



# **FINAL REPORT: FINDINGS & ANALYSIS**

## **Maternal and Child Health Program**

Component 1: Family Planning Reproductive Health  
Baseline Survey: 14 Districts (Sindh and Punjab)

## DISCLAIMER

This report summarizes findings of the baseline survey carried out by Research and Development Solutions on behalf of Marie Stopes Society (MSS) Pakistan. The MSS Pakistan Research, Monitoring & Evaluation (RME) team supervised the survey with the support of the Family Planning/Reproductive Health Project's RME team.

Marie Stopes International (MSI) provided technical assistance.

The opinions expressed in this report are those of the authors and do not necessarily reflect the views of USAID.

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*The Family Planning/Reproductive Health Project is Component 1 of USAID's overall MCH program.*

*Fertility preferences of women indicate  
they wish to have large families*



# ACRONYMS

<b>ANC</b>	Ante-natal care
<b>CPR</b>	Contraceptive Prevalence Rate
<b>CYP</b>	Couple Years of Protection
<b>EPI</b>	Expanded Program for Immunization
<b>FHE</b>	Field Health Educator
<b>FP</b>	Family Planning
<b>FP/RH</b>	Family Planning and Reproductive Health
<b>GOP</b>	Government of Pakistan
<b>HTSP</b>	Healthy Timing and Spacing of Pregnancy
<b>IUD</b>	Intrauterine Contraceptive Device
<b>KfW</b>	KfW Entwicklungs Bank (German Development Bank)
<b>LHW</b>	Lady Health Worker
<b>MCH</b>	Maternal and Child Health
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MNCH</b>	Maternal, Newborn & Child Health
<b>MOH</b>	Ministry of Health
<b>MSI</b>	Marie Stopes International
<b>MSS</b>	Marie Stopes Society
<b>MWRA</b>	Married Women of Reproductive Age
<b>NGO</b>	Non-Governmental Organization
<b>PDHS</b>	Pakistan Demographic and Health Survey
<b>PSLM</b>	Pakistan Social and Living Measures Survey
<b>RADS</b>	Research and Development Solutions
<b>RH</b>	Reproductive Health
<b>RHC</b>	Rural Health Centre
<b>RME</b>	Research, Monitoring & Evaluation
<b>SIFPO</b>	Support for International Family Planning Organizations
<b>TBA</b>	Traditional Birth Attendant
<b>TFR</b>	Total Fertility Rate
<b>THQ</b>	Tehsil Head Quarter
<b>UNFPA</b>	United Nations Population Fund
<b>USAID</b>	United States Agency for International Development

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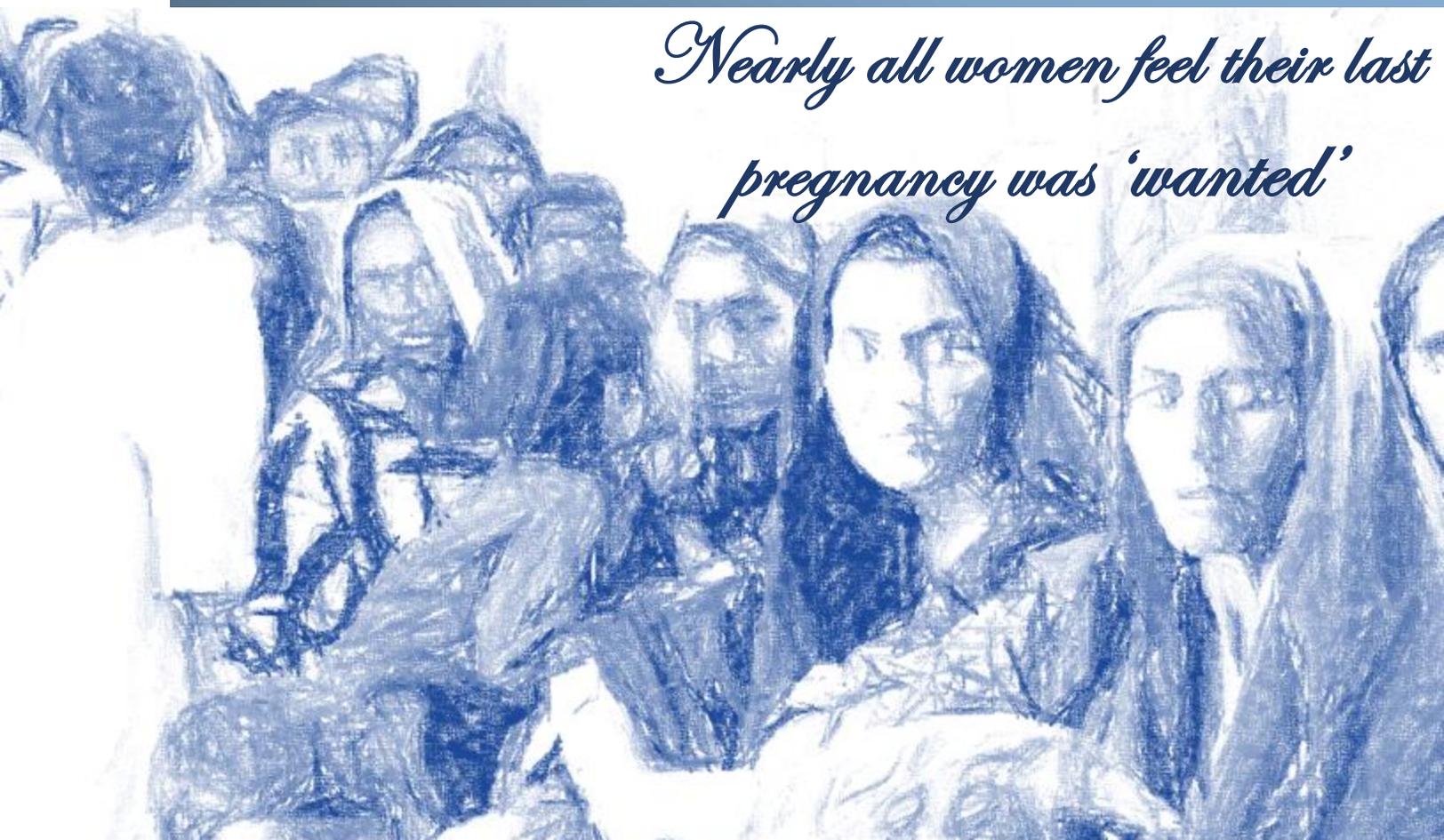
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*Nearly all women feel their last pregnancy was 'wanted'*



This report documents the results of the baseline survey completed by Marie Stopes Society (MSS) on behalf of the United States Agency for International Development (USAID) MCH Program Component 1: Family Planning/Reproductive Health Project (FP/RH).<sup>i</sup> The survey was conducted in 11 districts in Sindh Province and in three districts in southern Punjab Province, Pakistan. Within each of the districts, MSS purposively selected specific health facilities (for partnership) through set criteria. It is pertinent to note that due to low number (3 on average) of facilities in a district, the survey findings cannot be representative of the district population, instead only reflect information pertaining to catchment populations of selected service facilities. The data therefore does not reflect the overall situation within these districts, but rather specifically reveals information about the catchment populations of selected service facilities identified as the clusters for the survey. Nearly 9,000 married women aged 15-49 were interviewed as main respondents by employing a multi-stage sampling approach.

These women were on average 30 years old. They were married just before they turned 19 and had four children, although they expressed a preference for five. There was a slight preference for boy children (2.7 vs. 2.2). Nearly all of the women (95%) felt that their last child was born from a 'wanted' pregnancy, and over half (53%) said that they would like to have another child.

Nearly two-thirds of women sampled (68%) had heard of at least one family planning method and 42% had ever used a family planning method, while 22% were currently using a method. Each of these indicators increases with affluence but is similar across each of the provider types (Suraj A, Suraj B, or Outreach – (see text box below for details). Both ever and current use of family planning, as well as the number of children, increased with age. Ever use remained nearly twice as high as current use for all ages. There appears to be no relationship between family planning use and the number of children at any given age, suggesting that the overall family planning use is either insufficient or ineffective, or both. Interestingly, around 28% of women reported having used some form of family planning – mostly a modern method – after their last delivery. This is potentially an area that can be promoted to achieve an increase in CPR in a rapid timescale.

**MSS Operational Approach:** To enhance its outreach in remote rural and semi urban areas, MSS has successfully established a private provider social franchising network called Suraj Social Franchise (SSF). It is a partnership (private-private) between MSS and private local health service providers. It works by building an integrated network of service delivery outlets, largely within a radius of 15 to 100 kilometers of the MSS Centers.

Suraj A providers provide short- and long-acting family planning ante-natal and post-natal care, referral support for permanent methods and delivery.

Suraj B providers offer comprehensive family planning services (short-term, long-acting and permanent), safe motherhood, and comprehensive EmOC services.

MSS extends its outreach by 100 to 200 kilometers from the center through the mobile outreach (OR) teams, which include a doctor, nurse and an assistant. The teams use the MSS Centers as a workbase and set up outreach camps in difficult-to-reach terrains that are about 100 to 200 kilometers away from the MSS Center. The outreach teams offer long-term and permanent contraceptive services.

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<sup>i</sup> Year One implemented via global field support mechanism: 'Support for International Family Planning Organizations (SIFPO)'.

Unmet need for family planning – defined as a ‘want to limit further pregnancies and/or do not desire another child at this point or are unsure but are not currently using any family planning method’ – was 32%. Common reasons for women choosing the method they were currently using include: cost, effectiveness, and long-term potential – each around 17-18%. Common reasons for not using a method were the desire to have another child (39%) and the belief that it is up to God to decide how many children people should have (25%). For most women, family planning services cost less than PKR 100 (\$0.95). Around 23% women had heard a family planning message on the radio, and 34% had seen a message on television within the past month; 73% of these women felt the message was useful in promoting family planning. However, the specific message was internalized differently by different women.

Women stated their last delivery was most commonly at home (57%), followed by a private facility (28%). Overall, 42% of the deliveries were conducted by a Skilled Birth Attendant. For this, they paid PKR 3,254 (\$31) on average. The main reason for women choosing to deliver at home rather than at a facility were costs (39%) and the feeling that it was unnecessary to deliver in a facility (22%). Around half of the women (46%) reported experiencing some complication during their pregnancy and 76% sought treatment for it. Women were equally likely to experience symptoms and to seek care for them regardless of which wealth quintile they were in. The most common reasons cited for not seeking care for symptoms included the feeling that it was not necessary and the high cost of care, although limited access to care also contributed.

During their pregnancies, women sought ante-natal care (ANC) approximately four times. The first visit was equally likely to initiate during any month of pregnancy. The care sought included: blood pressure checks (63%); weight measurement (46%); blood (46%) or urine (48%) test; and an ultrasound examination (80%). It is worth noting that ultrasound, which is the most costly of all procedures, was conducted most often and in fact was conducted twice as often as facility deliveries. Post-natal care and family planning advice was provided to one-third of women. Among facility births, nearly two-thirds of women were given family planning advice but were not informed specifically about methods for post-partum family planning.

## Status of Family Planning in Pakistan

With an estimated population of 185 million (Pakistan Census Organization, last accessed 31 October 2013), Pakistan is the sixth most populous country in the world. Although Pakistan was a regional pioneer in family planning programs in the private sector in 1953, and in the public sector in the 1960s, the country's Contraceptive Prevalence Rate (CPR) increased by only 0.25% annually until 1990. The CPR rose more sharply from 12% in 1990 to 33% in 2000,<sup>1</sup> mostly driven by gains in traditional methods and through promotion of family planning in rural areas<sup>2</sup> (from 6% in 1990 to 23% in 2006/07 in rural areas, compared to a 26% to 39% change in urban locations) by the new cadre of outreach Lady Health Workers (LHW). Unfortunately this momentum did not continue, and the CPR was 30% in the Pakistan Demographic and Health Survey (PDHS) 2006/07. Analysis of family planning supplies data and preliminary findings from the most recent PDHS 2012/13 suggest that national CPR is around 35%<sup>3</sup> – a less than 1% rise per annum since 1990. Translating these percentages into actual family planning service users suggests that among the 24 million married women of reproductive age (MwRA): 17 million do not use any family planning methods, including nearly six million (25%) who have an unmet need for family planning.<sup>4</sup>

DEMOGRAPHIC INDICATORS IN THE REGIONAL AND MUSLIM COUNTRIES				
Country	Growth Rate	Population (millions)	TFR	CPR
Iran	1.4	72	2.1	79
Turkey	1.2	75	2.2	71
Indonesia	1.5	240	2.6	61
Malaysia	1.6	28	2.6	52
Bangladesh	1.7	147	2.7	56
India	1.6	1,149	2.8	56
<b>Pakistan</b>	<b>1.9</b>	<b>169</b>	<b>4.1</b>	<b>30</b>

Data from: Federal Bureau of Statistics, Pakistan Demographic Survey Report 2006/07, and Population Reference Bureau : World Population Data Sheet 2008

Source: RADS Policy Brief Series #8: What Can Pakistan Learn From Iran, Bangladesh And India On Family Planning Programs. [http://resdev.org/files/policy\\_brief/8/8.pdf](http://resdev.org/files/policy_brief/8/8.pdf)

## Experience of Implementing Family Planning Programs

Much of the success of the 1990s was galvanized by political interest at the highest level via the initiation of the LHW program in the public sector, along with contributions from secular trends. In 2000, the government expanded the overall number of LHWs from around 40,000 to 100,000 in order to reach 60% of the country's remote rural population. At the same time, the responsibilities of the LHWs were expanded to include over 20 tasks, such as malaria case detection, immunization and more. This diluted the attention and time that LHWs had previously devoted to family planning promotion and counseling. A 2008 third-party evaluation of the LHW program suggested that LHWs spent approximately 6% of their time on family planning issues, with each LHW serving just over four women (on average) with family planning services each year.<sup>5</sup> In the meantime, the role of the provincial Health and Population Welfare

Departments has diminished so that together they now serve approximately one million women a year with family planning services (5% of MWRA or around 35% of all family planning users) at a cost of PKR 2,783 (\$46, in 2007 conversion rates) per woman per year.<sup>6</sup> Consequently, the bulk of family planning services have transitioned from the public to the private sector. Today, the private sector provides nearly two-thirds of all family planning services nationwide.<sup>6</sup>

Until 2006/07, nearly half of all family planning ‘services’ were actually direct self-procurement of commodities by women/couples, mainly condoms from stores or pharmacies – and usually as part of social marketing by non-governmental organizations (NGOs).<sup>7</sup> In the PDHS 2006/07, private clinics and NGOs accounted for only 12% of all family planning services nationwide.<sup>7</sup>

### Lessons from Family Planning Programs and Policies in Pakistan

Within this wider context, it is important to draw lessons from prior experiences in family planning programming and the changing maternal, newborn, and child health landscape. The Government of Pakistan (GOP) spent \$652 million on family planning between 2000 and 2009.<sup>1</sup> These GOP programs were supplemented by many donor-driven initiatives, including a large investment in supplies, logistics, and management information systems by USAID, social marketing, and long-term methods by the German development bank, and capacity development by the United Nations Population Fund. Despite these investments, the CPR changed at less than 1% per annum,<sup>1,7</sup> and the total number of users or adoptors of longer term methods changed less than 10% over the last six years.<sup>8</sup> Findings from interviews with both the LHWs<sup>9</sup> and the communities<sup>10</sup> they serve show that many misperceptions, myths, and biases persist about counseling (i.e. LHWs believe that counseling women about side effects of the methods they are prescribing will deter women from using family planning) and use of longer term methods.<sup>5,9</sup>

### The Current MSS Project

Marie Stopes Society (MSS) is a social enterprise that is affiliated with Marie Stopes International (MSI), which works to provide family planning and reproductive health services to the most underserved women across 42 countries. MSS has been working in Pakistan since 1991 to improve reproductive health by providing sexual and reproductive health information with services to underserved rural and urban populations.

In 2012, MSS launched a project called ‘Strengthened Delivery of Integrated Family Planning and Safe Motherhood Services in 29 Districts of Sindh and Punjab,’ with support from USAID, to improve maternal health through empowering women and couples to make informed reproductive health choices by ensuring that such services are available, accessible and affordable. MSS did so by expanding the network of Suraj social franchise providers and outreach service delivery sites.<sup>11-14</sup> Key performance indicators are:

1. delivering more than 3.15 million couple years protection (CYP), which will:
2. contribute to an increase in the modern method contraception rate by more than 3.8%;
3. avert an estimated 1.25 million unintended pregnancies; and
4. avert an estimated 1,350 maternal deaths.

The family planning and reproductive health component will deliver services that are expected to result in over 1 million additional family planning users, over the life of the project.

The first phase of the program served 14 districts of Sindh and Punjab.<sup>ii</sup> Prior to the January 2013 initiation of service delivery, MSS hired a consultant (Research and Development Solutions – RADs) to conduct a baseline survey to measure community need for family planning and reproductive health (FP/RH) services, along with existing knowledge, attitude, and practices of the community regarding family planning and maternal and newborn child health (MNCH) services. MSS and the other partners of USAID’s MCH Program will use this data to inform implementation teams about the nuances of demand for family planning and MNCH services in the communities they seek to serve. In addition, at the end of the project life, findings of this baseline survey will help USAID and MSS to evaluate the effectiveness of interventions by comparing it with an end line survey.

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<sup>ii</sup> This project was initially funded as a one-year investment under a global field support mechanism. During a transition to a multi-year, bilateral award, MSS and USAID re-evaluated priorities and investments, and revised plans include a decision to scale up to 40 districts across Sindh and Punjab. Additionally, as the MCH Program evolved, the initial name of this project was dropped in favor of referring to the activities as Component 1: Family Planning/Reproductive Health of USAID’s broader MCH Program.

## Survey Settings and Target Population

This quantitative household baseline survey collected primary data from Married Women of Reproductive Age (MWRA) using multistage stratified random-sampling technique for the selection of households. One MWRA was recruited from each household. The survey was initially planned for 15 project districts served by MSS, but later the district Bahawalpur in Punjab was dropped due to operational reasons. The list of 14 surveyed districts is in Table 1.

**Table 1: Selected Districts in Punjab and Sindh**

S.no.	Sindh	S.no.	Punjab
1	Jamshoro	12	Dera Ghazi Khan
2	Tando Allah Yar	13	Rajanpur
3	Matiari	14	Rahim Yar Khan
4	Larkana		
5	Qambar/ShahdadKot		
6	Naushero Feroz		
7	Shikarpur		
8	Jacobabad		
9	Ghotki		
10	Khairpur		
11	Karachi		

## Health Facilities

Health facilities were stratified by type of family planning and reproductive health services that they provided. There were three strata of facilities: 1) Suraj A; 2) Suraj B; and 3) Outreach facilities.

All Suraj A facilities (41) and Suraj B facilities (9) in the above districts were included in the survey. MSS provided a list of 50 randomly selected outreach sites in the above districts that were also included in the survey. Four facilities were excluded due to risk of contamination (see page 41 for additional notes on methodology). Health facilities and type of services provided are as follows (a complete list of facilities surveyed is available from MSS).

**Suraj A facilities:** Provide only family planning services in a clinic setting.

**Suraj B facilities:** Provide family planning and maternal health services in a clinic setting.

**Outreach facilities:** Provide family planning services through MSS outreach service workers in public sector and private sector facilities.

## Surveyed Site

Separate samples were calculated for the evaluation of each of the service delivery channels. The sample size for Suraj A and outreach was estimated by anticipating a 5% point increase in modern contraceptive use within their respective catchments from baseline to endline (19% to 24%); while the sample calculation for Suraj B was estimated by anticipating a 4% point increase in the institutional delivery from

baseline to endline (34% to 38%). The estimated samples were then multiplied by design effect of 2 to take clustering into account (see Table 2).

For the purpose of data collection, service coverage areas around health facilities were mapped based on required catchment population residing 5-7 kilometers around the health facilities that were Suraj A and Suraj B; while the coverage area was mapped based on a 7-13 kilometer radius for outreach facilities. The total population around each health facility was estimated by dividing the catchment areas in clusters; measuring the population of each cluster and adding the population of all clusters around each particular health facility (see more details in 'Mapping' in Section 2.1).

Clusters were defined as a geographical area within the catchment area around a health facility and identified by well-established boundaries. Thus, clusters were villages in rural areas and blocks (or 'mohalla') in urban or semi-urban areas. Researchers randomly selected 25% of clusters around each eligible health facility for data collection.

The number of interviews to be conducted around each Suraj social franchise and outreach site was proportionate to the total population around each site, as determined through mapping. The cut-off maximum population around Suraj A and B sites was considered to be 30,000; while for outreach sites, the cut-off was 80,000. Thus, for areas where the total population was estimated to exceed the cut-off in mapping, the cut-off number was used in calculating the weights for health facilities. Calculated population weights were multiplied with the allocated sample size by type of health facility, as shown in Table 2, to derive health facility-specific sample sizes. These calculations are described in detail in Section 2.1.

**Table 2: Allocated Sample Size by Type of Health Facility**

	Sample Size		
	Suraj A	Suraj B	Outreach facilities
<b>Allocated sample size</b>	2,125	4,550	2,125

Sample size for clusters was based on the sample size required for each health facility. The minimum number of required observations from one cluster was considered as ten. Details on clusters selection are included in the section entitled 'Data Collection'.

### Study Tool

MSS designed the study questionnaire, which is in English. For the purpose of data collection, MSS translated the questionnaires into Urdu (for Punjab and Karachi) and Sindhi (for the rest of Sindh) to better convey and capture the local context, and for ease of the enumerators' understanding.

The questionnaires were first pre-tested in localities that had socio-demographic profiles similar to the areas that were included in the survey. The Sindhi form was pre-tested in the Dadu District in Sindh, and MSS pre-tested the Urdu form in Islamabad and Rawalpindi among native Urdu/Punjabi speaking populations. As a result, MSS edited the questionnaires, but no new questions were added nor were any existing questions dropped. However, changes were made with respect to the phrasing of the questions, flow through the questionnaire, and skip patterns. The finalized questionnaire was again sent for final

translation and then for printing. The final printed questionnaire had 225 questions with approximately 450 variables and took 35-45 minutes to complete.

## 2.1: Mapping

**Health Facilities:** All health facilities were included and information was gathered about the catchment population around each health facility. Outreach facilities had a wider catchment area compared to Suraj A and B facilities. During mapping, researchers found that some facilities were catering to more than 100 clusters. Hence, MSS defined the radius around the facilities by using standard distance for Suraj and outreach facilities, which was a 5-7 kilometer radius area around Suraj A and B facilities – and a 7-13 kilometer radius around outreach facilities. All clusters within the defined area around a health facility were included for mapping.

**Definition of a Cluster:** Clusters were taken as a geographically defined area known to the locals (village) in rural areas and blocks (or ‘*mohalla*’) in urban areas.

### Population Estimation

As there is no updated census data available, researchers developed population estimates by triangulating multiple sources of data that included: 1) crowd sourcing through multiple respondents in each cluster; and 2) data compiled about populations by the LHW for the expanded program on immunization (EPI) where available.

**Crowd Sourcing:** Population estimates were taken from five different informers residing in their respective clusters. Researchers approached different categories of people from all walks of life in each cluster. For example, *numberdar* (village elder), school teacher, shop keeper, *haari* (farmer, land tiller), *imam* (prayer leader), and *chokidar* (village guard). Researchers asked individuals for estimates separately, while ensuring that others in the community were not around and after ensuring that respondents had not conferred with each other in order to avoid influence on informers’ estimates. The local informers of the village were asked about the number of households present in a village/block/*mohalla* (cluster).

**LHW Estimates:** Population estimates were also obtained from LHWs where available, and from vaccinators, where LHWs were not available. LHWs were asked to give population estimates, as well as household estimates.

**Tabulating Average:** This was calculated by asking the LHWs about the total population, as well as the households in particular clusters. Crowd sourcing informers were asked about the total household only. Researchers used the average of five informers for household estimation and multiplied by 7.2 to get the average population size of a cluster (7.2 is the average household size in Pakistan, according to PDHS 2006/07).

### Validation of Crowd Sourcing Through LHW Data

LHW-sourced population estimates were used to validate crowd-sourced average household population estimates. After cleaning, researchers tested the data for normality distribution using Probability–Probability (P-P) plots. P-P plots indicated that the data were not normally distributed; therefore analysis was done using non-parametric assumptions. Researchers checked correlations between average populations, as reported by crowd sourcing informers, and LHW data using Spearman’s correlation technique. Results indicated that the two measures were highly correlated (see Table 3). Since Spearman’s

correlation does not give information about observer agreements, a Bland Altman scatter plot was used to test between observer agreements.

A Bland Altman plot is a graphical method to compare two measurement techniques. The differences between two techniques are plotted against the averages of two techniques. The two techniques for the purpose of this survey were: 1) the average population figure obtained through crowd sourcing; and 2) estimate of total population by LHW or vaccinator.

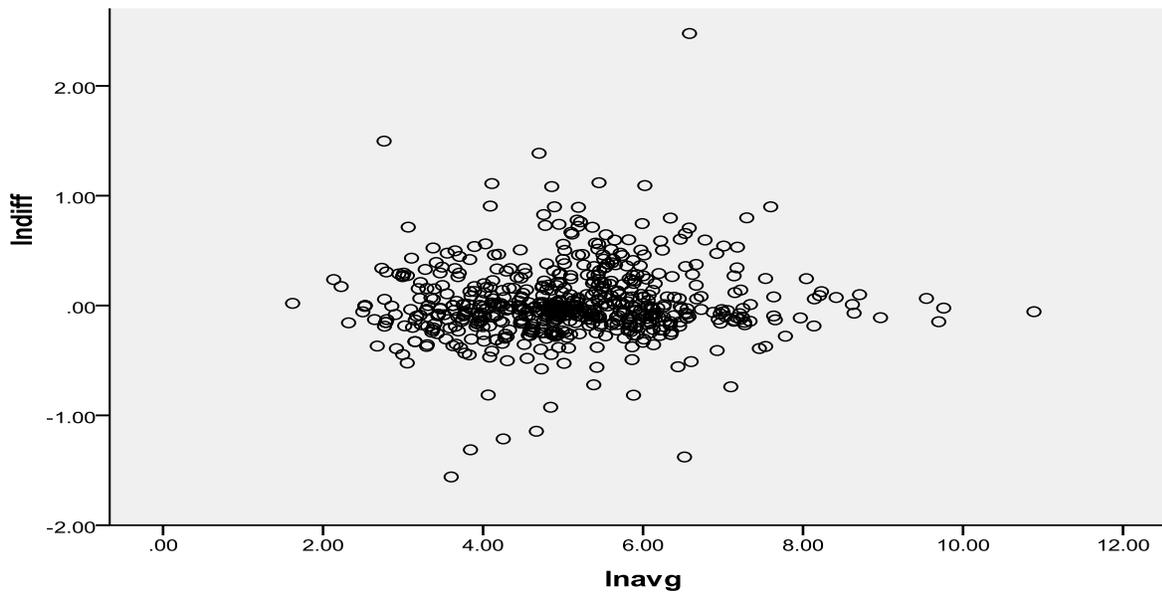
The Bland Atman plot indicated a high level of agreement between crowd sourcing averages and LHW data (see Figure 1: ).

**Table 3: Correlation between Crowd Sourcing Average and LHW Data**

		Crowd sourcing average	LHW data
Spearman's rho	Crowd sourcing average	Correlation Coefficient	1.000
		Sig. (2-tailed)	0.000
LHW data		Correlation Coefficient	0.961**
		Sig. (2-tailed)	0.000

**\*\*.** Correlation is significant at the 0.01 level (2-tailed)

**Figure 1: Bland Altman Scatter Plot Testing Between Observer Agreements**



### Health Facility Weights and Sample Size

The sample size for each health facility was based on probability proportionate to size and included a three-step process. First, the researcher calculated the total population for each facility by summing up the average population of all clusters mapped around a particular health facility. Second, researchers derived health facility population weights by dividing the population of a health facility by the sum of the population for all health facilities of that type. Finally, the weight for a health facility thus obtained was multiplied by the allocated sample size (see Table 2) for that type of health facility to derive the actual

sample size for data collection. The researcher derived the weights for health facilities using the formulas below:

**Suraj A:** [Population of health facility... / total population around all type A health facilities] =  $W_{A...}$

**Suraj B:** [Population of health facility... / total population around all type B health facilities] =  $W_{B...}$

**Outreach:** [Population of health facility... / total population around all outreach health facilities] =  $W_{C...}$

## 2.2: Data Collection

The team collected data from 1 to 25 March 2013.

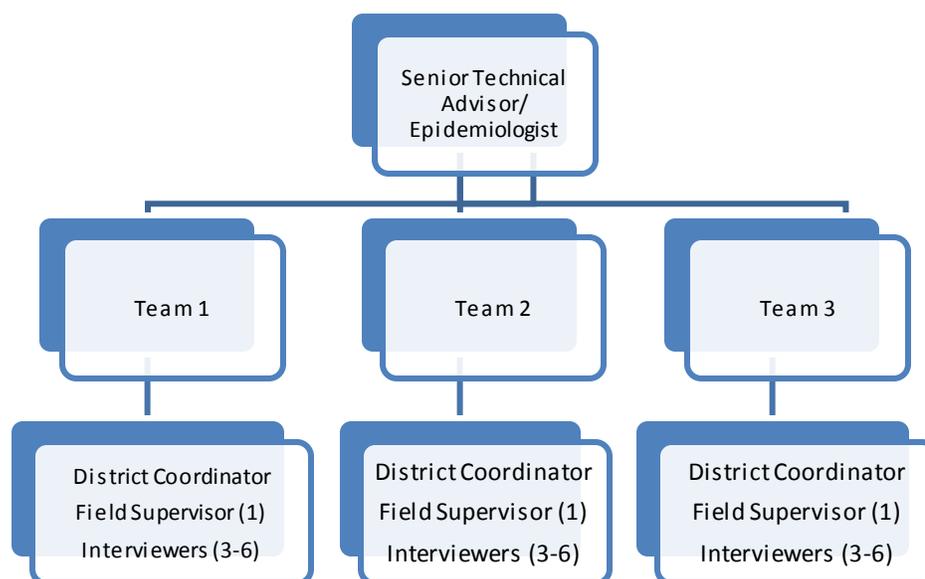
### Team Organization

Teams for data collection were structured according to districts. The different levels for the team were:

- Monitoring And Evaluation Officer (M&E) – (3)
  - District Coordinator (DC) – (6)
    - Team Supervisor – (42)
      - ❖ Data collector/interviewer – (205)

Phase 1 of data collection began in six districts – one district per district coordinator. The number of team supervisors and data collectors varied according to the number of study participants to be selected from each district. Once data collection was complete, district coordinators moved to the next district with a new team of supervisors and data collectors (same team in some areas), conducted training for the new team, and started data collection for the new district. All interviewers were women, and were selected for their prior experience in working on family planning and reproductive health surveys and proficiency with local languages (MSS hired local interviewers in each location).

**Figure 2: Organization of data collection team**



## Selection of Clusters

Around each eligible health facility, researchers randomly selected 25% of clusters for data collection. Where the selection of 25% clusters around a health facility yielded less than ten observations per cluster, researchers adjusted the number of clusters for that health facility required for data collection to achieve a minimum of ten observations per cluster; and only one cluster was selected with at least ten observations. For example, the required sample size for the health facility RHC Arazi was 13; while the number of clusters around the health facility was 19. If 25% of clusters were to be randomly selected, the number of observations per cluster would be about 2-3. Therefore, in this example, the number of clusters selected was 1.

## Replacement Clusters

Data collection was not possible in some of the randomly selected clusters due to security reasons. Either the law and order situation was such that it was not safe for the data collection teams to visit the areas, or the law enforcement agencies had restricted access to those areas. In such instances, the team collected data from replacement clusters, which were chosen from the area around the health facility where the original cluster was located.

## Selection of Households

The selection of households was based on calculated  $K^{th}$  interval that was obtained by dividing the number of households in the cluster with the required sample size for the cluster.

**Small  $K^{th}$  intervals:** Some clusters returned the value of 1 or 0. In these instances, the cluster nearest to the randomly selected cluster was included in the survey, and the  $K^{th}$  interval was calculated based on the total population of the two clusters divided by the sample size for the respective cluster.

**Large  $K^{th}$  intervals:** Some clusters had large interval values of 20 or more. Where the  $K^{th}$  interval was 20 or less, the survey team followed the  $K^{th}$  interval calculated for the cluster. In clusters where the  $K^{th}$  interval was between 21 to 50, the team calculated the number of households in a street and left the number of streets between households to complete the  $K^{th}$ . The first house at the start of the relevant street was chosen for the survey.

**Selection of first households:** The supervisor of the data collection team assisted the team in locating the first house by using a 'spin the bottle' method. The team went to the center of the cluster where, by using this method, they selected the first household using a random start. Next each household was selected based on the  $K^{th}$  interval for each respective cluster following systematic sampling techniques.

**Selection of respondent:** If an eligible respondent was not available in a selected household, teams went to next  $K^{th}$  household without replacement. If more than one eligible respondent was available in the household, researchers selected the one with the first name nearest to the alphabet A.

Where the required sample size was not completed from a given cluster, the teams went to the next nearest cluster in order to complete the required sample size. In such an instance, the  $K^{th}$  interval continued from the previous cluster.

**Eligibility Criteria:** Women had to: a) be of reproductive age (15-49 years); b) be married; and c) voluntarily provide informed consent. In cases where a woman was under 18 years of age, she was asked to provide the signed consent from the guardian. For Suraj B facilities, an additional criterion was that the MWRA had to have had at least one delivery. Women who did not meet the above-mentioned eligibility criteria or who did not agree to voluntarily participate were excluded from the study.

## Ethical Consideration

The protocol for the study was approved by the National Bioethics Committee (Ref: No, 4-B87/NBC-109/12/RDC/1861), Government of Pakistan, and International Ethics Review Board of Marie Stopes International. All investigators and staff involved in the survey protected the confidentiality of participants to the fullest extent possible. Participants' contact information and informed consent documents with participants' names were stored in a locker. No participant personal identifiers appeared on any data or documentation sent to the donor agencies. Participants were not identified by name in any report or publication resulting from survey data. The principal investigator was responsible for – and took all possible measures – to prevent any probable breach of confidentiality.

## 2.3: Data Management

**Form Serial Number:** Forms followed a numbering sequence according to districts, and it was the responsibility of the district coordinator to maintain the sequencing. The numbering pattern was as follows, e.g. D G Khan DGK0001, DGK0002, DGK.

A similar numbering was assigned to forms for each district.

**Form editing:** was conducted at three levels

### 1. Team Supervisor (Full)

The Team Supervisors were responsible for editing of all forms; using pens with green ink to edit the forms. They provided feedback to the data collectors and rectified the errors in the field. They also edited all the forms collectively at the end of the day.

### 2. District Coordinator (Full)

District Coordinators edited forms using red ink, and they provided relevant feedback to supervisors and data collectors. A refresher training session was conducted after feedback in Karachi.

### 3. M&E (5%) Daily Checking

Monitoring and Evaluation (M&E) Officers conducted a 5% manual check of collected forms. They used black ink for editing purpose and provided feedback where required.

Overall, the teams were instructed not to block errors using white liquids or scratching with pens where the original observation was unreadable, or any other method that made original observation unreadable. They were allowed to cross errors with one line only, with the revised observation put next to the old, and initialed by the editor.

**Reliability Checking:** The consultant provided support to MSS for identification of households as an independent reliability checking. This involved numbering of households by interviewers who used white chalk to place the form serial number explained above on the door of the respondents and handing over of forms to designated MSS staff. Forms were handed over by taking a signed, named, and dated acknowledgement of forms identified by serial number. Handing back of forms to the consultant was similarly recorded. Separate MSS reliability teams visited randomly selected households to fill abridged forms of the questionnaire that were matched with actual responses from the main survey by the same respondent.

### Administration

All teams were required to maintain attendance sheets, and team supervisors maintained attendance for each team of data collectors. Supervisor and district coordinator attendance was marked on the same sheet and M&E officers periodically verified this. District coordinators kept track of all authorizations, forms, and payments, and they arranged assembly points for each day of data collection activity.

### Data Entry

Data were entered using data entry technique in EpiData. An EpiData '.rec' file was created to correspond with the questionnaires. A team of 15 data entry personnel entered data into the software. Daily checks were conducted by randomly checking around 10-15% of all entered forms and feedback provided to the data entry personnel. Once a single entry file was formed, the best data entry personnel were retained and asked to re-enter the data a second time. Data entry was rotated so that a different person did the second entry. Data were coded for clarity at this point and errors were removed by manually checking mismatched forms and making direct rectifications. After that, logical assessment was done on the final cleaned data file. The total process of data entry took place over a period of 20-25 days.

## 2.4: Data Analysis

Data were converted to and analyzed using SPSS version 20. Simple descriptive tables: frequencies, cross tabulation and means are described. Since the size of the sample within each district is directly related to the catchment population of the facilities in that district, additional weighting was not conducted (as re-weighting the analysis would have essentially 'unweighted' the sample again). This strategy was discussed extensively and agreed upon with the MSS team. Thus, the team only applied weights to account for oversampling of women (with at least one delivery) enrolled under Suraj B.

### Distribution of Interviews Available for Analysis

The distribution of interviews available for final analysis is presented in Tables 4 and 5.

**Table 4: Distribution of Interviews by Province, District and Service Type**

	Suraj A	Suraj B	Outreach	Total
	n (%)	n (%)	n (%)	n (%)
<b>Punjab</b>	<b>1,473 (71)</b>	<b>1,998 (46)</b>	<b>811 (39)</b>	<b>4,282 (51)</b>
<b>DG Khan</b>	956 (46)	547 (13)	25 (1)	1,528 (18)
<b>Rahim Yar Khan</b>	144 (7)	208 (5)	296 (14)	648 (8)
<b>Rajanpur</b>	373 (18)	1,243 (29)	490 (24)	2,106 (25)

<b>Sindh</b>	<b>607 (29)</b>	<b>2,332 (54)</b>	<b>1,243 (61)</b>	<b>4,182 (49)</b>
Jamshoro	0	0	206 (10)	206 (2)
Matiari	0	0	143 (7)	143 (2)
Karachi	245 (12)	705 (16)	262 (13)	1,212 (14)
Ghotki	0	0	174 (8)	174 (2)
Shikarpur	68 (3)	187 (4)	-0	256 (3)
Jacobabad	56 (3)	150 (3)	0	206 (2)
Khairpur	0	0	182 (9)	182 (2)
Qambar/Shahdatkot	84 (4)	186 (4)	0	271 (3)
Larkana	154 (7)	1,103 (25)	119 (6)	1,376 (16)
Tandu Allah Yar	0	0	48 (2)	48 (1)
Naushero feroz	0	0	107 (5)	108 (1)
<b>Total</b>	<b>2,080 (25 )</b>	<b>4,330 (51)</b>	<b>2,054 (24)</b>	<b>8,464*</b>
<b>* 429 entries could not be assigned to a particular provider due to missing data.</b>				
<b>These are included in the overall analysis, as they can be traced to individual districts.</b>				

## 3.1: Respondent and Household Characteristics

On average these women were 30 years old, making them slightly younger than the national average of 32 years (PDHS 2006/07). Their husbands were approximately five years older than them, and nearly all women were Muslim. On average, the age of marriage in our sample was comparable to the national data (19 years, PDHS 2006/07), while the slightly fewer children (3.8 in our sample vs. the national average of 4.1) perhaps reflects the slightly younger mean age of these women.

**Table 5: Basic Characteristics**

Indicators	n	Mean	Std. deviation
Age women (in years)	8,829	30.46	6.72
Age of husband (in years)	8,817	35.35	8.23
Age of women at time of marriage (in years)	8,800	18.9	3.42
Number of living children	8,788	3.77	2.36
Number of male members in the household	8,860	3.91	2.49
Number of female members in the household	8,854	3.81	2.3
Total number of members who earn income in the household	8,815	1.4	0.7
Family monthly income (PKR)	5,354	Mean=10,741 Median=8,000	12,837
Women earn any income			<b>2781(33.9)</b>
Religious affiliation			8577(97.5)
Islam			8577(97.5)
Hinduism			114(1.3)
Christianity			98(1.1)
*District wise breakdown of average age at marriage and number of children, education levels, monthly income are described in the annexes			

As expected from the original selection of venues in impoverished locations, two thirds of women were illiterate. Their husbands were only slightly more educated. Only a third of the women reported that they work, and of these, most were skilled manual workers (30%), domestic help (27%), or agriculturists (20%). Most of the husbands were in agriculture or skilled manual labor.

**Table 6: Couple Educational Level**

Categories of Education	Wife n (%)	Husband n (%)
Illiterate	6,056 (68.8)	3,695 (42.4)
Can read, write and perform simple sums	227 (2.6)	295 (3.4)
Primary (1 to 5)	916 (10.4)	1,096 (12.6)
Middle (6 to 8)	578 (6.5)	1,124 (12.9)
Secondary	488 (5.5)	1,091 (12.5)
Intermediate	305 (3.4)	796 (9.1)
Graduate/Postgraduate	233 (2.6)	612 (7.0)
Total	<b>100%</b>	<b>100%</b>

### 3.2: Fertility Preferences

On average, women with children felt that their ideal family size would be five children, with a slight male preference. This is one more child than was seen in the PDHS 2006/07 and perhaps reflects the higher poverty of the women in this survey (in turn reflecting the correct selection of relatively poor locations for this intervention). Husbands of our respondents would like roughly the same number of children as their wives, but the husbands' mothers (respondents' mothers in law) want more boys than girls. These attitudes reflect the influence of traditions, as well as the overall poverty and rural nature of many of these communities. Also consistent with these notions, women responded that they wanted to wait less than two years before having their next child. It is worth noting that this limited spacing is consistent with their actual practices as seen previously.

**Table 7: Ideal Number of Children**

	n	Mean	Std. error	95% C.I Lower bound	95% C.I Upper bound
<b>Women who have living children</b>					
Boys	8,011	2.75	0.017	2.72	2.79
Girls	7,839	2.19	0.014	2.17	2.22
<b>Women who have no living children</b>					
Boys	1,796	1.52	0.047	1.43	1.61
Girls	1,820	1.24	0.036	1.16	1.31
<b>Husbands</b>					
Boys	7,684	2.97	0.019	2.93	3.01
Girls	7,491	2.22	0.015	2.19	2.25
<b>Mothers-in-law</b>					
Boys	3,507	3.51	0.032	3.45	3.58
Girls	3,255	2.50	0.02	2.45	2.55

Nearly a fifth (18.2%) of the women reported that they believed they were currently pregnant. On average, these women had been pregnant five times in their life, and had four children each. The poorest women had slightly more pregnancies (5.1 vs. 4.4) and children (4.0 vs. 3.6) than the richest women.

**Table 8: Reproductive History**

	Poorest	Poorer	Middle	Richer	Richest	Total
	Mean (SD)					
Total pregnancies	5.1 (3.1)	4.9 (3.0)	4.9 (3.0)	4.6 (2.8)	4.4 (2.6)	4.9 (3.0)
Total living children	4.0 (2.6)	3.9 (2.4)	3.8 (2.4)	3.6 (2.4)	3.6 (2.1)	3.8 (2.4)
Male children	2.2 (1.6)	2.2 (1.5)	2.1 (1.4)	2.1 (1.4)	2.1 (1.3)	2.1 (1.5)
Female children	2.2 (1.6)	2.1 (1.5)	2.1 (1.5)	2.1 (1.5)	2.0 (1.4)	2.1 (1.5)
<b>* The difference between total number of children and the sum of boys and girls is due to group averages</b>						

Nearly all respondents (95%) reported that the last time they had become pregnant, they had actually wanted to become pregnant at the time. Only 2-3% felt that they would have preferred to have become pregnant later, while 1.5% had not wanted to become pregnant at all. These preferences were very similar between husbands and wives.

**Table 9: Wanted the Child at the Last Pregnancy**

	Wife n (%)	Husband n (%)
Yes – Then	8,243 (95.4)	8,300 (96.2)
Later	237 (2.7)	212 (2.5)
Not at all	162 (1.8)	116 (1.3)
<b>Total</b>	<b>8,642</b>	<b>8,628</b>

Over half (53%) of the women said they would like another child and the most common reason for it was their husband’s desire for another child, or more specifically a boy. Only rarely (4.5%) did respondent express a desire for more daughters. These findings are consistent with the traditional values that prefer male children. This male preference, rather than the number of children, drives family size decisions. Thus women become pregnant to provide sons who are considered assets to the household.

**Table 10: Reasons for Having Another Child**

Indicators	n (%)
Husband’s desire for another child	1,632 (35.5)
Husband’s desire for son	1,020 (22.2)
Husband’s desire for daughter	206 (4.5)
In-laws’ desire for another child	169 (3.7)
In-laws’ desire for boy	195 (4.2)
In-laws’ desire for girl	43 (0.9)
My own desire for another child	317 (6.9)
My own desire for boy	584 (12.7)
My own desire for girl	251 (5.5)

Among women who did not want any more children, the commonest reason was their own choice for not having more children, followed by financial constraints, birth spacing or ill health.

**Table 11: Reasons for Not Wanting More Children**

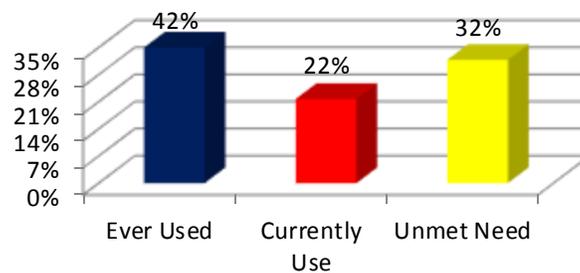
Reasons for not having a/another child	n (%)
Personally do not want another child/want to limit family size	1,756 (43.2)
Personally want to space child birth	451 (11.1)
Husband does not want another child/want to limit family size	152 (3.7)
Husband wants to space child birth	71 (1.7)
She herself is sick	388 (9.5)
Husband is sick	36 (0.9)
Declared infertile/Cannot have more children	89 (2.2)

Financial constraints/Cannot afford another child	778 (19.1)
Illness of children	24 (0.6)

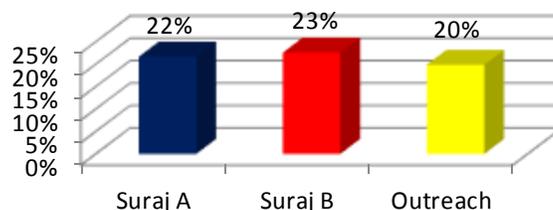
### 3.3: Contraception Use

Approximately three women in five reported having 'ever heard' about a family planning method in their lives. Two women in five had 'ever used' and one-fifth reported that they are 'currently using' a method. All of these are slightly lower than the national averages, as reported in the PDHS 2006/07. Consequently 'unmet need' for family planning (defined here as those women who would like to delay or not have any more children or undecided but are not using any family planning) was higher (32%) than the national average of 25% (PDHS 2006/07). Almost twice as many women reported ever use than current use, suggesting that considerable numbers of women had tried and given up on family planning. This should be addressed with counseling, demand creation and provision of quality services, with particular emphasis on ensuring that women's experience of family planning does not leave them disappointed. Current contraception use was similar across provider types but in each of the categories – ever heard, ever use and current use all increased with increasing affluence.

**Figure 3: Ever Use or Current Use of Contraception against Unmet Need**



**Figure 4: Current Use of Contraception by Provider Type**



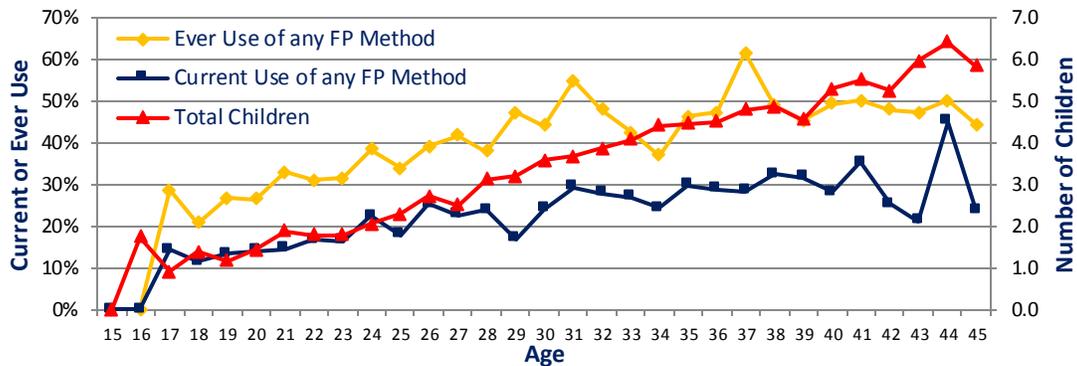
**Table 12: Ever Heard, Ever Use or Current Use by Wealth Quintiles**

	Poorest	Poorer	Middle	Richer	Richest	Total
	Mean (SD)					
Ever Heard of any FP Method	60% (49%)	58% (49%)	62% (48%)	68% (47%)	71% (45%)	<b>64% (48%)</b>
Ever Use of any FP Method	31% (46%)	32% (47%)	40% (49%)	47% (50%)	57% (50%)	<b>42% (49%)</b>
Currently using any FP	14% (35%)	17% (38%)	22% (41%)	28% (45%)	36% (48%)	<b>22% (42%)</b>

Contraception use increased with the age of the women, as did the number of children. Regardless of the age of the women, 'ever use' of family planning was always twice as high as 'current use', and the use of

family planning seems unrelated to the number of the children. The higher 'ever use' suggests higher levels of method discontinuation.

**Figure 5: Relationship Between FP Use and the Number of Children by Age**



**Table 13: Current Use/Non-Use of Family Planning**

Status of family planning	Want another child	Do not want another child or undecided	Total
	n (%)	n (%)	n (%)
Currently using any method	629 (7.1)	1,297 (14.6)	1,926 (22)
Currently not using any method	4,135 (46.5)	2,833 (31.9)	6,968 (78)
<b>Total</b>	<b>4,764 (53.5)</b>	<b>4,139 (46.5)</b>	<b>8,894</b>

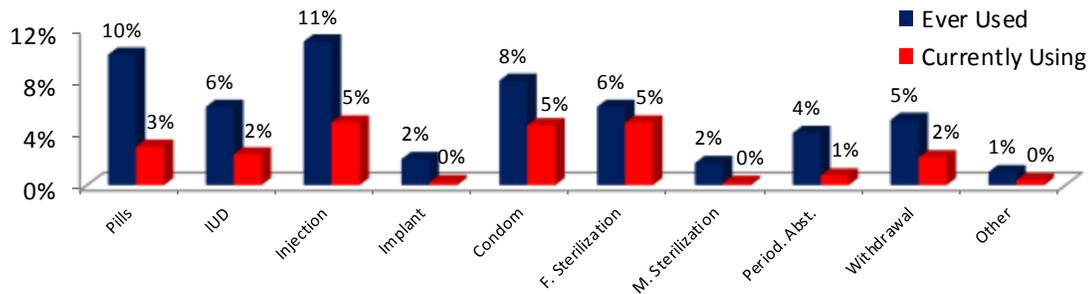
Overall, 64% women reported that they had heard of at least one method of family planning. Women who reported 'ever use of at least one modern method', had used injections (12.7%), pills (11.1%) and condoms (9.1%). Among current users of a method, the most common methods were female sterilization (21%), injections (21%), condoms (20%), pills (13%), and IUDs (10%). Nearly one-quarter of those who had used them, reported having experienced some side effect from an injection, IUD, or pill, while side effects were reported by one-fifth of the users of either condoms or female sterilization (see Table 14, Figure 6).

**Table 14: Ever Heard of a Method; Ever Use or Current Use of Contraception**

Name of method	Ever heard about FP n (%)	Ever use of FP n (%)	Current Use of FP n (%)	Experienced any side effects n (%)
Pills	5,347 (61.5)	985 (11.1)	243 (2.7)	583 (6.7)
IUD	4,281 (49.4)	680 (7.6)	194 (2.2)	371 (4.3)
Injection	4,750 (54.0)	1,128 (12.7)	390 (4.4)	639 (7.4)
Implant	2,366 (27.1)	197 (2.2)	19 (0.2)	100 (1.1)
Condom	3,459 (39.3)	812 (9.1)	363 (4.1)	321 (3.7)
Female Sterilization	3,887 (44.0)	678 (7.6)	465 (5.2)	289 (3.3)
Male Sterilization	2,001 (22.7)	167 (1.9)	19 (0.2)	84 (0.9)

Periodic Abstinence	2,133 (24.3)	379 (4.3)	49 (0.6)	N/A
Withdrawal	2,154 (24.6)	505 (5.7)	171 (1.9)	N/A
Others	626 (11.1)	137 (1.5)	13 (0.1)	62 (0.7)

**Figure 6: Ever Use and Current Use of Contraception**



Affordability, desire for effectiveness, long-term effects and quality were the main drivers of use of particular methods. Women preferred injections that provided three months of protection or female sterilization, which is a permanent method.

**Table 15: Reasons for Choosing Current Method**

	n (%)
Cost/Affordable	274 (17.7)
Effectiveness	276 (17.9)
Long term	263 (17.0)
Quality	197 (12.8)
Favored by husband/mother-in-law	112 (7.2)
Fewer side effects	46 (3.0)
Accessible	51 (3.3)
Suggested by a happy user	55 (3.6)
Permanent	112 (7.2)
Short term	56 (3.6)
Suggested by a satisfied user	38 (2.5)

Primary reasons for not using contraceptive methods included the desire to have more children (39%), followed by the feeling that this is up to God or religious reasons for a quarter of the women (25%). This proportion is much higher compared to 10% among all MWRA in the PDHS 2006/07. Biological or similar reasons such as infrequent sex, no longer menstruating, breastfeeding etc. made up approximately one-fifth of the women. A large number of women do not use family planning by choice. However, women who believed that God wills their fertility or that they are unable to control their own fertility need to be prioritized with behavioral change communication, information awareness, appropriate demand creation strategies and increased access to services. It is also worth noting that while women may want more children, they may be open to delaying pregnancies for improved health. Thus programs need to target such women with appropriate strategies (and choices) to reduce unmet need for either limiting or spacing.

**Table 16: Reasons for Not Using Modern Method**

Reasons	n (%)
Want more children	2,503 (39.0)
Up to God; can't control	1,604 (25.0)
Religious reasons	30 (0.5)
Breastfeeding	467 (7.3)
Health concerns	332 (5.2)
Infrequent sex/No sex	180 (2.8)
No menstruation after birth	175 (2.7)
Husband opposed	166 (2.6)
Menopausal/Hysterectomy	105 (1.6)
Fear of side effects	95 (1.5)
Cost too much	80 (1.2)
Opposed to family planning	81 (1.3)
Knows no method	65 (1.0)
Lack of access/Too far	39 (0.6)
Infertile/can't get pregnant	33 (0.5)
Inconvenient to use	33 (0.5)
Interferes with body's normal processes	27 (0.4)
Knows no source	15 (0.2)
Other people opposed	8 (0.1)

The most common source of the current method was the public sector, which supplied approximately 48% of the women with family planning (see Table 17). Private sector providers were also an important source as was self-procurement from shops (but not pharmacies). This is an important contrast to the PDHS 2006/07 where over 40% of family planning supplies were self-procured from shops/chemists.<sup>6</sup> As seen in the PDHS 2006/07, the public sector becomes an increasingly important source of family planning supplies for the poor.<sup>6</sup> This pattern was also seen in this survey and may have contributed to the dominance of the public sector as a provider of family planning for these women. It is also interesting to note that no single provider in the public or the private sector dominated and women seem to turn to a large variety of providers for their family planning needs.

**Table 17: Source of Current Method**

Source of Current FP Method	n (%)
<b>Public Sector</b>	
Lady Health Worker (LHW)	241 (14.9)
Government Hospital/RHS-A	378 (23.3)
Rural Health Center (RHC), MCH	42 (2.6)
Family Welfare Center	48 (3.0)
Lady Health Visitor (LHV)	34 (2.1)
Community Midwife	18 (1.1)
Mobile Service Camp	7 (0.4)
Basic Health Unit	8 (0.5)
Male Mobilize	6 (0.4)
<b>Private Sector Providers</b>	

Private Hospital/Clinic	394 (24.3)
Shop (other than pharmacy/chemist)	100(6.2)
Private Doctor	79(4.9)
Dai/Traditional Birth Attendant	8(0.5)
Pharmacy/Chemists	12(0.7)
Dispenser/Compounder	2(0.1)
Homeopath	7 (0.4)
Husband	156(9.6)
Friends/Relative	35 (2.2)

Generally, husbands referred the respondents (their wives) to providers to avail contraceptives. Some friends and relatives also gave advice on procurement of family planning methods.

**Table 18: Person Who Referred You to the Provider from Whom You Received Your Method**

Referral Person	n (%)
Husband	873 (52.0)
Friends/Relatives	231 (13.8)
Satisfied client	112 (6.7)
No one	109 (6.5)
Mother-in-law	102 (6.1)
Sister	63 (3.8)
Brother	3 (0.2)
Other	186 (11.1)

Most women (86%) reported receiving the method they had wanted, but one-third (35%) had to travel out of their locality to obtain it. As noted above in the discussion about self-procurement, only one-half of the women reported being advised about side effects of the method they would use, and fewer were told how to deal with these. Almost two-thirds were informed about alternative choices. Access to and availability of FP methods was not a problem in the selected communities. Women were counseled about side effects of family planning methods, as well as alternatives for current methods. More than half reported receiving information on side effects of method obtained through the service providers.

**Table 19: Method and Client Choices**

Client Choices	n (%)
Get the same method that you wanted	1,529 (85.6)
The provider based in the village-locality	1,183 (64.7)
At the time of obtained method, told about side effects of the method	1,015 (57.3)
Told what to do if experienced side effects or problems	939 (65.5)
Told about other methods of family planning that could use	1,118 (62.7)
Have ever been pregnant while using a traditional method	153 (8.5)

Media campaigns are critical for creating demand. Only around one-quarter (23%) of women reported hearing a message on radio, and one-third (34%) had seen one on television. In part, this reflects the ad hoc nature of family planning media campaigns. They also suffer from resource shortages that limit their

reach and frequency. However, among those women who had heard such a message, a majority (74%) found it to be effective in persuading couples to use family planning (Table 20). As messages go, the old message of “Kum bachay khushal gharana (Fewer children mean prosperous life)” was recalled the most, followed by messages about maternal and child health, spacing of children and welfare of families. It appears that mass media is a viable option in demand creation, but its implementation would have to be developed and made more efficacious (Table 20). As with media campaigns, less than one quarter of the women (22%) reported being visited by a healthcare worker.

**Table 20: Source and Effectiveness of Family Planning Messages (in the last month)**

	n (%)
Source of message: Radio	1,794 (23.3)
Source of message: Television	2,587 (33.8)
The message was perceived as effective in persuading couples to use family planning	2,495 (73.9)

**Table 21: Type of Messages Recalled**

Type of Messages	n (%)
Fewer children mean prosperous life	1,670 (32.5)
Maternal and child health	1,104 (21.5)
Spacing of children	547 (10.7)
Limiting the family	447 (8.7)
Welfare of family	241 (4.7)
More children mean poverty and starvation	451 (8.8)
Higher age at marriage	209 (4.1)
Importance of breastfeeding	146 (2.8)
Use of contraceptives	138 (2.7)
Other	37 (0.7)
Don't know/don't remember	141 (2.7)

A significant proportion of women (25.4%) reported that they would use a contraceptive method in the future. Short-term methods continue to be preferred rather than long-term methods (even though one of the major reasons cited earlier for choosing a method was their long-term effectiveness). Choice of method suggests a cost value attached to the methods in use. When choosing such a method, factors that matter the most are: its permanency or long-term use, cost/affordability, efficacy, and comfort. Beyond cost, other markers of access such as easy availability and recommendation by a doctor were less important. These findings may reflect a market for contraception where women have learned to be self-sufficient. This is further confirmed by the fact that, among 64% of women who would be willing to use contraceptives in the future, there is willingness to buy their method if needed. Finally, consistent with

the fact that MSS is just beginning to establish services in these locales, only around 12% of the women report having heard about MSS.

**Table 222: Intention to Use a Contraceptive Method to Delay or Avoid Pregnancy**

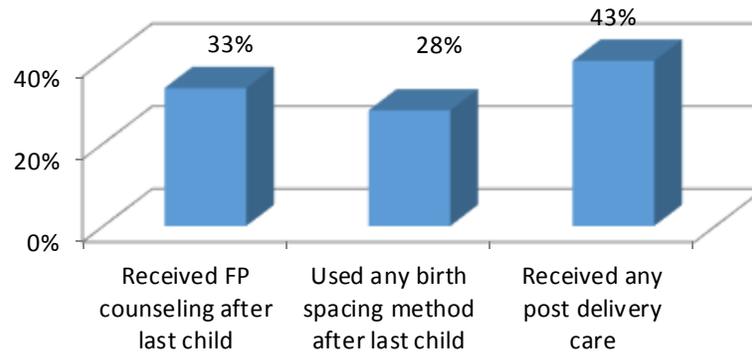
Indicators	n (%)
<b>Intention to use a contraceptive method</b>	2040 (25.4)
Which method would you prefer to use	
Pills	333 (16.3)
IUD	286 (14.0)
Injection	517 (25.3)
Implant	30 (1.5)
Condom	301 (14.8)
Periodic abstinence	30 (1.5)
Withdrawal	114 (5.6)
Female sterilization	337 (16.5)
Male sterilization	7 (0.3)
Other	85 (4.2)

**Table 233: Reason for Choosing Current Method**

Reasons for choosing method	n (%)
Cost/Affordable	407 (20.0)
Long term	448 (22.0)
Quality	280 (13.7)
Comfortable in using	265 (13.0)
Permanent	180 (8.8)
Short term	175 (8.6)
Only option available	48 (2.4)
Fewer side effects	53 (2.6)
Recommended by doctor	37 (1.8)
Accessible	33 (1.6)
Didn't know about other contraceptive methods	27 (1.3)
Recommended by doctors	37 (1.8)
Recommended by friend/relatives	15 (0.7)
Non-hormonal	4 (0.2)
Chosen by husband	2 (0.1)

Of the women questioned, 43% reported having received some care following their last delivery. Most of these – 33% of all women – received counseling on family planning immediately after delivery (see Figure 7). Nearly all of these – 28% of all women – received a family planning method. When they received a family planning message, no particular method was preferred – meaning pills, condoms, IUDs, and female sterilization were suggested equally (see Table 24). Only a quarter of the women preferred injections. It would be worthwhile to research if counseling for post-partum family planning is driven by the availability of particular methods at the facility, or if it is offered generically without specific methods in mind and is therefore less useful than if these providers combined counseling with provision of methods. Either way, post-partum family planning is a major opportunity for promoting contraception. Better positioning programs to avail this opportunity should be considered.

**Figure 7: Post-partum Family Planning Counseling (n: 2,415)**



**Table 244: Birth spacing methods mix used after last child**

Name of Method	n (%)
Injection	614 (26.1)
Condom	416 (17.7)
Pills	379 (16.1)
IUD	337 (14.4)
Female sterilization	340 (14.5)
Implant	24 (1.0)
Withdrawal	159 (6.8)
Periodic abstinence	52 (2.2)
Male sterilization	14 (0.6)
Other	13 (0.6)
<b>Total</b>	<b>2,348</b>

### 3.4: Delivery and childbirth

Most deliveries (86.2%) were normal, with a small percentage of emergency Caesarean sections (5%). This latter finding is consistent with the impoverished status of these locations, as around 10% of births are normally expected to be by Caesarean section.

**Table 25: Mode of Last Delivery**

Mode	n (%)
Normal	7,223 (86.2)
Emergency C-section	435 (5.2)
Breech delivery	148 (1.8)
Instrumental delivery	169 (2.0)
Elective C-section	267 (3.2)
Vacuum applied	17 (0.2)
Missing	519
<b>Total</b>	<b>8,878</b>

Over half of the women (57%) reported that their last child was delivered at home. While this reflects a slight decline from 61% that was seen in the PDHS 2006/07, it is still very high; and it is certainly much higher than the 48% seen in the PDHS 2012/13. Among facility births, most happened in a private facility (28% of all births). Different kinds of government facilities combined in 13% of all births. To a large degree, this pattern was seen in all districts (see Annex Table 44).

**Table 266: Place/Providers for the Last Child**

Name of Place	Suraj A %	Suraj B %	Outreach %	Total n (%)
<b>Home</b>				
Own Home/Other Home	57.9	57.9	55.8	4,583 (57.3)
<b>Private Sector</b>				
Private Hospital/Clinic/LHW in Private Facility	26.6	28.7	27.8	2,238 (28.0)
<b>Public Sector</b>				
Government Hospital	11.3	10.9	13.4	928 (11.6)
RHC/MCH	0.7	0.7	0.7	55 (.7)
Family Welfare Center	0.6	0.9	0.4	55 (0.7)
Basic Health Unit (BHU)	0.4	0.2	0.3	20 (0.3)
<b>Other</b>	2.4	0.9	1.5	111 (1.4)
<b>Total</b>	<b>1,840 (100)</b>	<b>4,214 (100)</b>	<b>1,936 (100)</b>	<b>7,990 (100)</b>

Nearly half of the deliveries were conducted by Dai/TBAs in Suraj A and Outreach catchment areas, whereas the proportion in Suraj B areas was 42.3%. Around 1 in 5 deliveries were conducted by nurses/community midwives and doctors.

**Table 27: Person Who Delivered the Last Child by Facility Type**

	Suraj A	Suraj B	Outreach	All
Dai/TBA	927 (49.1)	1809 (42.3)	984 (49.3)	3720 (45.6)
Nurse/ Community Midwife	242 (12.8)	9260(21.7)	290 (14.5)	1458 (17.9)
Doctor	328 (17.4)	714 (16.7)	354 (17.7)	1396 (17.1)
Lady Health Visitor	147 (7.8)	233 (5.5)	126 (6.3)	506 (6.2)
Lady Health Worker	118 (6.2)	231 (5.4)	118 (5.9)	467 (5.7)
Friends/Relative	35 (1.9)	119 (2.8)	38 (1.9)	192 (2.4)
Dispenser/Compounder	2 (0.1)	14 (0.3)	2 (0.1)	18 (0.2)
Hakim/Homeopath Doctor	30 (1.6)	110 (2.6)	11 (0.6)	151 (1.9)
Mother in Law	7 (0.4)	23 (0.5)	6 (0.3)	36 (0.4)
Other	53 (2.8)	94 (2.2)	66 (3.3)	213 (2.6)
<b>Total</b>	<b>1889</b>	<b>4273</b>	<b>1995</b>	<b>8157</b>

Common reasons for not delivering in a facility included high costs of this service (39%), followed by the perception that this service was unnecessary (21.7%). Assorted limitations of access to care – such as distance, non-availability of female providers, poor service or closed facilities – accounted for an additional 22%.

**Table 28: Reason for Not Delivering at Health Facility**

	n (%)
Cost too much	2,440 (39.3)
Not necessary	1,350 (21.7)
Too far/no transportation	525 (8.5)
Don't trust facility/poor service quality	460 (7.4)
No female provider at facility	174 (2.8)
Facility not open	159 (2.6)
Husband/family did not allow	191 (3.1)
Not customary	310 (5.0)
Time/ baby came too fast	433 (7.0)
Other	171 (2.8)

Nearly half of the women (45%) reported experiencing some complication during their last pregnancy and among those who did, 76% sought treatment for it. Neither the experience of complications nor seeking of treatment for these women was any different between wealth quintiles, suggesting that – when something is felt to be essential – women and their families have found a way to find access to services.

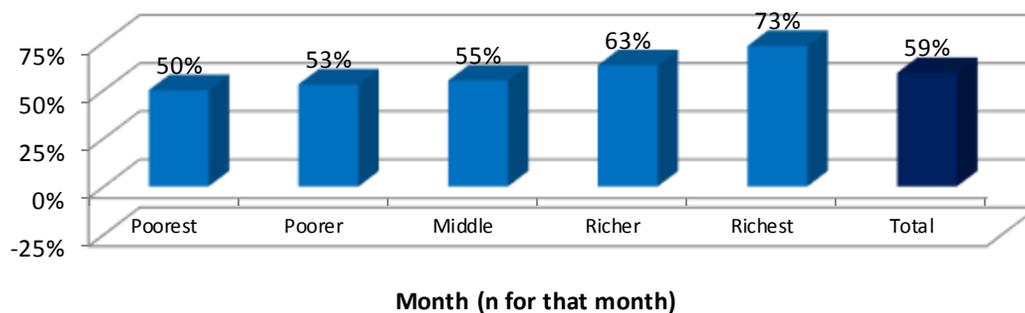
**Table 29: Experienced Complications During Last Pregnancy and Seeking of Treatment**

	Experienced Any Complications	Sought Advice or Treatment
Poorest	753 (46.9%)	647 (73.4%)
Poorer	814 (49.1%)	705 (77.9%)
Middle	769 (47.0%)	666 (75.9%)
Richer	791 (47.1%)	687 (80.3%)
Richest	599 (36.9%)	493 (74.8%)
<b>Total</b>	<b>3,726 (45.4%)</b>	<b>3,198 (76.5%)</b>

### 3.5: Ante-Natal Care

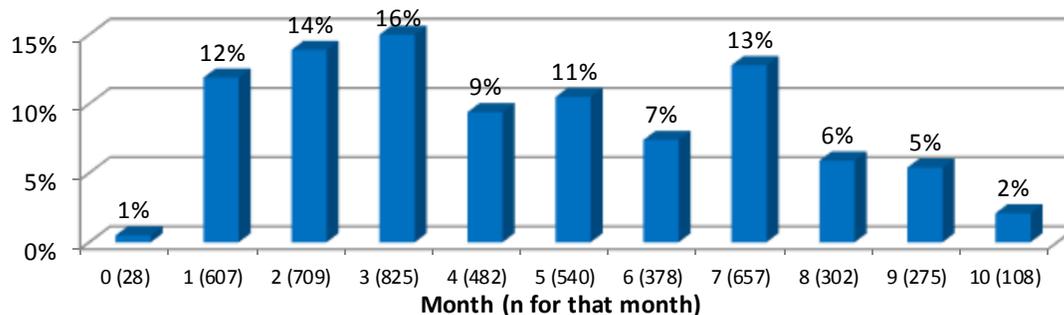
Nearly two-thirds of the women (59%) reported having received ante-natal care during their last pregnancy. As expected, the proportion of women availing ANC was higher with increasing affluence.

**Figure 8: Seeking ANC by Wealth Quintile**



Women started seeking ANC visits reasonably early in their pregnancy, although there was no particular pattern. In fact, women initiated ANC visits roughly in the same proportion (9-16%) during the first half of their pregnancy. Similarly, women reported approximately four ANC visits in total (Mean 4.13, Standard Deviation: 3.26; after deleting all records of >50 visits reported by a small number of women), which is consistent with the nationally reported figure in the Pakistan DHS 2006/07.

**Figure 9: Timing of the First ANC Visit During the Pregnancy**



ANC was received mostly at private hospitals (40%) or from private doctors (13%). Government hospitals and home visits accounted for an additional 20% each. All told, around two-thirds of the women reported having sought ANC (see Table 30). There were no significant differences between wealth quintiles in terms where they sought ANC (see Table 31).

**Table 30: Place of ANC Visits**

	n (%)
<b>Private</b>	
Private Hospital/Clinic	2,093 (40.3)
Private Doctor's Clinic	680 (13.1)
<b>Public</b>	
Government Hospital	1,022 (19.7)
RHC/MCH	99 (1.9)
Family Welfare Center	56 (1.1)
Basic Health Unit	19 (0.4)
<b>Home</b>	
Own Home	1,009 (19.4)
Other Home	96 (1.8)
<b>Other</b>	121 (2.3)

**Table 31: Place of ANC Visits by Wealth Quintile**

	Received ANC	Place of ANC			
		Home	Public Facility	Private Facility	Other
Poorest	851 (49.6%)	239 (27%)	167 (19%)	468 (53%)	14 (1.6%)
Poorer	943 (53.4%)	258 (27%)	253 (26%)	444 (46%)	10 (1.0%)
Middle	962 (55.4%)	245 (25%)	228 (23%)	495 (51%)	8 (0.8%)
Richer	1,098 (62.8%)	219 (19%)	262 (23%)	619 (55%)	28 (2.5%)
Richest	1,248 (72.5%)	144 (12%)	286 (23%)	767 (62%)	41 (3.3%)
<b>Total</b>	<b>5,102 (58.7%)</b>	<b>1,105 (21%)</b>	<b>1,196 (23%)</b>	<b>2,793 (54%)</b>	<b>101 (1.9%)</b>

Two-thirds of all ANC visits were with doctors and this corresponds to the 60% ANC received at private and government hospitals. The trained TBAs served a minority (10%) of the population only.

**Table 27: Who Provided ANC**

	n(%)
Doctor	3,502 (68.2)
Lady Health Visitor	426 (8.3)
Community Midwife	55 (1.1)
LHW	173 (3.4)
Trained <i>dai</i> (TBA)	536 (10.4)
Untrained <i>dai</i>	247 (4.8)
Other untrained person	84 (1.6)

ANC checkups were reported by 62.2% of the women. The commonest components of this care were: an ultrasound examination (80%); blood pressure checks (63%); weight measurement (46%); urine test (48%); and check for anemia (46%). More than half of the women received information on signs of pregnancy and where to seek healthcare in case of complications during ANC visits. The quality of ANC visits therefore in terms of healthcare and counseling was above average across the catchment populations. It is ironic that the simplest item – weight measurement – was done the least often and the commonest test was an ultrasound examination, which was carried out far more often than the proportion of women who had a facility birth. Other studies have suggested that ultrasound to determine the sex of a baby are extremely common and are often done in communities by unlicensed/untrained ultrasound operators.<sup>15</sup>

**Table 283: Components of ANC Availed**

Components of ANC	n (%)
Had an ultrasound exam	5,120 (79.8)
Your blood pressure measured	5,056 (63)
Had a urine test	4,983 (48.3)
Had a blood test	4,967 (46.4)
Were you weighed	5,009 (45.6)

Three-quarters of the women received tetanus injections and more than 60% received iron, calcium and folic acid tablets. The percentage of women reporting complications was significantly high. Together with late ANC visits), these findings suggest poor health-seeking practices and attitudes. Women are seeking ANC late in their pregnancies and therefore suffer complications or fail to treat complications in a timely manner.

**Table 34: Counseling received as part of ANC**

	n (%)
During ante-natal care, were you told about the signs of pregnancy complications	5,203 (56.2)
During ante-natal care, were you told where to go if any complications	5,207 (58.4)
During your last pregnancy, you received tetanus injection	5,235 (75.6)
During your last pregnancy, were you given or did you buy any iron tablets	5,230 (67.9)
During your last pregnancy, were you given or did you take calcium tablets	5,176 (67.9)
During your last pregnancy, were you given or did you take folic tablets	5,202 (61.5)
Did any complications occur during your last pregnancy	8,201 (45.4)

Of the women questioned, 42% complained of at least one complication during their last pregnancy, including severe headaches, persistent vomiting, swelling of hands or feet, breathlessness and fever.

**Table 2935: Complications Experienced During Pregnancy**

	n (%)
Severe, persistent, frequent headache	1,389 (18.4)
Persistent vomiting	1,212 (16.1)
Swelling of hands, feet and face in the morning	948 (12.6)
Breathlessness	832 (11.1)
High grade fever (over 100.4°F)	783 (10.4)
Diarrhea	207 (2.7)
Vaginal bleeding	209 (2.8)
Heartburn (burning pain in the chest or upper abdomen)	607 (8.1)
High blood pressure	427 (5.7)
Low blood pressure	669 (8.9)
Other	246 (3.3)

Interestingly, a significant proportion (24%) of the women who had a complication did not seek healthcare during pregnancy. Common venues for care-seeking were either a private hospital (41%) or doctor (16%), followed by a government hospital (22%), thus making a doctor the provider of choice in nearly four out of five cases.

**Table 306: Where Care was Sought for Complications Experienced During Pregnancy**

	n (%)
Private Hospital/Clinic	1,365 (40.6)
Government Hospital	723 (21.5)
Private Doctor	527 (15.7)
Own Home	195 (5.8)
Other Home	89 (2.5)
RHC/MCH	64 (1.9)
Family Welfare Center	48 (1.4)
Basic Health Unit	24 (0.7)
Lady Health Worker	83 (2.5)
Community Midwife	24 (0.7)
Lady Health Visitor at Public Facility	29 (0.9)
Homeopath	23 (0.7)
Dispenser/Compounder	7 (0.2)
Lady Health Visitor at Private Facility	25 (0.7)
Hakim	7 (0.2)
Other	276 (8.2)

An inability to recognize complications and their ill effects were the commonest reasons for why women did not seek ante-natal care, followed by price sensitivity among women. Costs of healthcare often include direct cost components, such as doctor's fees and costs of medicine and transport cost; and some implicit costs include value of time, or daily wage foregone by women or their husbands to seek healthcare. Together these factors accounted for around two-thirds of all reasons for not seeking ANC. Other reasons

included distance, lack of transport or time, and long waiting time at the facility – all of which are also cost issues. The other issue: access (too far, no transport, no one to go with, not allowed to go, poor service, lack of female doctors) all combined to nearly 33% (63% if cost considerations are included). **Thus access to quality ANC remains a major constraint for these women.**

**Table 31: Reasons for Not Seeking Care for Complications Experienced During Pregnancy**

	n (%)
Not necessary	1,824 (32.8)
Costs too much	1,691 (30.5)
Too far	444 (8.0)
No transport	383 (6.9)
Service not good	353 (6.4)
Long waiting time	209 (3.8)
Not allowed to go	202 (3.6)
No one to go with	78 (1.4)
No time to go	72 (1.3)
Did not know where to go	27 (0.5)
Did not want to see a male doctor	58 (1.0)
Other	212 (3.8)

### 3.6: Post-natal care

The concept of post-natal care in Pakistan remains weak, particularly in the rural areas. Most deliveries happen at home (56%) and women’s families supposedly take care of mother and child after the delivery. Post-natal care is usually only sought out when there is a problem. Around 44% of the women claimed to have received post-natal care. Women frequently listed suffering severe headaches and high fevers in the post-natal stage. Blurred vision, swelling of hands and swelling of face were also experienced by one-fifth of the women after giving birth.

**Table 38: Post-Partum Complications Experienced**

	n (%)
Severe headaches	8,433 (52.6)
Blurred vision	8,288 (29.3)
Swelling of your hands	8,267 (21.1)
Swelling of your face	8,248 (20.5)
High fever	8,359 (46)
Fits or convulsions	8,103 (8.4)
Labor for more than 12 hours	8,207 (24)
Baby’s feet came first	8,183 (2.9)
Placenta came first	8,181 (2.6)
Continuous dribbling of urine even during sleep	8,194 (4.3)
Bad-smelling vaginal discharge	8,044 (4.7)
Inability to control motions	8,024 (2.1)
Heavy vaginal bleeding	8,021 (8.6)

Approximately a third (33.8%) of the women received any counseling about family planning and 27.5% reported they used post-partum family planning. Exploring how counseling affects use of birth spacing methods provided significant results – more than 75% of the women who were counseled also ended up using a family planning method (significance: <0.05). Methods to space births were similar to methods used in normal conditions (current use). Injections (25%) were the most preferred source of contraceptive followed by condoms (17%), pills (15%) and IUDs (14%).

**Table 39: Post-Partum Family Planning**

	n (%)
Injection	614 (25.4)
Condom	416 (17.2)
Pills	378 (15.7)
IUD	335 (13.9)
Female sterilization	331 (13.7)
Withdrawal	159 (6.6)
Implant	24 (1)
Abstinence	52 (2.2)
Male sterilization	14 (0.6)
Other	92 (3.8)

This report is the baseline assessment for Component 1: Family Planning/Reproductive Health of USAID's MCH Program, which is being implemented by Marie Stopes Society (MSS). The baseline assessment was conducted at the selected sites in the 11 districts from Sindh Province and three from Punjab Province. The sample was a subset of the catchment population around three types of MSS providers – namely Suraj A, Suraj B facilities and outreach workers (see Chapter 2 for details). Sample selection involved a basic census of the catchment populations through crowd sourcing techniques, followed by a systematic random sampling frame. This selection is important when interpreting the findings, as these results represent the catchment areas of MSS operations and are not representative of the overall district. Secondly, many of the results are well below national averages, suggesting higher than average need and the appropriateness in selecting impoverished communities to increase access and demand for services.

The survey shows that the women in this sample are young (mean age: 30 years, compared to 32 years in Pakistan PDHS 2006/07), illiterate (68%), and one-third work to supplement their family's income. They have had an average of five pregnancies and four living children and, most expressed a desire to have one more child to achieve their 'ideal' family size. The main reason for wanting another child (57%) is because they feel that their husbands want either another child (35%) or more specifically a boy (22%). The ideal family size for these women is similar to their husbands' perception and only slightly smaller than the perception of their mothers-in-law. Nearly all women (95%) and their husbands (96%) reported that their last pregnancy was a 'desired' one.

56% of the women delivered their last child at home, followed by a private provider/facility (30%) and much less commonly at a public sector provider/facility (14%). The main reason for not delivering in a facility is that it is too costly (27%) or unnecessary. Indeed, deliveries can be expensive; they cost on average around PKR 3,254 (\$29.87) but can be as much as PKR 8,730 (\$80.14).

Around 28% of women report having ever used a family planning method, while 24% were currently using any method of contraception. This is a much narrower range than has been seen nationally, where 48% of women have ever used and 35% are currently using family planning.<sup>16</sup> It may be that the experience of using family planning is somewhat new in these communities and that many women are using contraception for the first time and have not yet discontinued a method. The unmet need is high at 33%, suggesting that a quality family planning intervention may be critical and timely in these areas. Although most women and their husbands consider any birth that happens as 'wanted' after the fact, nearly 26% of them do not want a child and are not using any contraception. This may demonstrate an opportunity to develop the message of spacing rather than simply limiting the number of births when counseling couples on their family planning method options.

There is no single method or service delivery pattern that predominates. Condoms, injection, pills and female sterilization have all been reported by ever and current users and both client-driven (i.e. those that can be procured by clients without the services of a healthcare provider) and provider-driven methods are being used. The one pattern that may be forming is that provider-dependent methods, such as female sterilization and IUD, form a larger proportion of methods among current users than among ever users, suggesting that perhaps women/couples are seeking better and more assured control of their fertility.

As was seen in the PDHS 2006/07, private sources of contraceptives predominate. The role of government (which supplies around 40% of the methods in our survey) is a little higher than was seen in the PDHS 2006/07, where the public sector supplied around 48% of the method mix (but only around 35% of family planning services). The more impoverished backgrounds of these locales, the more likely they are to contribute to this phenomenon.<sup>17</sup>

Consistent with the relatively low CPR is the fact that, at best, only around one-fifth of the women had heard a family planning message on the radio, and 29% had seen a message on television. Demand creation must be complemented by availability of services, preferably with a wide array of choices.<sup>18</sup>

The concept of ANC was well recognized and availing patterns are consistent with the national average.<sup>16</sup> Women reported receiving around four ANC visits during their pregnancy. However, a significant proportion of these women did not seek ANC. Reasons for not doing so included failure to realize complications and costs of accessing ANC. Future program directions must emphasize the need for regular checkups during pregnancy and highlight benefits through case studies and the adverse effects of not seeking ANC.

Private hospitals are the preferred providers for ANC visits. Women correctly identified components of an ANC visits as checkups that included weight, blood pressure measurement, checking for anemia, and ultrasound tests. It is interesting that ultrasounds were sought the most of any of these components and the proportion of women who reported having an ultrasound far exceeded the proportion of women who had skilled birth attendance. This raises the question whether many of these women received ultrasounds from sources other than the provider who would eventually deliver the baby and raises some questions about the purpose of these ultrasound examinations. In addition to these checkups, women received information about signs of complications and where to seek healthcare in the event of complications. They reported being given folic and calcium tablets and tetanus injections during their last pregnancy. In the postpartum period, the most commonly reported complications reported by women were severe headaches, swelling of hands and face, and persistent vomiting. . Post-natal care is uncommon in most rural areas. More than 50% of the births happen in homes by TBAs or *dais* who have little to offer other than sharing customary practices for mother and child. Cost factors frequently restrain women from actively seeking post-natal care for maternal and neo-natal health. The proportion of women seeking to deliver in a facility has increased slightly from the reported data of the PDHS 2006/07. This may be more remarkable given the fact that these locations matched unfavorably against the PDHS in many other indicators. Among those women who did deliver in a facility, two-thirds were also counseled about family planning; however, it is less clear if these instructions were specific enough or complemented by provision of family planning methods. Results from this baseline assessment show a strong relation between counseling about family planning methods during post-natal care and a corresponding use for birth spacing ( $\chi < 0.05$ ). To increase post partum family planning, a successful intervention may be to promote contraceptives, including IUDs, via healthcare providers that are conducting deliveries. Traditionally, it has been suggested (although we have found little empirical evidence to support this notion) that these private providers may be reluctant to promote family planning since it reduces their 'future business'. Even if this were true, these concerns may be offset by making provision for family planning services commercially viable so that loss of revenues from deliveries may be balanced by revenues generated by providers selling contraceptive services.

These findings suggest that addressing family planning and reproductive health needs of these communities must take a multi-pronged approach that includes working with communities to understand their needs, providing quality services and gaining the trust of women and couples in the services and in the concept of family planning and birth spacing. Gaps between maternal, newborn and child health and family planning awareness and practices in communities are well known. Projects and programs now need to focus on how to bridge this gap. Any interventions in this regard need to focus on building a change in patterns of thinking, and behaviors to bring sustainable improvements in maternal and child health.

### KEY FINDINGS

1. Fertility preferences of these women indicate they wish to have large families (approximately five children). This reveals a need to create demand for family planning and to address cultural norms that favor large families.
2. Ever used FP was reported at 42% but current modern contraceptive use is low at 23% suggesting a high discontinuation rate. Thus counseling women in understanding side effects and management of their expectations from the method they are using should be integral to any family planning program.
3. At 33%, unmet need is high by national standards and should be addressed as in point #2 above.
4. Increasing affluence increases family planning use, although by a small margin. Rich and poor women alike would benefit from a good family planning program.
5. Nearly all women feel that their last pregnancy was 'wanted'.
6. Lack of correlation between family planning use, number of children and age suggest that much of family planning use may have been less effective than simple CPR may suggest.
7. Facility births account for fewer than half (46%) of all births and are more common with private providers and for richer women.
8. Around half of the women report having some symptoms or problems during their pregnancy and 76% of these women sought treatment. This is perhaps the only indicator where we found no rich-poor difference.
9. Post-partum family planning advice was offered to around 33% of the women and a method was used by 27% of the women after their last delivery. And yet the spacing between their last two children was around only 1.3 years (1.1 years for the poorest women).

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## ADDITIONAL NOTES ON METHODOLOGY

### *Facilities excluded from sampling*

Of the overall 100 health facilities that were eligible to be included in the survey, four health facilities were excluded due to a risk of contamination and minimum distance of coverage areas with other MSS facilities, while one health facility could not be located. These excluded facilities are listed below:

1. Abdullah HCC: shares same catchment area of THQ Jampur
2. Saim Clinic: shares same catchment area of RHC Vohava
3. Maryam Maternity Home: shares same catchment area of THQ Taunsa
4. Angel Clinic: shares the same catchment area of RHC Ratodero.

