trends in terms of improvements in MNCH indicators (increased prenatal visits, tetanus toxoid (TT) boosters received during pregnancy, improved immunization coverage, etc.) in project districts in Pakistan and compared to GOP contributions to the program in those project districts?
8. What are the key outputs and outcomes of the PAIMAN program that have been achieved to date?
9. What have been the major obstacles to program coverage and access, and what should the GOP, USAID, and other donors do to facilitate demand and utilization into rural and higher poverty areas?
10. What are the most important steps that USAID and the GOP should take to increase effectiveness, coverage, quality, and sustainability of USAID's future MNCH program?
11. What if any is the impact of PAIMAN's technical approach on maternal, neonatal, and child morbidity and mortality in at least the 10 districts originally covered by the project?
12. What could the GOP do to ensure continuity and scaling up of PAIMAN's technical advances in project districts?
13. As Family Planning/HTSP was added to PAIMAN's work program under the extension period, how has HTSP helped in improving family planning use in PAIMAN districts? Also, how has "functional integration" worked? (this is the term for PAIMAN's pilot efforts to co-locate and more closely coordinate the MOH and MOPW functions.)

In addition, the evaluation team is expected to use creative techniques and approaches to address the tasks listed in Annex 6 which includes *illustrative* questions to guide the evaluation.

#### **IV. SUGGESTED METHODOLOGY**

The evaluation team will use a variety of methods for collecting information and data. The evaluation team will work in a participatory manner with the partners of the PAIMAN program. The following essential elements should be included in the methodology as well as any additional methods proposed by the team.

- Reviewing briefing materials/Pre-Evaluation Planning: A package of briefing materials related to the MNCH program will be made available to the Evaluation Team at least one week prior to the commencement of the mid-term evaluation. A complete list of background documents is attached in Annex 2.

In addition to reviewing background documents, the Evaluation Team will have a preliminary planning period in which they will review the scope of the evaluation, begin to come to a consensus on the key evaluation questions, develop a proposed schedule, and begin the development of data collection tools. The data collection tools that the team will develop will include the following:

1. Sampling Frame (determined by Evaluation Team with input from the local firm)
2. Interview Guides
3. Interview Questionnaires (for the Evaluation Team and the local firm to use during site visits with persons that interact with the PAIMAN and projects, i.e., LHWs, LHVs, physicians, nurses, district officials, etc.)
4. Survey Questionnaires (brief client surveys conducted by the local firm in the PAIMAN districts)  
The data collection tools will be presented to USAID/Pakistan Health Team during the Team Planning Meeting (TPM) for discussion and approval prior to their application to verify their

appropriateness. These tools will be used in all data collection situations, especially during team site and visits and consulting firm site visits, in order to ensure consistency and comparability of data.

- USAID/Health, Population, Nutrition (HPN) Team Briefing: The Evaluation Team will meet with the USAID/Pakistan Health Team in Islamabad to review the scope of the final evaluation, the proposed schedule, and the overall assignment. The initial briefing will also include reaching agreement on a set of key questions and will take place over one day (or could be incorporated into the TPM).
- Team Planning Meeting (TPM): A two-day team planning meeting will be held in Islamabad before the evaluation begins. This meeting will allow USAID/Pakistan to present the team with the purpose, expectations, and agenda of the assignment. In addition, the team will:
  1. Clarify team members' roles and responsibilities,
  2. Establish a team atmosphere, share individual working styles, and agree on procedures for resolving differences of opinion,
  3. Review and finalize the assignment timeline and share with usaid,
  4. Develop data collection methods, instruments, tools and guidelines,
  5. Review and clarify any logistical and administrative procedures for the assignment,
  6. Develop a preliminary draft outline of the team's report, and
  7. Assign drafting responsibilities for the final report.
- Document Review: Review briefing materials that will be provided to the team.
- Information Collection: The information collected will be mainly qualitative guided by a key set of questions. Information will be collected through personal and/or telephone interviews with key contacts, through document review, and through field visits. The full list of stakeholders and contacts will be provided. Additional individuals may be identified by the Evaluation Team at any point during the final evaluation. Key contacts include:
  1. USAID/Pakistan Senior Management, HPN Team Members, Health Director, Deputy Director, AOTR for MNCH Program;
  2. PAIMAN briefing with key personnel;
  3. PAIMAN sub-grantees, sub-contractors, and other local partners;
  4. MOH and MOPW officials; and,
  5. Donors and International Organizations working in the Health and Population Welfare Sector.
- Site visits: The Evaluation Team will travel with JSI-PAIMAN Project staff to project sites for face-to-face interviews and discussions with local stakeholders and beneficiaries. The Mission has suggested the following four sites for the Evaluation Team to visit: Rawalpindi, Jhelum, Khanewal/Multan (Annex 7).

Site visits will focus on pilot activities (renovation of health facilities, community midwives, support groups, male volunteer involvement, internally displaced persons, and religious leader involvement). The areas of focus of the site visits will be clinical practices, skilled birth attendance, female medical providers, community mobilization, and training/supervision. Questions about equipment and ambulances or the emergency transport plan, facility upgrades, and improved access and quality should be included during discussions with the district officials.

Several interviews will be arranged and done in one day. The site visits to Rawalpindi and Jhelum will be done from the team's base in Islamabad. The travel time to Multan is two hours by air and will require an overnight stay to reach Khanewal by road, requiring approximately three days. This estimates six days needed for site visits by the Evaluation Team (Annex 7).

Should travel be restricted, conference calls or other mechanisms will need to be substituted. The Team Leader in collaboration with USAID/Pakistan will determine the appropriate course of action. The team will rent a vehicle locally in Islamabad for travel to some sites and travel to sites with project staff.

Local Data Collection and Site Visit Support: A local firm will be recruited and hired to assist in conducting interviews, coordinate and manage in-country logistics, set up appointments and meetings, make travel arrangements, and assist with site visits for the evaluation team.

A draft survey interview guide and questionnaire will be developed by the evaluation team in August. This draft survey guide and questionnaire will be shared with USAID/Pakistan and the local firm. Upon arrival in country, the evaluation team will meet with USAID/Pakistan and the local firm to discuss, review, and finalize the survey interview guide and questionnaire. The local firm will then translate the questionnaire (and guides); and proceed with training the local interviewers. The local firm will visit and be responsible for interviews and field visits in: **a Sindh province site and a Baluchistan province site**. The annex listing which sites are located in each province is attached (Annex 7). Depending on the security situation at the time of the TPM, site visits may be changed as necessary.

The local firm will have a team of two persons, at least one being a female interviewer. They may choose to conduct group interviews or focus groups to gather needed information. They should meet with beneficiaries, local community members, NGOs, district officials, any persons who have interacted with or are aware of PAIMAN activities.

The firm will be engaged by GH Tech prior to the Evaluation Team arrival in country and will take direction from the Team Leader. Some of the tasks that the local firm will assist with may include but are not limited to the following:

Conduct beneficiary interviews as available with:

- Families (wives, husbands, mothers-in law)
- Imams
- Midwifery students, midwives receiving refresher training
- Traditional birth attendants
- Physicians and lhvs who were trained
- Civil servants trained in management

Some topics to include in the questioning include:

- Have they heard health messages from NGOs, LHWs, in or through support groups? Any benefit or behavior change?
- Have they used health services in refurbished facilities? What was the quality? Can they identify any improvements?
- Are they aware that additional ambulances have been placed at facilities? Do they expect the community to benefit? (PAIMAN only)
- Have they participated in any MNCH event? What was the impact for them, if any?

Interview or otherwise involve all levels of government where available in the evaluation (illustrative)

1. National including MOH, provincial, district
2. Pakistan Medical and Dental Council, Pakistan Nursing Council, principals of midwifery schools

### 3. LHW Program, MNCH Program Coordinator

Donor involvement in evaluation, for identifying gaps and complementary programs (illustrative)

1. Open-ended questionnaires to donors
2. One-on-one interviews
3. Inbrief/outbrief
4. Invitation to participate
5. What's working? Not working?
6. UNICEF, UNFPA, DFID, WB, Norad, AusAID, WHO, JICA, CIDA
7. Who is working where and doing what? Mapping. Extent to which projects are integrating FP into MNCH now. How much work are other projects doing on vaccination, IMNCI, systems strengthening, infection control and hospital waste management, male involvement, private sector involvement?
8. What are donors' future plans in MNCH? Best practices? Integrated FP? Child vaccination? Systems strengthening?
9. What role is each donor taking in planning, implementing, funding, policy development, support?

## V. DELIVERABLES

Debriefing Meetings: At least two days prior to ending the in-country evaluation, the team will hold three meetings to present the major findings and recommendations of the evaluation: 1) HPN team - that will focus on the accomplishments, weaknesses, and lessons learned in the MNCH program including recommendations for improvements and increased effectiveness and efficiency of the MNCH program will be presented; 2) senior Mission management - incorporating the insights gained in the first debrief; and 3) Final briefing - for PAIMAN personnel, other donor partners, and key stakeholders (Government of Pakistan officials) and will focus on major findings and recommended changes to increase program effectiveness for the life of the project. No evaluation or future directions recommendations will be shared outside of the USAID/Pakistan Mission staff. Succinct briefing materials will be prepared appropriate for each audience. Each meeting will be planned to include time for dialogue and feedback.

Draft Report: The Evaluation Team will provide, prior to departure, a draft report which includes all components of the final Evaluation to the USAID/Pakistan Health Office Director and relevant HPN Team members in hard copy (4 copies) and on diskette in MSWord format. USAID will provide comments on the draft report to the Evaluation Team Leader within 5 working days. The report will be presented in 12-point font, single spacing.

Evaluation Report: The final evaluation report should include, at a minimum, the following: (1) Table of Contents; (2) List of Acronyms; (3) Executive Summary; (4) Background Statement; (5) Findings and Lessons Learned; (6) Prioritized Recommendations; (7) Future Directions, including scaling up and potential expansion possibilities; and (8) Annexes as appropriate, including list of people met and sites visited. A Report Outline will be prepared by the Evaluation Team before starting the field work and approved by the Mission. After the Mission submits comments on draft evaluation report, the consultants will submit the edited draft within 10 working days of USAID/Pakistan feedback. Upon USAID/Pakistan approval of this final content, GH Tech will edit and format the report. The edited and formatted final report will be submitted within 30 days of receiving USAID/Pakistan final approval of the content. The final report will be an internal document and is to be submitted to the USAID/Pakistan Health Office Director, both in hard copy (6 copies) via express mail and in electronic form.

## VI. DURATION, TIMING, AND SCHEDULE

*It is anticipated that the period of performance of this evaluation will be for six/seven weeks beginning o/a end July 2010. A possible schedule of this activity follows (illustrative):*

<b>Task/Deliverable</b>	<b>Team Leader LOE</b>	<b>Team Members LOE (2)</b>
1. Review Background Documents/Pre-Evaluation Planning (out of country)	6 days	5 days
2. Travel to Islamabad	2 days	2 days
3. HPN Team Briefing	1 days	1 day
4. Team Planning Meeting	2 days	2 days
5. Meetings with <ul style="list-style-type: none"> <li>• COP of PAIMAN</li> <li>• GOP Officials in Islamabad (MOPW, MOH)</li> <li>• Local consulting firm</li> <li>• MNCH Donors and other Partners</li> </ul>	7 days	7 days
6. Visit field sites, including training centers, clinics, etc.	6 days	6 days
7. Debriefings with Health Office, USAID Sr. Management, PAIMAN, other stakeholders	1 days	1 days
8. Internal discussion meeting with local firm and international team	1 day	1 day
9. Analysis, discussion, and draft report writing	10 days	10 days
10. Presentation of Draft Report and Discussion	1 day	1 day
11. Return Travel	2 days	2 days
12. Complete final evaluation report (out of country)	5 days	2 days
<b>Total # days</b>	<b>44</b>	<b>40</b>

A six day work week is approved when the team is working in country.

## VII. TEAM COMPOSITION

The team should have the following skills mix: maternal and child health service provision, project assessment and evaluation, program design, reproductive health care and service provision, health worker training, behavior change communication, community mobilization and participation, health systems services/management information systems, among others. Familiarity with the health service delivery system (both public and private sectors) in Pakistan would be a major advantage. Ideally, the team leader would be an expert with international experience while other consultants could be recruited from available contractors or consultant pool. A suggested team composition is given below:

**Team Leader:** The team leader should be a public health generalist and an evaluation expert with practical knowledge in monitoring and evaluation of international public health programs in developing countries. A broad background in MCH is preferable. S/he should have an advanced degree in public health. A minimum of seven years experience in managing, monitoring, or researching international public health programs is required. S/he should also have a comprehensive understanding of maternal, newborn, and child health principles and practices.

In addition, the Team Leader should have at least five years experience strengthening health systems, health sector reform, program component cost analysis, logistics of essential medicines and contraceptives, and addressing issues of quality and access improvement in health systems in developing countries. Identifying gaps for appropriate technical assistance in order to make improvements in the health systems, building capacity of local institutions and organizations—including the Pakistan Nursing Council, the Midwifery Association of Pakistan, and other interventions—will be included in this position’s SOW. S/he should also have a keen awareness of health management information systems scenarios and the ability to recommend effective solutions for improvements to health data collection and reporting systems in the country.

It is imperative that the team leader have excellent English language skills (both written and verbal skills) as s/he will have a major role in drafting and finalizing the deliverables, and will have the overall responsibility for the final report. The individual considered for the team leader position is expected to provide a sample of a written report for consideration by USAID/Pakistan.

**Maternal Health Specialist:** *The second team member should have an advanced degree in health sciences or public health and at least five years experience in program management, implementation, and monitoring and evaluation of internationally-based maternal and child health programs. Further, s/he should have a comprehensive technical knowledge of and experience in maternal newborn and child health programs, and especially with service provider training. S/he should have a strong appreciation of partnership building and service provision in challenging environments. A nurse/nurse midwife is preferred for this position.*

**BCC/Community Mobilization Expert:** *This team member should have an advanced degree in medical anthropology or related disciplines and at least five years experience in the implementation of field behavior change communication (BCC) and community mobilization strategies. A comprehensive knowledge of the application of BCC strategies to alter behaviors related to maternal and child health is desirable.*

*The Evaluation Team will be authorized to work a six-day work week while in country. Travel expenses and other communication costs incurred during the course of duty are authorized. The final travel itinerary of the evaluation will be contingent on the security situation and relative predictability of access to the project sites in general and target areas in particular.*

## **VIII. RELATIONSHIPS AND RESPONSIBILITIES**

1. **Overall Guidance:** The USAID/Pakistan Health Office Director and Deputy Director will provide overall direction to the Evaluation Team. Other USAID/Pakistan Health Office staff will interact with the Evaluation Team as needed to complete the evaluation activities.

2. **Responsibilities:**

**USAID/Pakistan** - will introduce the Evaluation Team to relevant implementing partners, government officials, and other individuals key to the accomplishment of this evaluation through introductory letters or advance phone calls.

- USAID/Pakistan will provide observers throughout the review from the PAIMAN program as feasible.

- USAID/Pakistan will be responsible for providing security notices issued by the American Embassy in Pakistan to which the Evaluation Team must adhere to. The Evaluation Team will provide mobile phone contact numbers to USAID/Pakistan Health Office so contact can be maintained as needed.

#### Client Roles and Responsibilities –

##### **Before In-Country Work**

- Consultant Conflict of Interest. To avoid conflicts of interest or the appearance of a COI, review previous employers listed on the CV's for proposed consultants and provide additional information regarding potential COI with the project contractors or NGOs evaluated/assessed and information regarding their affiliates.
- Documents. Identify and prioritize background materials for the consultants and provide them, preferably in electronic form.
- Local Consultants. Assist with identification of potential local consultants and provide contact information.
- Site Visit Preparations. Provide a list of site visit locations, key contacts, and suggested length of visit for use in planning in-country travel and accurate estimation of country travel line items costs.
- Lodgings and Travel. Provide guidance on recommended secure hotels and methods of in-country travel (i.e., car rental companies and other means of transportation) and identify a person to assist with logistics (i.e., visa letters of invitation etc.) if appropriate.

##### **During In-Country Work**

- Mission Point of Contact. Throughout the in-country work, ensure constant availability of the Point of Contact person(s) and provide technical leadership and direction for the team's work.
- Meeting Space. Provide guidance on the team's selection of a meeting space for interviews and/or focus group discussions (i.e. USAID space if available, or other known office/hotel meeting space).
- Meeting Arrangements. While local consultants typically will arrange meetings for contacts outside the Health Office, support local consultant(s) in coordinating meetings with stakeholders.
- Formal and Official Meetings. Arrange key appointments with national and local government officials and accompany the team on these introductory interviews (especially important in high-level meetings).
- Other Meetings. If appropriate, assist in identifying and helping to set up meetings with local professionals relevant to the assignment.
- Facilitate Contact with Partners. Introduce the Evaluation Team to implementing partners, local government officials, and other stakeholders, and where applicable and appropriate prepare and send out an introduction letter for team's arrival and/or anticipated meetings.
- USAID/Pakistan will be responsible for providing security notices issued by the U.S. Embassy in Pakistan to which the Evaluation Team must adhere to. The Evaluation Team will provide mobile phone contact numbers to USAID/Pakistan Health Office so that contact can be maintained as needed.

##### **After In-Country Work**

- USAID/Pakistan -
  - **Timely Reviews**. Provide timely review of draft/final reports and approval of the deliverables
- GH Tech Evaluation Team - will be responsible for coordinating and facilitating evaluation-related field trips, interviews, and meetings. USAID will review and approve the schedule.

- The Evaluation Team will be responsible for making all logistical arrangements.
- The Evaluation Team will be responsible for all costs incurred in carrying out this review. The proposed costs may include, but not be limited to: (1) regional travel; (2) lodging; (3) M&IE; (4) in-country transportation; and (5) other office supplies and logistical support services (i.e., laptop, battery pack, paper, communication costs and teleconferencing cost, if needed, due to current travel restrictions).
- The local consulting firm will be responsible for assisting the Evaluation Team with site visits and conducting interviews in restricted travel areas as indicated in section IV above. This work will be coordinated by the Evaluation Team Leader.
- The Evaluation Team will be responsible for arranging meetings and meeting spaces, laptop rentals, local travel, hotel bookings, working/office spaces, printing, photocopying, and other administrative support, as required. USAID/Pakistan may be able to assist the team on a limited basis.

## **IX. MISSION POINT OF CONTACT –**

Janet Paz-Castillo, Chief, USAID/Pakistan Health Team

jpaz-castillo@usaid.gov

(+92 051) 2082762

Shanda Steimer, Deputy Chief, USAID/Pakistan Health Team

(+92 051) 2081158

ssteimer@usaid.gov

## **X. ANNEXES**

The documents listed below will be provided to the Evaluation Team prior to the start of the evaluation.

- Annex 1: USAID’s Health, Population, and Nutrition Program description
- Annex 2: Background documents as listed
- Annex 3: Key personnel contact information for PAIMAN
- Annex 4: Illustrative List with contact info of Key Stakeholders
- Annex 5: Cooperative Agreement
- Annex 6: Illustrative Questions to Guide the Evaluation
- Annex 7: MNCH Evaluation Site Visits



## **APPENDIX B: PEOPLE CONTACTED**

### **PAKISTAN**

#### **U.S. Agency for International Development (USAID)**

Janet Paz-Castillo, Director, USAID Health Office

Miriam Lutz, Human Development Officer

Megan Petersen

#### **Pakistan Initiative for Mothers and Newborns (PAIMAN)**

Dr. Nabella Ali, Chief of Party

Frank R. White, Jr., Deputy Chief of Party

Bal Ram Bhui, Monitoring & Evaluation Advisor

Kashif Hanif, Finance Officer

Dr. Munazza Harris, Manager Program & Grants

Dr. Nasir Idrees, National Manager Private Sector Initiative

Dr. Nadeem Hassan, National Manager Child Spacing

Dr. Shuaib Khan, Director, Programs & Grants

Dr. Zareef Uddin Khan, National Manager Child Health

Maj Javade Khwaja, Director Administration

#### **PAIMAN Sub-Grantees**

Iftikhar ur Rahman, Chief Executive, Community Uplift Program

Porishka Ayub

Abbas Gondal, Chief Executive, Friends Foundation

Sarfraz Khan Khokhar, President, United Christian Organization

#### **Aga Khan Foundation**

Dr. Shazia Akbar, Asst Program Officer

Dr. Qayyum Ali Noorani, Program Manager Health

Dr. Saadia Shabbir, Sr. Program Officer

#### **Buner District**

##### EDO Health Office

Dr. Maqsood, EDO (Health) (since July 2006)

Dr. Fazle Azeem, CDC Coordinator

Dr. Lal Bacha, Coordinator EPI

Dr. Amir Zahir, District Coordinator, NPFPPHC

Mr. Javaid Iqbal, District Superintendent Vaccination

##### DHQ Hospital Dagar

Dr. Shuaib Muhammad, Medical Superintendent

Dr. Tahir, Deputy Medical Superintendent

##### Civil Hospital Nawagai

Dr. Sher Zaman, Senior Medical Officer

##### Rahbar (local NGO)

Mr. Simir Khan, Chairman

Mr. Farid Khan

Ms. Roshan Ara, TBA Master Trainer

### Others

Mr. Zain-ul-Abdeen, District Coordinator, Merlin  
Ms. Najia, Lady Health Supervisor  
Ms. Nargis Jehan, Lady Health Supervisor

Male Volunteer Group: 12 Participants

Female FGD Participants: 18 + 20 = 38

### **Contech International**

Dr. Naeem uddin Mian, CEO and Health Specialist  
Dr. Shahzad Hussain Awan  
Dr. M. Ashraf Chaudry, Executive Director Management & Development

### **Department for International Development (DfID)**

Dr. Raza Zaidi, Health and Population Advisor

### **Johns Hopkins University**

#### **Bloomberg School of Public Health Center for Communication Programs**

Fayyaz Ahmad Khan, Country Representative

### **Government of Pakistan/Ministry of Health**

Khushnood Akhtar Lashari, Secretary

### **Government of Pakistan/Ministry of Population Welfare**

Shaukat Hayat Durrani, Secretary  
Shahzad Ahmad, Director General (Programme)  
Abdul Ghaffar Khan, Director General (Projects)  
Dr. Mumtaz Esker, Director General (Technical)

### **Greenstar Social Marketing**

Dr. Maheen Malik, Deputy General Manager – Falah  
Dr. Haroon Ibrahim, Sr. Program Manger – RH  
Shirine Mohaghehpour, Technical Advisor

### **Independent Contacts (in reference to CMW Program)**

Mrs. S. Anjum Ishfaq (Retired), Nursing Advisor, Ministry of Health, Islamabad  
Ms. Rafat Jan, Aga Khan University  
Ms. Imtiaz Kamal, Midwifery Consultant, President Midwifery Assn of Pakistan  
Patrice White, Ph.D., CNM, Sr. Technical Advisor, Pakistan Safe Drinking Water & Hygiene Promotion Project  
Clara Pasha, Abt Associate, Islamabad  
Reproductive Health Advisor, Welfare Center of Terlayi, Islamabad  
Medical Assistant, Population Center of Bara Kahu (RHU), Islamabad  
Lady Health Visitor, Health Center of Tret Syedan (BHU), Murree

### **Jhelum District**

#### EDO Health Office

Dr. Shahid Tanvir, Executive Director Health, District Jhelum (since October 2009)  
Dr. Capt. Asif, District Officer Health  
Dr. Rodab Irfan Majeed, DHIS Coordinator  
Dr. Khalid Mahmood, District Officer Health, Headquarter

Dr. Muhammad Riaz Cheema, Deputy DOH, Tehsil Jhelum  
Dr. Imtiaz Hussain Shah, District Coordinator, National Programme for FP & PHC  
Dr. Naseer Ahmed, Program Director, District Health Development Center (DHDC)  
Dr. Imtiaz Dar, Program Manager MNCH  
Dr. Qambar Zia, Principal Paramedical School  
Ms. Tazeem Zahra, SCMO, PAIMAN (SCUS)  
Mr. Mudassir Ahmed, Training Assistant, PAIMAN (SCUS)

District Headquarter Hospital, Jhelum

Dr. Munawar Ahmed Ch., Medical Superintendent (since Dec. 2009)  
Dr. Zameer Haider, Senior Pediatric Consultant  
Dr. Shahida Arshad, Senior Medical Officer, Gyn.  
Dr. Naeem H. Gardezi, Senior Consultant Child Specialist.

RHC Domeli

Dr. Raja Riaz Ahmed Kiani, Medical Office  
Dr. Gul Nisar, WMO

BHU Sohan

Midwife  
Shab ub din, Dispenser

School of Nursing and Midwifery, DHQ Hospital

Ramida Sarwak, Principal  
Farzana Bibi, CMW Tutor  
Nasreen Aunev, CMW Tutor

CMW

Anika Samuel

LHV and support group

Abida Begum + 12 community women

**Khanewal District**

District Officials

Dr. Muhammad Hussain Naqvi, Executive District Health Officer  
Dr. Muhammad Hassan Piracha, District Coordinator MNCH  
Dr. Ghulam Murtaza, District Coordinator NP for PHC & FP  
Qazi Ashfaq Ahmad, District Coordination Officer

Community Members

Representatives of three PAIMAN sub-grantee NGOs

School of Nursing/CMW and affiliated hospital

Dr. Muhammad Yousaf Sumra, Medical Superintendent DHQ Hospital  
Mrs. Surraya Ghuffran, Principal, School of Nursing

CMW

Nizam Pur village

## **Lasbela District**

### EDO Health

Dr. Abdul Wahid Baloch, EDO(H)

Dr. Qamar Roonja, Coordinator, NPFPPHC

### DHQ Hospital Uthal

Dr. Muhammad Hayat, Medical Superintendent

### Civil Hospital, Hub

Dr. Bashir Ahmad Salosai

Dr. Kawita, Lady Medical Officer, Gyn/Ob

Cecilia, Nurse, Gyn/Ob

### Society for Social Development & Conservation (SSDC)

Mr. Abdul Qayum, Project Officer, PAIMAN

Mr. Kaleem Ullah, Finance Manager

Mr. Shakeel Ahmad, Office Manager

Ms. Riffat Shah, Social Mobilizer

Ms. Najma, Social Mobilizer

### Others

Mr. Khalid Ahmad Roonjha, District Coordinator, IDSP

Ms. Saiqa Urooj, (former LHW), District Mentor, IDSP.

Female FGD participants:        15+12 = 27

## **Multan District**

### District Officials

Dr. Islam Zafar, Executive District Health Officer

Dr. Muhammad Siddique Saqib, District Coordinator, MNCH

Dr. Munawar Abbass, District Coordinator NP for PHC&FP

Mr. Qaisar Abbass, Statistical Officer I/C DHIS Cell

### Fatima Jinnah Women's Hospital

Dr. Nighat

Dr. Kuasar Sultana

### Nishtar Medical College

Dr. Samee Akhtar, Professor of Gynecology & Obstetrics

Dr. Imran Iqbal, Professor of Pediatrics

### Public Health Nursing School

Ms. Nasreen, Principal

Ms. Razia, Tutor

### NGOs

Farid Ahmed, Bunyad Foundation

Madni Asghar, Zakrna Development Association

Amna Hashmi, Director, Maimoona Development Foundation

Mr. Khurram Mushtaq, Bakhtawar Amin Memorial Trust

Mr. Sarfaraz, UFAQ  
Madni Asghar Qureshi, National Rural Support Program  
Haliz Abdul Rehman, President, Zakarly Welfare Development Assn.

RHC Mardanpur  
Mrs Samina Bukhari, LHV

Community Members  
Members (3) of QIT from BHU Lutafabad

**Ministry of Health/Pakistan (Nutrition)**

Dr. Sher Baz, Asst Director General Health  
Dr. Baseer Khan Achakzai, National Program Manager (Nutrition)  
Muhammad Yaqoob Qureshi, Nutrition Education Officer

**National MNCH Program, Ministry of Health**

Dr. Farooq Akhtar, National Program Manager,

**Ministry of Health/Pakistan**

Makhdoom Shahabuddin, Federal Minister for Health  
Khushnood Akhter Lashari, Secretary  
Muhammad Yaqoob Qureshi, Nutrition Education Officer  
Dr. Suleman Qazi, Advisor – Health Leadership for Environment and Development

**Pakistan Nursing Council)**

Nighat Ejaz Durrani, Registrar

**Pakistan Voluntary Health and Nutrition Association (PAVHNA)**

Rehana Rashdi, Executive Director

**Population Council**

Dr. Zeba A. Sathar, Country Director  
Dr. Ashad Mahmood, Director, Research, Monitoring & Evaluation  
Dr. Sayed Zakir H Shah, Program Manager

**Punjab Provincial Health Office: Lahore**

Dr. Muhammad Aslam Chaudhry Director General Health Services, Punjab  
Dr. Muhammad Anwar Janjua Director Health Services MIS, Punjab  
Dr. Hijab Farrukh, Deputy Provincial Coordinator MNCH, Punjab  
Dr. Akhtar Rasheed, Provincial Coordinator, NP for PHC&FP

**Rawalpindi District**

Executive District Office Health, Rawalpindi

Dr. Khalid Mehmood Randhawa, District Officer Health, Rawalpindi  
Dr. Shahid Pervaiz, District Officer Health, Headquarter  
Dr. Farzana Zafar, Programme Coordinator, MNCH  
Dr. Javaid Iqbal Chaudhry, Programme Director District Health Development Center / Coordinator  
National Programme on FP & PHC  
Mr. Muhammad Ali Ahsan, DHIS Coordinator  
Mr. Sajjad Nayyar, Senior Officer Community Mobilizer, SCF/US

Tehsil Headquarter Hospital, Gujjar Khan

Dr. Muhammad Pervaiz Akhtar, Medical Superintendent  
Dr. Sadaqat Aftab, Gynecologist  
Dr. Sadia, Gynecologist  
Dr. Farhat Nawaz, Woman Medical Officer (WMO)  
Dr. Farhat Naveed, Woman Medical Officer (WMO)  
Ms. Fauzia Sohail, Trainee CMW  
Ms. Najum-un-Nisa, Trainee CMW  
Ms. Irfan Bibi, Trainee CMW  
Dr. Muhammad Arshad Arain, Pediatrician

CMW House

Ms. Mehnaz Zameer, CMW

Holy Family Hospital Nursing School

Principal and 2 Tutors

**Save the Children**

Dr. Amanullah Khan, Sr. Director, Health & Nutrition

**United Christian Hospital School of Nursing: Punjab**

Dr. Emmanuel Bhatti, Deputy Medical Director  
Dr. Benjamin, Medical Director  
Mrs. Nasim Pervaiz, Principal SON

**United Nations Children's Fund (UNICEF)**

Dr. Hermlall Sharma, Health Specialist

**United Nations Population Fund (UNFPA), Serena Business Complex, Islamabad**

Dr. Naseer M. Nizamani, Assistant Representative  
Dr. Mobashar H. Malik, National Program Officer (RH)

**World Health Organization**

Dr. Ahmed Farah Shadoul, Medical Officer MNCH

**UNITED STATES OF AMERICA**

**John Snow, Inc.**

Dr. Theo Lippeveld, Vice President

**DR. ANWER AQIL, SR. HIS ADVISOR**

## **APPENDIX C: DOCUMENTS REVIEWED**

### **GENERAL**

1. Midterm Evaluation of the USAID/Pakistan Maternal, Newborn & Child Health Program. 2008. GH Technical Project
2. Midterm Evaluation of the Improved Child Health Project in Federally Administered Tribal Areas. 2008 GH Technical Project
3. Professional Development in Intrapartum care and infection prevention (Participant Handout) – TACMIL/ABT
4. Professional Development in Intrapartum care and infection prevention (Lesson Plans) – TACMIL/ABT
5. Professional Development in Intrapartum care and infection prevention (Curriculum) – TACMIL/ABT

### **RESEARCH AND EVALUATION**

1. Assessment of knowledge and attitude of married women on maternal and new born health (MNH in selected union councils of project districts) – Population Council
2. Assessment of quality of training of Community Midwives – Dfid – August 2010
3. Assessing Routine Health Information System in Selected PAIMAN Districts by Using Lot Quality Assurance Sampling Technique – Population Council
4. Process Evaluation of Community Mobilization Activities
5. Assessing the Potential Acceptability of a New Cadre of community Midwives for Pregnancy and delivery-related Care in Rural Pakistan (Operations Research) – Population Council
6. Initial Assessment of Community Midwives in Rural Pakistan (Operations Research) 2010 - Population Council
7. Effect of Dai Training on Maternal and Neonatal Care (Operations Research) 2010 – Population Council
8. District Health System Strengthening – Endline Evaluation (2010) by Contech International
9. Endline analysis of decision space, institutional capacities and accountability in PAIMAN districts(in draft) (2010) Harvard School of Public Health and Contech International
10. Mapping of Health and Reproductive Health Services Multan District – Population Council
11. Mapping of Health and Reproductive Health Services Vehari District – Population Council
12. Mapping of Health and Reproductive Health Services Khirpur District – Population Council
13. Baseline Household Survey Rawalpindi District 2006 – Population Council
14. Baseline Household Survey Khanewal District 2006 – Population Council
15. Baseline Household Survey Multan District – Population Council
16. Baseline Household Survey Jhelum District 2006 – Population Council
17. Baseline Household Survey Mardan District – Population Council
18. Baseline Household Survey Khairpur District – Population Council
19. Baseline Household Survey Bhimber District – Population Council
20. Baseline Household Survey Zhob District – Population Council
21. Baseline Household Survey Sadhnoti District – Population Council

22. Baseline Household Survey Vehari District – Population Council
23. Baseline Household Survey Dera Ghazi Khan District 2006 – Population Council
24. Baseline Household Survey Lasbela District 2006 – Population Council
25. Baseline Household Survey Sukkur District 2006 – Population Council
26. Baseline Household Survey Dadu District 2006 – Population Council
27. Baseline Household Survey Upper Dir District 2006 – Population Council
28. Baseline Household Survey Buner District 2006 – Population Council
29. Baseline Household Survey Jaffarabad District 2006 – Population Council
30. Baseline Assessment of Primary Health Care Services in Mansehra and Bagh Districts – JHPIEGO/PRIDE (2007, 2008)
31. Programme assessment of training of community midwives trainers. 2009 – Aga Khan University

## **GOVERNMENT OF PAKISTAN**

1. PC-I for MNCH Programme
2. Manual of National Standards for Family Planning Services - TAMA & MoPW
3. District Health Plan - Jhelum (2010-2011) - Health Department, District Government, Jhelum
4. National Population Policy 2010 – MoPW
5. Aide Memoire. National Maternal, Newborn and Child Health Programme. Ministry of Health, Government of Pakistan. Second Joint Annual Review. August 2009

## **PAIMAN:**

1. PAIMAN Media Products (Repository)
2. PAIMAN Communication Advocacy and Mobilization Strategy
3. Ulama Agents for Social Change
4. Behavior Change Communication (BCC) Media Component Evaluation Report – JHU/PPC
5. PAIMAN Newsletter Issue 01 2007-02-03-04-05-06-07-08-09 (Dec 2009)
6. District Health System Strengthening Endline Evaluation (Contech)
7. PAIMAN CA Modifications 1-3
8. PAIMAN CA Modifications 4-5
9. PAIMAN CA Modifications 6-7
10. PAIMAN CA Modifications 8-9
11. PAIMAN CA Modifications 10-12
12. PAIMAN CA Modifications 13-15
13. PAIMAN FATA Report
14. Key personnel contact information for PAIMAN
15. Cooperative Agreement-GH Tech
16. Illustrative Questions to Guide the Evaluation
17. MNCH Evaluation Site Visits
18. Report Field Evidence. April 2010



## APPENDIX D: ASSESMENT TEAM SCHEDULE

<b>DETAILED ASSESSMENT SCHEDULE</b>				
<b>Day (6 day week)</b>	<b>Activities/Sites</b>	<b>Time</b>	<b>Individuals Interviewed</b>	<b>Team Participants</b>
<b>ISLAMABAD PAKISTAN</b>				
<b>Wednesday 8/4/10</b>	• <b>Arrival</b>	0230		Dr. Judith Fullerton (JF)
	• <b>Arrival</b>	2230		Dr. Stephen Atwood (SA)
<b>Thursday 8/5/10 (1)</b>	• <b>Team meeting</b>	0900 – 1000		Nuzhat Samad (NS) SA, JF
	• <b>Meeting with local logistic team</b>	1300 – 1400	Shafat Sharif	Team (SA, JF, NS)
	• <b>Meeting with USAID Human Development Officer</b>	1700 - 1800	Miriam Lutz	Team
<b>Friday 8/6/10 (2)</b>	• <b>Team planning meeting</b>	0900 – 1700		Team (SA, JF, NS)
	• <b>Introduction to PAIMAN COP</b>	1700 – 1800	Dr. Nabeela Ali Miriam Lutz	Team
<b>Saturday 8/7/10 (3)</b>	• <b>Team planning meeting</b>	0900 – 1700		Team
	• <b>Skype videoconference with GH Tech Program Officer (USAID personnel in attendance)</b>	1700 - 1800	Taylor Napier Miriam Lutz Megan Petersen	Team
<b>Sunday 8/8/10</b>				

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
<b>Monday</b> 8/9/10 (1)	• <b>Meeting with Director, USAID Health Office</b>	0830 - 0900	Janet Paz-Castillo	Team
	• <b>Interview with MCH Consultant</b>	0930 - 1030	Anjum Asfaq	Team
	• <b>Interview with Contech (Partner Organization)</b>	1430 - 1530	Naeem Uddin Mian Shahzad Hussain Awam M. Ashraf Chaudhry	Team
<b>Tuesday</b> 8/10/10 (2)	• <b>Interview with JHP/CCP</b>	0900 – 1000	Fayyaz Ahmad Khan	Team
	• <b>Interview with Midwife Consultant</b>		Patrice White	Team
<b>Wednesday</b> 8/11/10 (3)	• <b>Overview with PAIMAN</b>	1000 – 1300	Bal Ram Bhui Kashif Hanif Nadeem Hassan Nasir Idrees Shuaib Khan Zareef Uddin Khan Javade Khwaja Frank White	Team
	• <b>Interview with National MNCH Program Manager</b>	1900 - 2000	Farooq Akhtar	Team
<b>Thursday</b> 8/12/10 (4)	• <b>Interview with Population Council (Partner Organization)</b>	1030 – 1200	Zeba A. Sathar Syed Zakir Shah Arshad Mahmood	Team
	• <b>Interview with Registrar, Pakistan Nursing Council</b>	1300 – 1430	Nighat Durrani	Team
	• <b>Interview with SAVE (Partner Organization)</b>	1500 – 1600	Amman Ullah	Team

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
<b>Friday</b> 8/13/10 (5)	<ul style="list-style-type: none"> <li>• Interview with <b>UNFPA (Development partner)</b></li> </ul>	1030 – 1200	Mobashar H. Malik Naseer Nizamani	Team
	<ul style="list-style-type: none"> <li>• Interview with representative of <b>USAID-funded PRIDE program</b></li> </ul>	1430 – 1600	Shabana Zaeem	Team
<b>Saturday</b> 8/14/10 (6)	<ul style="list-style-type: none"> <li>• Reading supplementary documents; report writing</li> </ul>	0900 – 1700		Team
<b>Sunday</b> 8/15/10				
<b>Monday</b> 8/16/10 (1)	<ul style="list-style-type: none"> <li>• Field visit to representative health facilities</li> </ul>	0830 – 1400	Health facility personnel (LHV, Medical Asst, RH provider)	Team
<b>Tuesday</b> 8/17/10 (2)	<ul style="list-style-type: none"> <li>• Field visit to <b>PAIMAN</b> associated sites <b>Rawlapindi</b></li> </ul>	0800 - 1600	EDOH Principal, School of Nursing Personnel: THQ Guiar Personnel: RHC Mandra LHW Women's support group Men's group Community Midwife	SA, JF JF JF SA JF JF Team
<b>Wednesday</b> 8/18/10 (3)	<ul style="list-style-type: none"> <li>• Interview with <b>DfiD</b></li> </ul>	1100 – 1200	Raza Zaidi	SA, JF
	<ul style="list-style-type: none"> <li>• Interview with representatives of <b>Nutrition Unit, GOP</b></li> </ul>	1330 - 1430	Baseer Khan Achakzal Sher Baz Muhammed Yaqoob Qureshi Suleman Qazi	SA
	<ul style="list-style-type: none"> <li>• Interview with <b>UNICEF (development partner)</b></li> </ul>	1700 – 1800	Hemlal Shama	SA, JF
<b>Thursday</b>	<ul style="list-style-type: none"> <li>• Field visit to <b>PAIMAN</b>-associated</li> </ul>	0830 – 1500	EDOH	SA

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
8/19/10 (4)	sites Jhelum		Principal, School of Nursing Personnel: RHC Domali LHW women's support group DHQ (facility visit) Personnel: BHU Sohan Community Midwife	SA, JF JF JF SA JF SA, JF
	<ul style="list-style-type: none"> <li>• Telephone conference with PAVHNA</li> </ul>	1700 – 1800	Rihana Rashdi	SA, JF
Friday 8/20/10 (5)	<ul style="list-style-type: none"> <li>• Interview with WHO (development partner)</li> </ul>	1000 – 1130	Ahmed Farah Shadoul	Team
	<ul style="list-style-type: none"> <li>• Interview with PAIMAN subgrantees                             <ul style="list-style-type: none"> <li>○ Community Uplift Program</li> <li>○ Friends Foundation</li> <li>○ United Christian Organization</li> </ul> </li> </ul>	1200 – 1330	Iftikhar ur Rahman Poriska Ayub Abbas Gondal Muhsmsf Ibraheem Sarfraz Khan Khokhar Munazza Haris (PAIMAN)	Team
	<ul style="list-style-type: none"> <li>• Interview with JSI, Vice President</li> </ul>	1430 – 1530	Theo Lippeveld	Team
Saturday 8/21/10 (6)	<ul style="list-style-type: none"> <li>• Drafting report</li> </ul>	0900 – 1700		Team
Sunday 8/22/10	<ul style="list-style-type: none"> <li>• Travel to Lahore</li> </ul>			
Monday 8/23/10 (1)	<ul style="list-style-type: none"> <li>• Interviews with Punjab District Provincial Personnel</li> </ul>	0830 – 12:30	Dr. Muhammad Aslam Chaudhry Dr. Muhammad Anwar Janjua Dr. Hijab Farrukh Dr. Akhtar Rasheed,	Team

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
	<ul style="list-style-type: none"> <li>Site visit and interviews United Christian Hospital and SON</li> </ul>	1230 – 1500	Dr. Benjamin Dr. Emmanuel Bhatti Mrs. Nasim Pervaiz	Team
	<ul style="list-style-type: none"> <li>Travel to Multan and Khanewal Districts</li> </ul>			
<b>Tuesday 8/24/10 (2)</b>	<ul style="list-style-type: none"> <li>Interviews with Khanewal District EDOH and District Health Officers</li> </ul>	0915 – 1145	Muhammad Hussain Naqvi Muhammad Hassan Piracha Ghulam Murtaza Qazi Ashfaq Ahmad	SA, JF
	<ul style="list-style-type: none"> <li>Meeting with NGO Staff members, Khanewal District</li> </ul>	1145 – 1215		SA, JF
	<ul style="list-style-type: none"> <li>Site visit District Health Facility and School of Nursing, Khanewal</li> </ul>	1230 – 1400	Dr. Muhammad Yousaf Sumra Mrs. Surraya Ghuffran	JF
	<ul style="list-style-type: none"> <li>Site visit CMW home</li> </ul>	1400 – 1430		JF
	<ul style="list-style-type: none"> <li>Discussions with community members</li> </ul>	1430 – 1500	5 women, 2 men	JF
	<ul style="list-style-type: none"> <li>Site visit RHC Karcha Khoh</li> </ul>	1230 – 1400		SA
	<ul style="list-style-type: none"> <li>Meeting with Quality Improvement Team and LHW Support Group</li> </ul>	1400 – 1530		SA
<b>August 23-24: Visits conducted by Eyecon (Local Subcontractors)</b>				
	<ul style="list-style-type: none"> <li>Interviews with Buner District EDOH and District Health Officers</li> </ul>		Dr. Maqsood Dr. Fazle Azeem Dr. Lal Bacha Dr. Amir Zahir	

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
			Mr. Javaid Iqbal	
	<ul style="list-style-type: none"> <li>• <b>Site visit: DHQ Hospital Dagar</b></li> </ul>		Dr. Shuaib Muhammad Dr. Tahir	
	<ul style="list-style-type: none"> <li>• <b>Site visit: Civil Hospital Nawagai</b></li> </ul>		Dr. Sher Zaman	
	<ul style="list-style-type: none"> <li>• <b>Interviews with local NGO representatives and TBA MT</b></li> </ul>		Mr. Simir Khan Mr. Farid Khan Ms. Roshan Ara	
	<ul style="list-style-type: none"> <li>• <b>Interviews: Lady Health Supervisors</b></li> </ul>		Mr. Zain-ul-Abdeen Ms. Najia Ms. Nargis Jehan	
	<ul style="list-style-type: none"> <li>• <b>Focus groups</b></li> </ul>		Male Volunteer Group: 12 Participants Female FGD Participants: 18 + 20 = 38	
<b>Wednesday 8/25/10 (3)</b>	<ul style="list-style-type: none"> <li>• <b>Interviews with Multan District EDOH and District Health Officers</b></li> </ul>	0930 - 1000	Dr. Islam Zafar Dr. Muhammad Siddique Saqib Dr. Munawar Abbass Mr. Qaisar Abbass,	SA, JF
	<ul style="list-style-type: none"> <li>• <b>Site visit and discussions Nishtar Medical College Public Health Nursing School</b></li> </ul>	1030 - 1100	Ms. Nasreen Ms. Razia	SA, JF
	<ul style="list-style-type: none"> <li>• <b>Site visit and discussions Fatima Jinnah Women's Hospital</b></li> </ul>	1115 – 1200	Dr. Nighat Dr. Kuasar Sultant	SA, JF
	<ul style="list-style-type: none"> <li>• <b>Discussions with Representatives from 5 NGOs</b></li> </ul>	1200 - 1230	<ul style="list-style-type: none"> <li>• Maimoona Devel Fdn</li> <li>• Baktawar Amin Memorial Trust</li> </ul>	SA, JF

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
			<ul style="list-style-type: none"> <li>• UFAQ</li> <li>• Bunyad Fnd</li> <li>• Zakrna Devel Assn</li> </ul>	
	<ul style="list-style-type: none"> <li>• <b>Site Visit to RHC Mardanpur</b></li> </ul>	1300 – 1330		SA, JF
	<ul style="list-style-type: none"> <li>• <b>Interaction with community members</b></li> </ul>	1330 - 1400	Male volunteer (1) Male member of QIT committee (1) Male support group (1) LHV support group (8 women)	SA, JF
	<ul style="list-style-type: none"> <li>• <b>Return travel to Islamabad</b></li> </ul>			
<b>Thursday 8/26/10 (4)</b>	<ul style="list-style-type: none"> <li>• <b>Interview with representatives of Aga Khan Foundation (initial collaborative partner)</b></li> </ul>	1100 – 1230	Shazia Akbar Qayyum Ali Noorani Saadia Shabbir	Team
	<ul style="list-style-type: none"> <li>• <b>Interview with midwifery consultant</b></li> </ul>	1330 – 1500	Imtiaz Kamal	Team
<b>Friday 8/27/10 (5)</b>	<ul style="list-style-type: none"> <li>• <b>Informal discussion with JSI/PAIMAN</b></li> </ul>	0800 – 0930	Theo Lippeveld Nabella Ali	SA, JF
	<ul style="list-style-type: none"> <li>• <b>Interview with Secretary, Ministry of Health, and Director, MNCH</b></li> </ul>	1100 – 1200	Khushnood Akhtar Lashari Farooq Akhtar	Team
	<ul style="list-style-type: none"> <li>• <b>Skype teleconference with midwifery tutor: Aga Khan University School of Midwifery (Collaborative partner)</b></li> </ul>	1600 – 1700	Rafat Jan	Team
<b>August 26- 27: Visits conducted by Eyecon (Local Subcontractors)</b>				

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
	<ul style="list-style-type: none"> <li>Interviews with Lasbela District EDO Health and staff members</li> </ul>		Dr. Abdul Wahid Baloch Dr. Qamar Roonja	
	<ul style="list-style-type: none"> <li>Site visit: DHQ Hospital Uthal</li> </ul>		Dr. Muhammad Hayat	
	<ul style="list-style-type: none"> <li>Site visit: Civil Hospital Hub</li> </ul>		Dr. Bashir Ahmad Salosai Dr. Kawita Cecilia (Nurse)	
	<ul style="list-style-type: none"> <li>Group Interview: Local NGO representatives</li> </ul>		Mr. Abdul Qayum Mr. Kaleem Ullah Mr. Shakeel Ahmad Ms. Riffat Shah Ms. Najma	
	<ul style="list-style-type: none"> <li>Individual interviews</li> </ul>		Mr. Khalid Ahmad Roonjha Ms. Saiqa Urooj	
	<ul style="list-style-type: none"> <li>Focus Groups</li> </ul>		2 groups: 27 participants	
<b>Saturday 8/28/10 (6)</b>	<ul style="list-style-type: none"> <li>Team meeting; report development</li> </ul>	0900 – 1700		Team
<b>Sunday 8/29/10</b>				
<b>Monday 8/30/10 (1)</b>	<ul style="list-style-type: none"> <li>Interview with Minister of Population Welfare and staff members</li> </ul>	1100 – 1230	Saukat Hayat Durrani, Shazad Ahmad Abdul Ghafar Khan	
	<ul style="list-style-type: none"> <li>Team meeting</li> </ul>	1400 – 1700		Team Shafat Sharif



### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
<b>Tuesday</b> <b>8/31/10</b> <b>(2)</b>	<ul style="list-style-type: none"> <li>• Interview with <b>Clara Pasha, Abt Asst</b></li> </ul>	1300 – 1430		JF
<b>Wednesday</b> <b>9/1/10</b> <b>(3)</b>	<ul style="list-style-type: none"> <li>• Interview with <b>Greenstar</b> (original project partner)</li> </ul>	1000 - 1130	Haroon Ibrahim Maheen Malik Sherine Mohaghehpour	Team
<b>Thursday</b> <b>9/2/10</b> <b>(4)</b>	<ul style="list-style-type: none"> <li>• Teleconference with <b>Consultant, Aga Khan University</b></li> </ul>	0730 – 0800	Zulfiqar Bhutta	Team
	<ul style="list-style-type: none"> <li>• Report writing</li> </ul>	0800 – 1700		
<b>Friday</b> <b>9/3/10</b> <b>(5)</b>	<ul style="list-style-type: none"> <li>• Teleconference (cont.) with <b>Consultant, Aga Khan University</b></li> <li>• Meeting with <b>USAID</b></li> </ul>	0930 – 1100	Zulfiqar Bhutta Miriam Lutz	
	<ul style="list-style-type: none"> <li>• Report discussion and editing</li> </ul>	0100 – 1700		Team
<b>Saturday</b> <b>9/4/10</b> <b>(6)</b>	<ul style="list-style-type: none"> <li>• Report discussion and editing</li> </ul>	0900 – 1700		Team
<b>Sunday</b> <b>9/5/10</b>				
<b>Monday</b> <b>9/6/10</b> <b>(1)</b>	<ul style="list-style-type: none"> <li>• Report writing and editing; Preparation of presentations</li> </ul>	0900 - 1700		Team
<b>Tuesday</b> <b>9/7/10</b> <b>(2)</b>	<ul style="list-style-type: none"> <li>• Presentation to <b>PAIMAN</b> and stakeholders</li> </ul>	0900 – 1030		Team

### DETAILED ASSESSMENT SCHEDULE

Day (6 day week)	Activities/Sites	Time	Individuals Interviewed	Team Participants
	<ul style="list-style-type: none"> <li>• <b>Presentation to USAID</b></li> </ul>	1130 - 1300		Team
<b>Wednesday 9/8/10 (3)</b>	<ul style="list-style-type: none"> <li>• <b>Departure</b></li> </ul>			

## APPENDIX E: REFERENCES

Baker, M., 2009. "Developing the Māori nursing and midwifery workforce." *Nursing New Zealand* 15, 28.

Bashir H., S. Kazmi, R. Eicher, A. Beith, and E. Brown. *Pay for Performance: Improving maternal health services in Pakistan*. Bethesda Maryland: Health Systems 20/20 Project, Abt Associates, 2009.

Bossert, T., A. Mitchell, N. uddin Mian, and M. Janjua. District-level Decision Space Analysis in Pakistan: Relationships between decision space, capacities and accountability in five health functions with selected district performance measures. John Snow, Inc., 2008.

Bricker L., J.P. Neilson, and T. Dowswell. "Routine ultrasound in late pregnancy (after 24 weeks' gestation)." *Cochrane Database of Systematic Reviews* 2008, Issue 4: Art. No.: CD001451. DOI: 10.1002/14651858.CD001451.pub3.

Carlow, M. and M. McCall. "Skilled birth attendance: what does it mean and how can it be measured? A clinical skills assessment of maternal and child health workers in Nepal." *International Journal of Gynaecology and Obstetrics* 89:200-208, 2005.

Canadian International Development Agency. *Pakistan Program*. 2010. Available at: <http://www.acdi-cida.gc.ca/pakistan-e>.

Chambers, Robert. *Revolutions in Development Inquiry*. Institute of Development Studies. London, 2008.

Contech International. District Health System Strengthening End-line Evaluation. John Snow, Inc., 2010.

Currie, S., P. Asfar, P. and R.C. Fowler. "A bold new beginning for midwifery in Afghanistan." *Midwifery* 23:226-234, 2007.

Darmstadt, D., M. Hassan, Z. Balsara, P. Winch, R. Gipson, and M. Santosham." Impact of clean delivery-kit use on newborn umbilical cord and maternal puerperal infections in Egypt." *Journal of Health, Population and Nutrition*. 27(6):746-754, 2009.

DiFD. Assessment of quality of training of community midwives. Final Report, August 2010.

DiFD. *Pakistan. Where UK bilateral aid goes*, 2010. Available at: <http://www.dfid.gov.uk/Where-we-work/Asia-South/Pakistan/Key-facts/>

Gülmezoglu, A.M., F. Forna, J. Villar, and G.J. Hofmeyr. "Prostaglandins for preventing postpartum haemorrhage." *Cochrane Database of Systematic Reviews*, Issue 3. Art. No.: CD000494. DOI: 10.1002/14651858.CD000494.pub3, 2007.

Imtiaz J., H. Harris, S. Salat, A. Zeb, N. Mobeen, O. Pasha, E. McClure, J. Moore, L. Wright and R. Goldenberg. "Neonatal mortality, risk factors and causes: a prospective population-based cohort study in urban Pakistan." *Bulletin of the World Health Organization*. 87:130-138. doi: 10.2471/BLT.08.050963, 2009.

International Confederation of Midwives. *Definition of a Midwife*. 2005. Available at: <http://www.internationalmidwives.org/Portals/5/Documentation/ICM%20Definition%20of%20the%20Midwife%202005.pdf>.

International Confederation of Midwives. *Essential competencies for basic midwifery practice*. The Hague, Netherlands. 2002. Available at:  
[http://www.internationalmidwives.org/Portals/5/Documentation/Essential%20Compsenglish\\_2002-JF\\_2007%20FINAL.pdf](http://www.internationalmidwives.org/Portals/5/Documentation/Essential%20Compsenglish_2002-JF_2007%20FINAL.pdf).

International Confederation of Midwives. *Global Standards for Midwifery Education*. 2010 (pre-publication copy available on request from ICM).

Ireland, J., H. Bryers, E. van Teijlingen, V. Hundley, J. Farmer, F. Harris, J. Tucker, A. Kiger and J. Caldwell. "Competencies and skills for remote and rural maternity care: a review of the literature." *Journal of Advanced Nursing* 58, 105-115, 2007.

Jafarey, S.N. "Maternal mortality in Pakistan – compilation of available data." *The Journal of the Pakistan Medical Association*. 52(12): 539-44, 2002.

Japanese International Cooperation Agency. Pakistan program. 2010. Available at:  
<http://www.jica.go.jp/pakistan/english/>.

Khan U.P., S.Z. Bhutta, S. Munim, and Z.A. Bhutta. "Maternal health and survival in Pakistan: issues and options." *Journal of Obstetrics and Gynaecology Canada*. 31(10):920-9, 2009.

Lawn, J.E., S. Cousens, and J. Zupan. "4 million neonatal deaths: When? Where? Why?" *Lancet*. 365: 891-900. 2005, doi: 10.1016/S0140-6736(05)71048-5 pmid: 15752534.

Morin, K.H. and J. Yan. "Developing global standards for initial nursing and midwifery education." *Journal of Obstetric Gynecologic & Neonatal Nursing* 36, 201-2, 2007.

Norway Embassy in Pakistan. *The NPPI Program*, 2010. Available at:  
[http://www.norway.org.pk/Embassy/development/MOU\\_ON\\_NPPI/](http://www.norway.org.pk/Embassy/development/MOU_ON_NPPI/).

*Pakistan Demographic and Health Survey 2006-2007*. Islamabad, National Institute of Population Studies, 2007.

*Pakistan Social & Living Standards Measurement Survey (PSLM) 2008-09 (District Results)*. Federal Bureau of Statistics, Statistics Division, Pakistan.

*Pakistan infant mortality rate 2010*. Available at:  
[http://www.indexmundi.com/pakistan/infant\\_mortality\\_rate.html](http://www.indexmundi.com/pakistan/infant_mortality_rate.html).

Rakannuddin, R.J., T.S. Ali, and B. McManis. "Midwifery education and maternal and neonatal health issues: challenges in Pakistan." *Journal of Midwifery & Women's Health* 52, 398-405, 2007.

Ridde, V. "Per diems undermine health interventions, systems and research in Africa: burying our heads in the sand." *Tropical Medicine and International Health*, 2010. Published on-line in advance of print. doi:10.1111/j.1365-3156.2010.02607.x

Roxburgh, M., J. Taylor, and M. Murebwayire. "Rwanda: A thousand hills, a thousand dreams, a thousand challenges for nurses and midwives and the Millennium Development Goals." *Nurse Education in Practice* 9, 349-350, 2009.

Sathar, Z., A. Jain, S. RamaRao, Mul Haque, and J. Kim. "Introducing Client-centered Reproductive Health Services in a Pakistani Setting." *Studies in Family Planning*. 36(3): 221-234, 2005.

Shah, Z. *Process evaluation of community mobilization activities*. Population Council, 2010.

Shadoul A.F., F. Akhtar, and K.M. Bile. "Maternal, neonatal and child health in Pakistan: towards the MDGs by moving from desire to reality." *Eastern Mediterranean Health Journal*. 16:S25-S32, 2010.

Sibley, L, and T. Sipe. "Transition to skilled birth attendance: Is there a future role for trained traditional birth attendants?" *Journal of Health, Population & Nutrition* 24, 472-478, 2006.

Sibley, L, T. Sipe, C. Brown, M. Diallo, K. McNatt, and N. Habartta. "Traditional birth attendant training for improving health behaviors and pregnancy outcomes." *Cochrane Database of Systematic Reviews* (Online) [Cochrane Database Syst Rev] (3). *Cochrane AN*: CD005460. *Date of Electronic Publication*: Jul 18, 2007.

WHO. *Strengthening nursing and midwifery*. Geneva, 2008. Available at: [http://www.searo.who.int/LinkFiles/Nursing\\_and\\_Midwifery\\_EB122\\_Report\\_Jan2008.pdf](http://www.searo.who.int/LinkFiles/Nursing_and_Midwifery_EB122_Report_Jan2008.pdf)

Sutherland T., C. Meyer, D.M. Bishai, S. Geller, and S. Miller. Community-based distribution of misoprostol for treatment or prevention of postpartum hemorrhage: cost-effectiveness, mortality and morbidity reduction analysis." *International Journal of Gynaecology and Obstetrics*. 108(3): 289-94, 2010.

Temmar, F., B. Vissandjée, M. Hatem, A. Apale and D. Kobluk. "Midwives in Morocco: seeking recognition as skilled partners in women-centered maternity care." *Reproductive Health Matters* 14, 83-90, 2006.

UNDP. *Human Development Report, 2009*. Available at: <http://www.undp.org/hdr2009.shtml>.

UNFPA. Investing in Midwives and others with midwifery skills to accelerate progress towards MDG5, 2010. Available at: [www.unfpa.org](http://www.unfpa.org).

UNICEF. *Pakistan country statistics, 2010*. Available at: [http://www.unicef.org/infobycountry/pakistan\\_pakistan\\_statistics.html](http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html).

UNICEF. Pakistan health program. 2010. Available at: [http://www.unicef.org/pakistan/partners\\_1784.htm](http://www.unicef.org/pakistan/partners_1784.htm).

USAID. *Pakistan health program, 2010*. Available at: [http://www.usaid.gov/our\\_work/global\\_health/mch/countries/asia/pakistan.pdf](http://www.usaid.gov/our_work/global_health/mch/countries/asia/pakistan.pdf).

United States Central Intelligence Agency. *CIA Factbook, 2010*. Available at: [www.cia.gov/library/publications/the-world-factbook/geos.pk.html](http://www.cia.gov/library/publications/the-world-factbook/geos.pk.html).

Wajid A., A.M. Mir and Z. Rashid. Assessing the potential acceptability of a new cadre of community midwives for pregnancy and delivery related care in rural Pakistan. Findings from a qualitative study. Islamabad: Population Council, 2010.

Wajid A, Z. Rashid and A.M. Mir. *Initial assessment of community midwives in rural Pakistan*. Islamabad: Population Council, 2010.

Wakefield, M.A., B. Loken and R. Hornik. "Use of mass media campaigns to change health behavior." *Lancet*. 376: 1261-1271, 2010.

Whitworth M., L. Bricker and J.P. Neilson. "Ultrasound for fetal assessment in early pregnancy (Protocol)." *Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD007058. DOI: 10.1002/14651858.CD007058.

WHO, ICM, FIGO. Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO. Geneva, World Health Organization, 2004. Available at: [http://www.who.int/making\\_pregnancy\\_safer/documents/9241591692/en/index.html](http://www.who.int/making_pregnancy_safer/documents/9241591692/en/index.html).

WHO. *World Health Report 2005: Make every mother and child count*. Geneva, 2005.

WHO. *National health accounts: Pakistan, 2008*. Available at: <http://www.who.int/nha/country/pak/en/> accessed on 9 October 2010.

WHO. *Country program: Pakistan, 2010*. Available at: [http://www.who.int/hac/network/who/co\\_pakistan/en/print.html](http://www.who.int/hac/network/who/co_pakistan/en/print.html).

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