UNDERSTANDING MARVI

(Marginalized Areas Reproductive Health and Family Planning Viable Initiatives)

ASSESSMENT OF THE OUTREACH COMMUNITY WORKERS INTERVENTION IN UMERKOT

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This research was designed and conducted by Research and Development Solutions (RADS) with active participation from the Health And Nutrition Development Society (HANDS). The research was made possible with support from the David and Lucile Packard Foundation. The contents are the responsibility of Research and Development Solutions, Private Limited and the Health And Nutrition Development Society, and do not necessarily reflect the opinion of the David and Lucile Packard Foundation.

LIST OF ABBREVIATIONS

ANC	Antenatal Care
BHU	Basic Health Unit
CPR	Contraceptive Prevalence Rate
CYP	Couple Years of Protection
EPI	Expanded Program for Immunization
FHE	Field Health Educator
FP	Family Planning
FPRH	Family Planning and Reproductive Health
GOP	Government of Pakistan
HPA	Health Promotion Assistant
HTSP	Healthy Timing and Spacing Pregnancy
IUD	Intra Uterine Device
HANDS	Health and Nutritional Development Society
LHW	Lady Health Worker
MCH	Maternal and Child Health
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MSI	Marie Stopes International
MWRA	Married Women of Reproductive Age
NGO	Non-Governmental Organization
Old Marvi	Marvis recruited in the First Half of the Project
New Marvi	Marvis recruited in the Second Half of the Project
PDHS	Pakistan Demographic Health Survey
PSLM	Pakistan Social and Living Measures Survey
RADS	Research and Development Solutions
RH	Reproductive Health
RHC	Rural Health Centre
TBA	Traditional Birth Attendant
Thardeep	Thardeep Rural Support Program
THQ	Tehsil Head Quarter
TRDP	Thardeep Rural Support Program

ACKNOWLEDGEMENT

No public health intervention can ever be attributed to any one or even a few individuals. The MARVI intervention is no exception. It was conceived by HANDS and its top leadership, particularly, Founding Chairman - Professor A.G. Billo, Dr. Tanveer Ahmad and Dr. Sarwat Mirza. The Pakistan team of the David and Lucile Packard Foundation recognized the potential of the idea and along with their head office team was instrumental in improving it. Dr. Yasmeen Qazi and Lester Coutinho provided critical suggestions that helped shape the concept and were a guiding force throughout the implementation process.

Its implementation was ably assisted by HANDS head office team, particularly Dr. Khalid Pervez and Ms. Rubina Jaffri monitored the implementation closely and guided it through its various technical issues. However, any intervention is only as good as its implementation and in this the Umerkot team of HANDS was exceptional. Under the guidance of Mr. Bansi Lal Mahli, Mr. Zufliqar Sario and the team owned the project and this dedication was acknowledged repeatedly in interviews by Marvis and their communities.

This evaluation was conducted by the Research and Development Solutions (RADS) and was the result of efforts by a diverse and multidisciplinary team. Its design was conceived in deliberations with Dr. Tanveer (HANDS), Dr. Yasmeen Qazi (David and Lucile Packard Foundation) and Mr. Lester Coutinho (David and Lucile Packard Foundation) in consultation with RADS core team that included Dr. Adnan Khan, Dr. Ayesha Khan and Dr. Hasan bin Hamza. We received informative advice from a very active Technical Advisory Group that included: Dr. Khurram Azmat (Marie Stopes Society), Dr. Sikandar Sohani (Aahung), Ms. Kamyla Marvi (Aman Foundation), Dr. Sara Saleem (Aga Khan University), Dr. Zulfikar Gorar (USAID) and Mr. Imran Zafar (Independent Consultant). Dr. Iftikhar Ahmed and Ms. Seema Zameer (David and Lucile Packard Foundation, Pakistan) helped facilitate the many aspects of the intervention and the evaluation and Ms. Maggie Hobstetter and Ms. Angela Kan (David and Lucile Packard Foundation, Headquarter) provided valuable advice during the evaluation and analysis.

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With thanks

Dr. Tanveer Ahmed and Dr. Adnan Khan

August 2014

FOREWORD

Maternal mortality is a major public health and social problem in developing countries. Family planning and safe births are well known means to reduce maternal mortality. However, this knowledge has not always been translated into effective actions. The public sector is often weak in many developing countries where maternal mortality is the highest. NGOs and the private sector have often stepped in and fill the gaps left by the public sector. However, not all interventions are effective and when an intervention is effective; there is often not enough documentation of the lessons learnt during its implementation to allow its replication. These lessons that can help replication of these models and pilots, include the understanding of what worked and what did not, and the reasons for either.

This evaluation seeks to identify how the MARVI intervention helped improve reproductive health outcomes in the remote rural district of Umerkot. The evaluation combined quantitative and qualitative techniques to develop a narrative of the intervention. While it was clear to the implementers that the intervention had improved at least some reproductive health outcomes, it wasn't known to what extent and how broad-based were the changes. Additionally, a major question for the investigators was to explore the reasons behind the changes so that successes may be replicated in other locations and pitfalls be avoided.

The evaluation seeks to recreate how the intervention changed the health and health services in the district from the perspective of Marvi workers. We explored both healthcare and social mobilization aspects of the intervention as they impacted and ultimately changed the Marvis. The narrative that we tell is not just of a healthcare provider but also that of empowerment of women due to the autonomy they gained due to invoking of their entrepreneurial skills. We feel that this autonomy and empowerment were the key driver of change.

With thanks

Dr. Tanveer Ahmed and Dr. Adnan Khan

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EXECUTIVE SUMMARY

As is the case in many developing countries, there is considerable room for improvement for many health and development indicators in Pakistan. For example, the maternal mortality in Pakistan is around 276 per 100,000 live births, and infant mortality is around 78 per 1000 live births[1]. In fact many of these indicators are poor despite considerable macroeconomic growth; suggesting that this growth is skewed and many citizens are excluded from its benefits. For example, against a backdrop of high unmet need – the national CPR is 35% and that for modern methods is 25%, among the lowest in the region[2]. In an effort to address this disparity, a national NGO, Health And Nutrition Development Society (HANDS), with funding from the David and Lucile Packard Foundation, tested an innovative model to provide health and development services in the extremely poor and remote district of Umerkot using local uneducated or poorly educated rural women as health outreach workers.

Rationale for the Intervention

There are few government health facilities in Umerkot and those that are, exist mostly in the few urban centers of the district. Even the government's lady health workers (LHW), who are supposed to serve poor villagers don't reach the poorest villages that don't have enough local women to qualify for LHW recruitment. Most private providers are likewise present mostly in cities and are inaccessible for remote rural populations. Demographically, Umerkot is distinct from the rest of Pakistan, which is largely a Muslim nation, while 41% of Umerkot's population is Hindu. There are also at least 15 different castes. People live along these religious and castes lines and entire villages are composed of members of same religion, caste or the same extended family. It was considered that this religious diversity and poverty may actually make provision of healthcare more difficult.

The MARVI Intervention

HANDS postulated that by training uneducated women in basic healthcare, entrepreneurship and outreach skills, along with complementary social mobilization of their communities, the overall development and health of communities in Umerkot would improve. The intervention started in 2008 with HANDS training the healthcare workers, and a partner organization, Thardeep Rural Support Organization (TRDP), providing social mobilization. However, TRDP dropped off from the project early and HANDS took over the social mobilization component as well. Meanwhile, the healthcare workers – the Marvis – were paid a small stipend by HANDS, which they supplemented by selling medicines and health products to their clients. They were supposed to create a demand for their services with outreach and then provide these services for a fee. HANDS supported the Marvis with training and refresher courses, by ensuring supplies were not interrupted, and by handling issues and emergencies as they arose.

Outline of the Evaluation

This evaluation reviewed many of HANDS' project documents, including the results from a baseline and a mid-project quantitative survey, conducted a quantitative survey at end line (September 2013)

and a qualitative assessment (December 2013-Jaunary 2014). The quantitative survey measured various health and social mobilization indicators, while the qualitative assessment sought to understand the changes that were measured. The sampling frame for the quantitative survey allowed equal probability that any of the 2084 villages of Umerkot would be represented in the sample based on their population and thus the results represent the entire district. The original intention was to compare Marvi communities with LHW communities and those not served by any outreach worker.

A key finding was that Marvis are driven by motivation (financial or idealistic) and go beyond their assigned areas. As Marvis saturated clientele in their assigned areas, they sought newer ones in adjacent areas that were either covered by LHW or not covered by any healthcare provider. In doing so, they often sought out the poorer residents of these areas, whereas they have a slight wealth bias in their own areas. The extension of Marvis' work areas also meant that the intended "control" for our assessment – areas in which no healthcare provider was accessible – could not be used. Instead we used areas served by LHW as controls.

Health Benefits of the Intervention

CPR in Umerkot rose from 9% at the baseline to 27% at the end line, or a 3-fold increase and was higher in Marvi served areas. Changes were seen in all areas covered by Marvis where the CPR was over 30%; whereas it remained largely unchanged in LHW areas (10%). Community women ascribed both the higher demand and their own increased use of FP to the work of Marvis. Marvis acted as agents of change by "demonstration by doing" (CPR was 37% among the Marvis themselves), by convincing both men and women to use FP and by making FP supplies available at the doorstep. They did so at a modest profit, but also made sure that the supplies were uninterrupted, which was a major departure from the LHW who have generally not carried medical or FP supplies since 2009. As would be expected, Marvis most commonly promoted condoms, pills, and to some extent injections, all methods that they sell. Even though HANDS had arranged with local LHV for IUD insertion, emphasized IUD referrals in Marvis' training and the fact that IUDs were the commonest method used by Marvis themselves, the use of IUD remained uncommon among community women; in part because Marvis neither sold IUDs, nor did they receive compensation for their referrals. Interestingly enough, CPR was similar between Muslims and Hindus. Marvis were equally likely to serve women who shared their religious persuasion as those who did not, despite the fact that both Marvis and their clients were very aware of these differences and did not socially mix with those from different religions or castes.

Skilled births increased during the intervention from 32% to 41% (national average is 40% for rural localities).The increase was equally likely in LHW or Marvi-serviced areas, both of whom counsel for skilled births. Unlike LHW, Marvis work closely with traditional birth attendants (TBA), including those that were trained by HANDS. They also work with local doctors, to whom they refer complicated patients. Marvis had a more modest effect on the uptake and quality of the antenatal services.

Marvis had a more nuanced effect on postnatal care and vaccination of newborns. Breastfeeding was already moderately high and remained at 67% at the end line (national averages 95%); however, 92% reported feeding their newborns "colostrum". Traditional practices of feeding newborns with local

concoctions of water, sugar, and butter or honey have persisted. Vaccination rates were already high and remained in the 91-99% range (national average 54%). Clinically, Marvis had very modest-level medical skills, consistent with their educational level.

Social Mobilization

We found that 45% of households were part of some community organization. Women whose households were members of an organization were more likely to use FP, deliver with skilled providers and vaccinate their children. They were also slightly better off and Marvis found it easier to work with them. In fact, both community women and Marvis named economic wellbeing as a key reason to participate in such an organization. However, since the implementation of the social mobilization component of the intervention was limited, it is difficult to draw any conclusions about the extent to which it may have further benefitted the community.

Income of the Marvi Workers

We found that the intervention has had a dramatic effect on Marvis at several levels. Their personal monthly incomes nearly quadrupled from around PKR 892 to 4724, while their household incomes have tripled from PKR 4829 to PKR 12362. Interestingly, Marvi work only contributes around PKR 1905 to this income while non-Marvi work – mainly the shop that they have established and promote during their Marvi work – contributes around PKR 2819, suggesting that the entrepreneurial skills and empowerment that they learnt from the intervention have led to wider benefits to Marvis and it is prudent to assume that these learned skills will help them beyond the intervention period.

It is important to understand that the various components of Marvis' income are interconnected. It's clear from the interviews, that although the stipend that Marvis receive from HANDS was a small component of their income, but it was essential in initiating these women into the program. Over time, the Marvis have diversified their income to include health services and referrals, health commodities, sales of general merchandize and work with other NGOs. Very clearly, the components of their services that generated a profit were promoted and performed more often than those that did not. It is evident that without this for-profit model, this intervention cannot be successfully replicated.

Empowerment of Marvis and their Communities

Marvis are also more likely to be decision-makers. They now participate in both minor and major financial household decisions and are the major decision-makers for health matters in their households. With the exception of health decisions, however, much of their autonomy has come at the expense of the space vacated by mothers-in-law, while the role of the husband has remained unchanged. In contrast to the Marvis, community women have not gained much autonomy.

Understanding the Success of the Intervention

Marvis feel that a good Marvi is someone who provides healthcare, cares for members of the community and is there for them when needed. The Marvis provide more than just professional advice or services - in many cases she is a friend and guide. For this, she is well respected by her community. She counsels about health, provides healthcare and health supplies and many of them also sell general

supplies. She is a businesswoman whose husband and children help keep records, promote her business, and help with procurements. Many Marvis have business relationships with other healthcare providers and some work with other NGOs as well. All of these factors speak to the sustainability of Marvi services in their communities and will increase the likelihood of her continuing to work once support from HANDS and the Packard grant concludes.

A number of factors contributed to the success of the intervention and will likely help sustain it. These include: the ability of women from Umerkot to step out of their homes for defined tasks, the enabling support provided by HANDS, particularly the close contact of the district teams with individual Marvis; the quality of training; and the fact that the model was largely based on a profit motive. Clearly, the respect that Marvis have garnered means a lot to them and they work hard to earn it. This will be a major factor in sustaining their work – both as a motivator and as a guarantor of their place in the community. In addition to this, the income they have generated has ensured them both personal autonomy and respect within their families as well as personal freedoms. It was apparent from the interviews that many Marvis will continue their work in order to sustain this income.

Cost Benefits Analysis

Finally, and perhaps the most important aspect of this study, the Marvi intervention is remarkably cost effective for promoting family planning. It costs approximately USD 3.23 per woman per year or around USD 1.35 per CYP – well below the USD 17 for the public sector in Pakistan and is among the lowest worldwide. These findings suggest that the MARVI intervention is a model that should be replicated beyond Umerkot; however in doing so, the following should be borne in mind:

In Conclusion of the Original Assessment

We found the Marvi intervention has helped improve critical health indicators in Umerkot by creating a new cadre of health workers from uneducated rural women. The intervention has potential to bring basic healthcare to impoverished communities. However, in order for this intervention to be scaled up in the rest of Umerkot, or be replicated in other locations, a **few lessons** must be understood. The foremost is that the Marvis worked on a **commercial business model** in which they worked for the profits they generated. This required some entrepreneurial skills and a considerable amount of hard work. In terms of replicating or extending this intervention, care must be taken to not lose these commercial aspects. Secondly, some features of the **HANDS organization** were instrumental in the success; these include attention to detail and close ownership of the intervention by the HANDS district team. These can be replicated by making NGO managers of the intervention invested in the outcomes of Marvis' work. A way of achieving this could perhaps be by forming a private company that supports the Marvis with training, quality control, and procurements. Another may be to include a profit motive for the HANDS (or any other NGO seeking to replicate this intervention) local management team. If enough attention is paid to details, it is highly likely that this intervention can be replicated in the rest of Pakistan or even in the region; however, any such attempts must be **flexible** enough to adapt to local contexts/differences and allow some element of research to ensure that implementers are learning from their work experiences.

The Follow Up Study

The David and Lucile Packard Foundation funded Marginalized Areas Reproductive Health and Family Planning Viable Initiative (MARVI) sought to find solutions for the lack of healthcare and health outreach in extremely poor remote rural communities by training minimally literate village women. The Health and Nutrition Development Society (HANDS) started the intervention in 2008 in Umerkot district of Sindh. The evaluation was done in 2013-14 and showed that the CPR had risen from 9% at the baseline to 27% at the end line and skilled birth attendance to 48%. Marvi workers, who were driven by a commercial model, exceeded their assigned areas to promote and sell health commodities. However, during the dissemination of the report, a number of stakeholders asked 1) if the intervention can be sustained once Packard/ HANDS discontinue their support and 2) how did the costs of the intervention compare against available alternatives. A follow up study was conducted in March-April 2015.

The follow up study showed that the Marvis had internalized their message of family planning and their CPR had risen from 37% in 2013 to 48% now. In addition their method mix had shifted to permanent and long acting methods. However of the Marvis that had become pregnant during the past year, most had done so unintentionally. They had availed some form of antenatal care, although not elements that require a health provider intervention, such as receiving a tetanus toxoid vaccine.

We found that around 10% of the Marvis had stopped working once HANDS' support was diminished. Most that stopped did so almost immediately after hearing about the intention to reduce support. Those Marvis that are working have curtailed some of their work. They work fewer hours than before, and earn less money. However their loss of income comes mostly from their non-Marvi work. For e.g. the overall income of the Marvi households has remained largely unchanged, but the contribution of Marvis to this income fell by 42% - 17% for Marvi work and 59% for non-Marvi work. Some of this is explained by the fact that compared to 2013; Marvis have sought to increase productive assets such as cattle and poultry in their households. It is important to note that although the changes in types of income suggest that Marvis are selling more supplies than before and this increase only partly offsets the reduction in their stipend from HANDS. However, the time that they may be spending doing so is cutting into the time they may have spent on generating other income and that this loss is far more than what they make up with higher sales. In a manner of speaking, it appears that the stipend from HANDS/Packard was a subsidy that allowed Marvis to do a more comprehensive job. Its loss had implications that went far beyond its actual monetary loss and led to a lack of confidence about their earning potential. Addressing these fears should be a part of HANDS exit strategy.

1. The Marvi model may be replicated in other parts of Pakistan. In doing so, it would be more cost effective than any other alternative available.

2. As noted in the end line assessment, the strength of the intervention comes from both the work of the Marvis as well as the support provided by HANDS management – particularly the management in the district. Any replication of the model must also replicate the close working relationship between Marvis and the management.

3. MARVI is a "for profit" model where the motivation of Marvi workers is in the profit/income they will generate. This means that a salaried Marvi worker may not be as motivated as the ones in Umerkot

4. The loss of stipend had an inordinate effect on how Marvis perceived their income. Around 7% left and the rest reallocated their time to make up for their lost stipend, without realizing that this was taking away from even more productive "other" work. Additionally, at least on the face of it, Marvis may have already reached "saturation" in terms of the supplies they can sell as shown by the fact they could only raise their Marvi income by PKR 150 a month by selling more supplies.

5. HANDS must address the changes in income and their consequence, along with strategies to recoup the lost income with Marvis as part of their exit strategy.

6. Marvis may not be able to continue their work unless HANDS provides some support. At the very least, this would mean support with supplies and refresher training. The experience with the decrease in stipends suggests that perhaps some token stipend may be necessary to keep them motivated.

7. Given the high cost benefits of the model, such a stipend would be cost effective.

INTRODUCTION

The Context of the Problem

Maternal Mortality – the death of women during or within the first 42 days after childbirth - is a major public health and social problem that disproportionately affects developing countries and poor communities[3]. It affects young women, often with young children and leaves families in disarray. Children of mothers that have died are often physically and mentally stunted and seldom catch up to other children from their communities whose mothers remain alive. At 276/ 100,000 live births, maternal mortality in Pakistan is unusually high for its level of development[1]. Many approaches have been applied worldwide to reduce maternal mortality in Pakistan and other developing countries. Among these, access to family planning and promotion of healthy timing and spacing of pregnancies[4;5], access to skilled birthing services and provision of ante- and postnatal care[6] are key interventions that can reduce maternal mortality and improve the health of mothers and their babies[5;7].

While it is well understood that providing family planning, ante- and postnatal care and skilled birth attendance saves lives, the challenge has been to actually provide these services. The challenge is particularly severe in resource, remote and poor settings. Countries where maternal mortality is high are also often the countries where the public sector and health infrastructure are weak. Even when countries have reasonable health infrastructure, regional disproportions, weak governance and elite capture tend to keep these services from the very poor that really need them. For example, Pakistan has over 15000 public sector health facilities and a cadre of nearly 100,000 lady health workers who are supposed to serve rural communities. In practice, however, around 80% of outpatient medical visits are in the private sector[8], and nearly half of rural communities are too poor to have even a single woman who is qualified enough to become a lady health worker[9]. Even when public or private sector health services are available, they are not taken up. Poor demand/ uptake of essential health services and public goods is a well-recognized phenomenon among the poor[10].

These factors have combined to depict a grim picture of health of women. Maternal mortality was 276/ 100,000 live births in 2007, the last time it was measured[1]. In the same survey the rate of family planning was 30% overall and 24% in rural areas. This has increased to merely 35% overall in 2012[2] and reflects a very modest rise of CPR of just under 1% per annum since 1990. Births were attended by a skilled provider for 56% of urban but only 25% deliveries in 2007[1]. This has increased to 68% for urban and 40% for rural deliveries in 2012[2]. However, only 75% of urban and 59% of rural mothers received basic antenatal care as depicted by the receipt of at least one tetanus vaccine.

Public health experts have debated the reasons for low access of poor and rural populations. Governance issues surely limit the potential benefit of the rather large public sector health infrastructure. For example, an evaluation of the lady health workers program showed that LHWs account for only 5% of the family planning uptake in the areas they serve[9]. The overall "foot print" of public sector family planning services is around 1.2 million women or around 5% of married women of reproductive age (MWRA)[11;12]. Under the circumstances NGOs and international donors have attempted a number of public health interventions aimed at improving family planning and maternal

health. These included support by the USAID, Norwegian aid and DFID that attempted to improve the output of or supplemented public sector programs. Some evidence suggests that this may have had some impact. The Demographic and Health Survey of 2012 suggests that approximately 700,000 new family planning users were added between 2006 and 2012 and nearly all of them were served by NGOs[13]. However, the costs of these programs have been high and it's not clear if they were able to reach remote rural women. Finally, the question remains whether these interventions could be sustained once these donors leave. Thus there is a need to develop interventions that work in the private sector, are sustainable without (or with minimal) donor support and are locally grounded.

Umerkot District

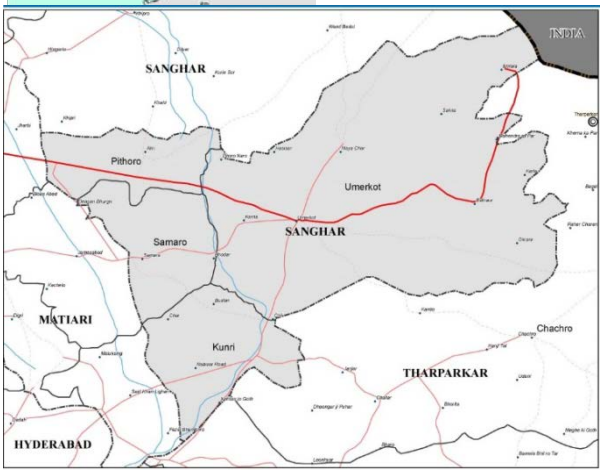
Umerkot, located in the southern region of Sindh Province, is one of the poorest districts in the country, Pakistan. The population of the district is 858,376 (446,355 males and 412,021 females) Umerkot is the only district in Pakistan with around half of the total population being non-Muslim. 48% belong to officially declared minority communities (this assessment suggests that around 41% population is Hindu). 84% of minority communities are Hindus, while 16% belong to scheduled castes. Almost all of them are living under the poverty line with a literacy rate of only 6%. (Source Wikipedia, accessed: December 2013).According to Human Development Index (HDI) by UNDP and Poverty Score card by Pakistan Poverty Alleviation Fund, the district is among the bottom third of all districts in Pakistan in terms of its Human Development Index.

Umerkot District

Total Population: 858,376

M: 446,355
F: 412,021
48% population is non-Muslim

Villages/ Towns: 2184



The government provides some intervention in the area through its Lady Health Workers Program, which targets reproductive health outreach and family planning services. However, these government LHWs are only accessible in 486 villages, reaching 398,632 people. This is less than half of Umerkot District's total population, thus, there is an enormous coverage gap depriving 53.66% of the population of the formal health delivery system provided by the public sector.

The Context of the MARVI Intervention

Health indicators are worse for rural communities than urban ones and are even worse for the more remote rural locations where there are very few health facilities, and even when actual facilities exist, they suffer from staffing issues as many of public sector health providers prefer to serve close to cities. Even the Government of Pakistan's nearly 100,000 LHW, that are meant to serve rural populations,

miss out on the poorest communities, because these community often simply have no women with a 10th grade or higher level of education, which is required for becoming a LHW. In 2008, the Health And Nutrition Development Society (HANDS) sought to address these problems by conceiving and implementing an integrated intervention that linked microfinance, reproductive health, social mobilization and family planning to improve reproductive health and family planning outcomes by training un- or minimally educated rural women – named Marvi workers - to deliver family planning (FP) and reproductive health (RH) services. The project was called the Marginalized Areas Reproductive Health and Family Planning Viable Initiatives (MARVI) and was funded by the David and Lucile Packard Foundation. In this report the intervention is referred to as MARVI and the healthcare workers are called Marvi.

The Marvi Intervention

Health And Nutrition Development Society (HANDS) and its partner NGO Thardeep Rural Development Program (TRDP) identified 350 selected villages from Umerkot that were not covered by LHWs. HANDS hypothesized that training uneducated rural women in basic healthcare, outreach and entrepreneurial skills; and supporting them with social mobilization of their communities can bring about significant changes in the health of their communities and empower these women. A secondary goal was to empower the women from their communities with behavior change communication and social mobilization. Initially microfinance was also included with social mobilization but was soon dropped. The David and Lucile Packard Foundation provided the funding for the project.

The core concept of the Marvi model is centered around empowering local women (i.e. Marvi workers) and communities (i.e. women and their families) through capacity building to improve RH and FP outcomes with minimal dependence on external aid. The main philosophy behind the project was to promote the goals of economic empowerment of communities and improved reproductive health by a combination of social mobilization (done by the TRDP) and a public health approach of providing health services via outreach and capacity building (the Marvi approach, done by the HANDS).

Initial screening surveys of villages were conducted for the selection of locations, Traditional Birth Attendants (TBAs), and Village Development Organization (VDO) members were carried-out in 600 locations. Ultimately, 350 locations were selected for intervention by the project committee. 350 MARVI workers were trained on RH and FP skills and competencies, which included creating demand in the communities for RH and FP coverage and social marketing skills of RH and FP products to sustain income generation. In addition, 350 Traditional Birth Attendants (TBAs) were also trained in RH and MH skills and given safe delivery kits. The project time period was as follows:

Phase I: November 2007 – October 2010
Phase II: 20th September 2010 – 20th August 2013

At the onset of this evaluation (in August 2013), the project had already completed a baseline survey (2008) and a mid-project survey (2010). The evaluation used FP indicators from the baseline survey.

This Report

There is an acute dearth of participatory research on the social, economic, and environmental dimensions of reproductive health in Pakistan. This report is an effort to contribute to addressing some of this knowledge gap and to influence development thinking, policies, and practices of decision makers and program implementers for reducing vulnerabilities and enhancing the capacities of poor communities. This evaluation seeks to measure the outcomes of a key public health intervention in the context that it was implemented and seeks to explain why and how the intervention met its goals and how it may be replicated in other similar or diverse settings.

The assessment first randomly sampled communities from Umerkot district in the Sindh province of Pakistan for a quantitative survey. All communities were eligible for the study. The quantitative survey measured key indicators about reproductive health (including family planning), social mobilization and empowerment. This information was used to divide the district into better and less well functioning areas in terms of key family planning indicators. These performance differences – and how they may have resulted from differences in communities, the work of Marvi workers and implementation quality - were then explored using qualitative methods.

The Marvi intervention was conducted from 2008 onwards. Marvis received a modest monthly stipend (PKR 1200) and a 5% subsidy on the supplies they bought from HANDS. However, after the end-line assessment in September 2013, HANDS reduced the amount of stipend. This "post evaluation study" was conducted to determine if this reduction in stipend had any changes on personal and professional behaviors of the Marvis in terms of: 1) Reproductive behaviors; 2) Socio-economic status and 3) Business practices over the past one year. In addition, the post evaluation study also quantified the professional time allocation of the Marvis in order to estimate the cost benefits of the Marvi intervention.

The Follow Up Study

Although rates of family planning and uptake of reproductive health services have languished over the years, the past decade has seen considerable funding to revive these. This has meant that in addition to the USD 60+ million that the government of Pakistan spends on family planning every year, a number of donors have provided additional support.[11] Some of this supplemented government funding. For e.g. the USAID supplied commodities that were not budgeted by the government; DFID provided technical support and has supported some private sector models of FP services. More interesting were some support such as that by foundations which sought to redefine service delivery. For e.g. the Marie Stopes Society received a large grant from an "anonymous" foundation to establish a new model of private sector FP services that they branded "Suraj" and trained mid-level community based healthcare workers to provide high quality FP/ RH services.[24]

The David and Lucile Packard Foundation support a more innovative intervention by the Health and Nutrition Development Society (HANDS) where they supported the training and mobilization of illiterate or poorly literate village women as health outreach workers. The women visited their own community households, educated their community in health and prevention, and promoted healthy practices. In turn these women called Marvis, were paid a small stipend by HANDS and were supposed to have made additional income by selling health supplies to their communities.

In a formal evaluation of the project in 2014-15 (first half of this report), we found that the Marvis had indeed succeeded. They had helped raise the CPR of the district from 9% to 27% and were going beyond their allocated areas to sell supplies. The access to skilled birth attendance had also increased to come to around 50%. While doing so, the Marvis had become empowered and were participating not just in their own household's financial and other decisions, some Marvis were even sitting on the village "panchayat" (village council) which had been unthinkable for a young woman.

The current investigation was born out of the discussions of the Marvi end line assessment. Stakeholders were curious if 1) the Marvi intervention could be sustained once Packard/ HANDS withdraw their support and 2) how cost effective was the Marvi intervention. In other words how would this intervention compare with some of the other models of FP services that are being implemented nationally.

The current intervention was conducted in January 2015. The initial plan was that by this time HANDS would have withdrawn their support completely and it would be possible to study the effect of this withdrawal. However, at the time of the study, Marvis were still receiving PKR 700, down from PKR 1200 and HANDS was still providing logistical support. The subsidy of health supplies had been withdrawn. The current study provides useful information about the effects of reduced support to Marvis by HANDS and also collected information useful to a cost benefits analysis.

METHODOLOGY

RATIONALE OF THE MARVI EVALUATION STUDY

The Evaluation was geared towards analyzing and documenting multiple aspects of the Marvi model in order to understand the efficacy of Marvi model for improving RH and FP uptake, the impact on community and the nexus of service delivery with social mobilization. The objectives of evaluation were to:

- To evaluate the social change model and the public health approach, along with their nexus
- What social capital was produced for the Marvi Workers
- To evaluate the business and entrepreneurship model of the Marvis
- To identify how Marvi model can be sustained and scaled up.

EVALUATION STUDY HYPOTHESIS

This working hypothesis of this evaluation is that: The new outreach based public health and social mobilization model (MARVI) has improved health, empowerment and social capital of Marvis and their communities and is superior to existing alternatives: No outreach services or services by lady health workers.

EVALUATION STUDY QUESTIONS

1. How have Marvis and social mobilization helped increase access, knowledge and quality of FP and RH facilities in the district of Umerkot? If so, what are the reasons for these changes?
2. Have the community members and Marvi workers been empowered enough to make the two models self-sustainable in the long run or is there sufficient evidence for the project to be scaled up to achieve that level of empowerment?

EVALUATION STUDY METHODOLOGY

Overall Design

The study used a 2 stage mixed method quantitative and qualitative research design.

- The quantitative component that covered all villages of Umerkot to measure key indicators
- A qualitative component including the use of ethnographic tools to explore reasons for health changes and empowerment.
- Skills assessment of Marvi Workers

Target Area:

In order to understand the impact of the Marvi intervention the study included following geographical areas of Umerkot district:

1) Marvi villages
2) LHW covered villages
3) Villages not served by any outreach worker

QUANTITATIVE SURVEY AND SKILLS ASSESSMENT

Sampling Framework

The rationale for the quantitative survey was to measure program attributable differences across Umerkot which could then be evaluated in depth with qualitative methods. Thus the sampling frame for the survey was ALL of Umerkot. The total population of the district - from all 2184 villages in 28 union councils- was divided in multiple clusters based on villages or towns and a multi-stage stratified random-sampling technique was used to allocate weights to each cluster. In discussions, HANDS informed us that there are distinct areas of coverage between Marvi workers, LHWs and areas that are not covered by either. In the first stage 7 UCs were randomly identified. Additional stages included adjustment for provider type (LHW, Marvi or none; and for Marvis recruited during the first or the second phases) and weights (number of respondents recruited from each cluster) were based on the population of the village (based on data provided by HANDS).

Assuming α: 0.05, β: 0.8 and a design effect of 1.5.The **sample size** was calculated to be 1690 households (each household to yield only one respondent); distributed as: 728 households served by Marvis, 728 served by LHW and 234 households covered by neither (Uncovered).

Selection criteria - All respondents were married women of reproductive age (MWRA). Within each household, only one respondent was interviewed. If more than 1 eligible respondent were found - the first woman encountered in that household was interviewed.

For **Skills Assessment**, 90 Marvi workers were identified based on those Marvis whose coverage areas were included in the quantitative survey. Besides questions assessing the knowledge and skill level of the Marvi workers, the questionnaires included standardized clinical vignettes, to assess their knowledge and practices. Instead of scoring as pass or fail, we analyzed answers given by Marvis for patterns to better understand their clinical practice patterns and sort of issues they emphasize.

Quantitative Study tools

1- Structured questionnaire for community women (MWRA)
2- Structured questionnaire for Marvi workers including Standardized Vignette for Skills Assessment

All tools were translated into Sindhi language

Training of the Field Research Team

Thirty (30) female data collectors were trained for 3 days of didactic instruction and one day of "hands on" mock interviews in the field. Training including information about key reproductive health, family planning and social mobilization concepts, didactic instructions about the study tools and mock field interviews. Based on the latter a team of 28 interviewers was finalized.

Team formation

The quantitative data collection was conducted by four teams of seven enumerators; each one enumerator was given the responsibility of team monitor to ensure quality and completion of data and coordination.

QUALITATIVE ASSESSMENT

Study Outline

We used a mixed interview plus ethnography approach for a deeper understanding of Marvis and their working environment. This gives the broader picture of intervention area where the Marvis work and also depicts their personality traits, her community, the services she provides and the impact of these services and her presence on the community. The main rationale of this work was to understand the relationship between Marvi and her surroundings and to investigate how Marvis matter to Umerkot and how Umerkot matters to Marvis. This research also investigated what changes occurred because of the MARVI intervention on the status of autonomy and empowerment of woman in Umerkot.

The qualitative assessment was carried out using ethnographic tools, where we explored cultural aspects of the lives of our subjects, their knowledge, cultural perspectives, and sought to understand the social meaning from the point of view of the subject of the study; thus enabling to understand a more in-depth and richer portrait of what happens in the lives of people in their natural settings. The reports and data were represented graphically and in writing. The data were collected from different areas of Umerkot districts, where the MARVI project has been implemented. Different qualitative tools were used to collect data regarding Marvis and their surroundings.

Qualitative Data Collection Tools

RADS used the ethnographic technique for qualitative data collection. Majorly, three qualitative tools were used for targeted population.

1. In-depth interviews
    i. Marvi
    ii. Female clients
    iii. Hands Management
    iv. Interview of interviewers
2. Ethnography
    i. Mobility map
    ii. Expenditure map
    iii. Clock map
3. Direct observation
    i. Marvi
    ii. Client
    iii. Community
    iv. Village
4. Pictorial data

Targeted Population and Sample Size

Following is a breakup of the data collected using different tools and techniques. **The Qualitative** assessment included in depth interviews, focus group discussions and ethnography techniques including PRA, direct observations among multiple community groups to form an overall picture of the Marvi intervention and its impact.

Table 1.Sample Size for Marvi Qualitative Assessment

	Marvi Workers	Community MWRA	TBAs	Community Males	LHWs	HANDS Management Team
In depth Interviews (IDIs)	16	7	3		6	6
Focus Group Discussions (FGDs				8		
Ethnography techniques (Mobility, Expenditure and Clock Maps)	16	7				
Direct Observation	16	7	3	8	6	

Tools Development

Separate interview guidelines were developed for all the stakeholders i.e. Marvi workers, Married Women of Reproductive Age (MWRA), Lady Health Workers (LHW), Traditional Birth Attendants (TBAs) and HANDS Management. Focus Group Guideline was also developed.

Training

An eleven (11) member team was recruited including 7 female and 4 male interviewers based on their fluency in local languages i.e. Sindhi and Dhatki and prior experience with qualitative data collection. Interactive training of four days including two field days field training was conducted to make the team members well versed with the nuances of qualitative research and protocols of different data collection tools. The training was conducted by RADS' senior qualitative researcher, while members of HANDS team in Umerkot also attended the training.

On second round RADS conducted four days training for qualitative tools used for data collection. We used 11 facilitators for qualitative data collection includes 4 males and 7 females. The training compromised of two in-house and two field days.

Data Collection and Management

The field data collection was completed in ten days. The interviews were recorded and transcribed from Dhatki into Urdu. The transcriptions were then translated into English for thematic analysis.

COST BENEFITS ANALYSIS THROUGH TIME ALLOCATION

Data related to total costs incurred for MARVI model by HANDS office of Karachi and Umerkot were provided by HANDS. It included the time they spent on the Marvi model and its implementation cost including monthly stipends paid to Marvis.

From the time allocation data about Marvi workers, average percentage time spent by Marvis on each of their services and supplies was calculated. It included average percentage time spent on Family planning, health awareness sessions, conducting and accompanying deliveries etc. RADS collected data on recall bases i.e. how much time was spent by MARVIs for each of the services they provide in the first and last household on their last working days.

Step I: Time Allocation:

Total average time spent by Marvis each day was calculated from the time spent on all the services in the first and last household. Similarly, average time spent on selling FP services and counseling was calculated. Ratio of average FP time to average total time spent on services was calculated to determine average percentage time spent by Marvis on FP.

Step II: Estimation of Women Served:

On the basis of given CPR of the year 2008 (9%) and 2013 (27%) in Umerkot, CPR of rest of the years between 2008 and 2013 were calculated assuming a 25% increase every year. Based on the rate of increase of population of Pakistan over the years from 2008 to 2009, MWRA in Pakistan was calculated – given that MWRA in 2013 were 24,988,965. Given that total population of Umerkot in 2012 was 1,113,194, MWRA in Umerkot was calculated by multiplying total Umerkot population with the factor of current year Umerkot population divided by last year Umerkot population. MWRA in Umerkot was then multiplied by CPR to determine total women served with FP. Almost 83% of the Umerkot women served with FP were catered by MARVIs. Hence total women served with FP were multiplied by percentage of MWRA catered through MARVI i.e. 83.6%

Step III: Estimation of CYP:

In order to estimate total CYP served, method mix was calculated for current FP use and multiplied by the total time of protection provided. The percentage calculated was then multiplied by total women served to calculate total CYP served.

Step IV: Cost Allocation

Total cost of FP was then calculated by multiplying total cost incurred by HANDs offices on the MARVI Model i.e. total program budget up to year 2014 - with average percentage time spent by Marvis on FP.

Step V: Cost of FP per Women Served

Cost of FP per women was calculated by dividing the total cost of FP with estimated number of women served with FP by Marvi per year.

Step VI: Cost of CYP per Women Served

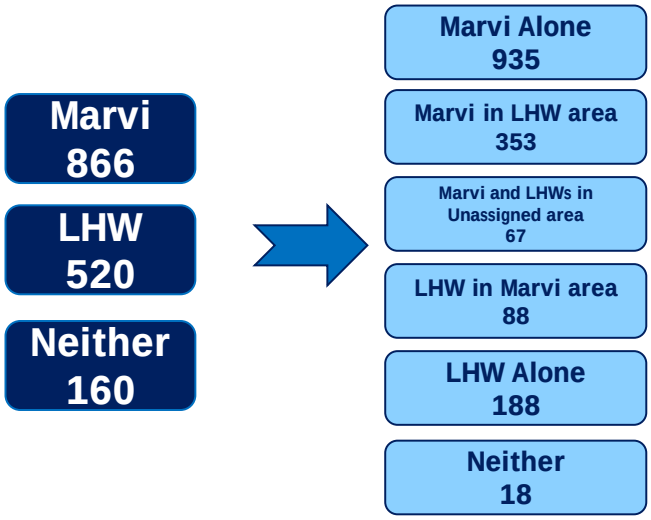
Cost of CYP per women served was calculated by dividing total cost of FP with total CYP served.

ANALYSIS PLAN

The quantitative survey included 1699 community women and 90 Marvi workers. As per initial discussions with the HANDS, following three community distributions were assumed based on service provider type: 1) Served by Marvi workers, 2) Served by LHW, and 3) Served by neither. However in the quantitative community survey it became clear that not only are the boundaries less distinct,

providers regular serve women from non-allocated communities. To address these differences, the analysis of quantitative data was conducted to include the above coverage areas, as well as overlap coverage areas.

Figure 1.Original and Final Distribution of the Sample



We compared key demographic, family planning, skilled birth and autonomy indicators from the community survey across the 6 coverage domains and then used qualitative data to explain the differences across the domains. Since there were few (18 or ~1%) households that were covered by no health provider, these were dropped from the analysis as discussed by the technical advisory group of the study.

FOLLOW UP STUDY: OVERALL DESIGN

The study re-interviewed the 89 Marvis that had been interviewed for the end line evaluation and asked them about their reproductive behaviors, economic status, work and time allocation. In order to control for the effect of secular trends on their economic status, 2 neighbors (both MWRA) of each Marvi were also interviewed as economic controls. The study used a quantitative research design exclusively. Evaluation objectives were measured by asking about the following variables:

a. Socio-demographics
b. Wealth status
c. Reproductive health
d. Employment history
e. Services and supplies

Evaluation Framework

Evaluation Objectives	Target Group
1. Economic status – changes in assets and their income (and its sources) over the past one year.	• Marvi Workers • Control Group (village women)
2. Changes in business practices to adapt to new situation - reduced support from HANDS	• Marvi Workers
3. Marvi workers that have dropped out or diminished their operations	• Marvi Workers
4. Changes in reproductive health practices over the year.	• Marvi Workers • Control Group (village women)

Target Area and Sample

Post evaluation study was planned to be conducted with the same 89 Marvis that were included in the previous (end line) evaluation study, however, RADS was informed that one of the MARVIs committed suicide thereby the new sample was 89. Besides, as a control group, 2 neighbors of each Marvi were also interviewed. Therefore, the total sample included 180 Community Members along with 90 Marvi workers.

a. Quantitative Study Tools:

1. Structured questionnaire for community women (MWRA).
2. Structured questionnaires for Marvi workers

All questionnaires were translated in Sindhi.

b. Training of the Field Research Team:

Eight (8) female data collectors and two (2) male supervisors were trained for 3 days constituting one day of hands on mock interviews in the field. Training included information about key aspects on reproductive health, family planning and social mobilization concepts and didactic instructions about study tools and mock field interviews.

c. Team Formation:

The eight quantitative data collectors were divided into four teams of two members each. Each male supervisor was allotted to teams to supervise enumerators, ensure coordination within the team and timely completion of field.

d. Field Monitoring and Evaluation:

To ensure quality data collection, proper completion of surveys and coordination between the field teams and RADS head office in Islamabad, an external monitor was hired. The monitor closely followed daily data collection process at Umerkot. At the day end monitor had to complete and submit a monitoring and evaluation tool developed by RADS for field monitoring through email.

Analysis Plan:

Objective I: Economic status – changes in assets and income over the past one year.

In the end line evaluation findings, Marvi workers had better economic status as compared to their community members. However, in this follow up study, changes in the economic status of the Marvi workers were recorded and analyzed by drawing comparisons with the economic status of Marvis last year. Analysis was conducted using income variables such as monthly income, income from Marvi and income from all jobs to determine financial standing and household variables such as possession of electronics, livestock automobiles etc. to determine changes in living standard of Marvis.

Objective III: Changes in business practices to adapt to reduced support from HANDS

Marvi model in Umerkot had been envisioned to be a self-sustainable in the long-run. Therefore, amount of stipends were gradually reduced from rupees twelve hundred to seven hundred rupees initially. Stipends - being one of the motivational factors for Marvis to work -were anticipated to affect their business practices. Therefore, comparative analysis was conducted utilizing variables such as average households served within last three months, number of clients served for health care services, number of health care products sold etc.

Objective IV: Marvi workers that have dropped out or diminished their operations

Out of the eighty nine Marvis, it was anticipated that some of them might have diminished their operations over the past one year. Those Marvis were also interviewed in order to determine the reasons for their dropping out. They were asked if they were working somewhere else and the kind of work they had undertaken after leaving Marvi.

Objective V: Changes in reproductive health practices over the year

Last evaluation study revealed that Marvis practice what they promote. In the post evaluation study, the same variables for determining Marvis reproductive health were studied. The current results were compared with the last year results in order to observe if there are any significant differences.

TERMS USED IN THIS REPORT

We used the term MARVI to describe the overall intervention by HANDS; while the term Marvi was used to describe individual Marvi workers. Old Marvi is meant to depict Marvis hired during the first half of the intervention and New Marvis for those recruited in the latter half.

RESULTS OF THE QUANTITATIVE SURVEY

Understanding the Demographics

A crucial factor that underlies the analysis of this report and is therefore a key to understanding the results is difference in coverage from what was originally intended (as allocated by HANDS) and what is actually happening. Based on the original distribution list provided by HANDS, there are 2084 villages/ towns in Umerkot with a total population of 1.23 million, residing in 189,852 households. Marvis serve around 244 of these villages/ towns/ settlements (sometimes there is more than one Marvi assigned to large localities) and 368 are served by LHWs.

Based on these the total household sample of 1699 was allocated to include 866 Marvi-served, 520 LHW-served and 153 households not served by any healthcare provider. Inability to identify precise allocation in the field led to designation of "unclear" allocation to 160 households.

However, once we looked at the description of whom the respondent said she was served by, the overall coverage changes dramatically. Marvis clearly go beyond their allocated areas by huge margin. Fully 1380 households (81% in our sample and therefore in Umerkot) are being served by Marvis, working either alone or with LHWs. Virtually no area is left uncovered in that only 18 households (1%) reported not being served at all. In contrast to the Marvis, LHWs go to much fewer households than are allocated to them.

More interestingly, our results and discussions with Marvis helped us understand what motivates Marvis to go beyond their original allocation to cover other areas. For example, 353 respondents (21%) from LHW areas reported being served by Marvis alone. What is it about these locations or the business model that draw Marvis to them but not others.

For this analysis, we have kept all of these categories separate. Even, though respondents from "neither" providers are few, we have kept these in the tables and figures to discern their effects on the various indicators.

Table 2.Changes in Sample Distribution Based on Actual Service Delivery

Original Allocation		Based on Community Interviews	
Marvi	866	Marvi	935
		Marvi in LHW area	353
		Marvi and LHW	67
Unclear	160	LHW in Marvi area	88
LHW	520	LHW	188
Neither	153	Neither	18
Total	1699	Total	1699

In the quantitative section, we disaggregated different indicators according to the areas served by each type of providers

Community Demographics

Village size in Umerkot varies from 50 to 300 houses with homogenous characteristics like caste, religion and language. Castes are predominant source of social identity and social standing in Umerkot. This phenomenon is more pronounced in Hindu community. People primarily identify themselves with their castes. More than twenty castes were identified through the study, most of them representing middle or lower strata of caste system. It was found that both Muslim and non-Muslim Marvi workers also belonged to middle and lower castes.

The qualitative research found that primary family unit, though consist of nuclear family but it is surrounded by a close knitted extended family units. The whole family shares one big enclosure with separate living spaces (room and kitchen) for each family unit.

Table 3.Demographics of Marvis and Community Women

Indicators	Marvi Workers	Community Women					
		MARVI Alone	MARVI in LHW Areas	MARVI and LHW	LHW in MARVI Areas	LHW Alone	None
N	90	935	353	67	88	188	18
Age: Mean	32	28	28	29	27	29	30
Median	31	28	28	28	27.5	30	29.5
Range	18-58	13-60	16-60	20-47	19-54	16-48	20-40
Permanent Residence	98%	92%	97%	95%	85%	94%	94%
Temporary residence	2%	8%	3%	5%	15%	8%	6%
Age at marriage: Mean	17	18	18	19	19	18	18
Range	11 - 27	10-38	10-28	10-30	10-27	10-40	13-28
Husband's age: Mean	34	25	25	27	28	26	31
Range	16 – 60	10-45	10-45	16-40	14-45	13-45	22-45
Household Income: Mean	12362	11405	8502	10732	10216	7607	8867
Median	10000	8000	7000	9000	8000	7000	7000
Range of Household income	1000 - 50100	500-75000	500 - 50000	4431 – 30000	1000 - 38000	1000 - 50000	3000 - 30000

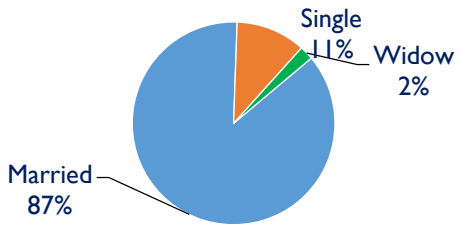
Age

On average Marvi workers are a mean of 32 years, while the mean age of community women (clients) is 28 years. The mean age at marriage for Marvis is 17 years with 43% Marvis getting married before 18 years. Their husbands are on average 34 years old. This likely reflects the fact that men and women are married early and hence all eligible prospects are of similar age when they are considered for marriage. Themean age of marriage was 18 years for community women and 27 years for the husbands. 79% of community women got married between 15-20 years, while 42% of respondents were married before reaching 18 years of age.

Marital Status

While only married women from the community were included in the sample, most of the Marvis are also married (87%). However unmarried Marvis (11%) are also working in some areas. Majority of the Marvi workers (82%) got married before becoming Marvi workers, while a small proportion (7%) were married after started working as Marvi worker; only 11% are single and 2% are widows.

Figure 2. Marital Status of the Marvis

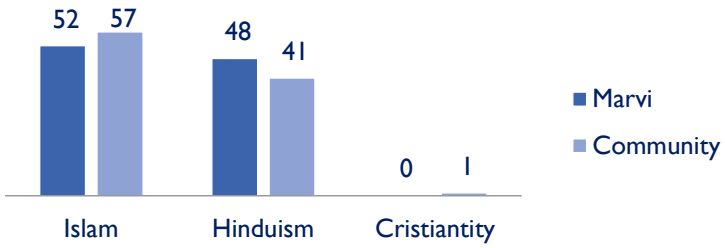


Regardless of class, religion and caste, **early marriages** are common in Umerkot. Most residents of Umerkot consider 12 to 15 years as the acceptable age of marriage for girls or boys. Early wedlock brings a burden of responsibilities to the newlywed couple as they have to support their family alone hence promoting a desire to have children who can contribute to the family income.

Religious Mix

There is a sizable Hindu minority (41%) among the community women and some Christians (1%). The religious mix among Marvi workers is almost equal Hindus (48%) and Muslims (52%).

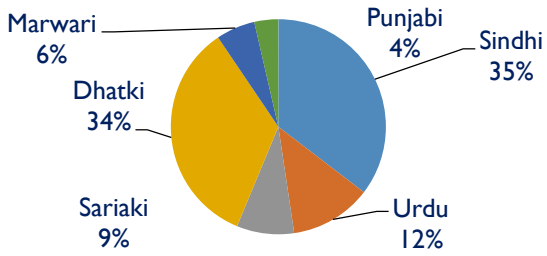
Figure 3.Religious Distribution of the Marvis and Community They Serve



Linguistic Make up

Sindhi is the predominant language spoken in the area (34%) followed by Dhatki (33%) and Urdu (12%). All the other languages were spoken in by less than 10% of respondents.

Figure 4.Linguistic Make Up



Residential Status

Out of 1699 respondents, majority (93%) of the community women live permanently in their location while only 7% are mobile. On the other hand almost all the Marvi workers (98%) are permanent residents.

Educational Status

79% of community women were illiterate and 17% having secondary level or less education. The education status of respondents' husbands were very different, while 53% were illiterate, 34% had education till secondary level while 13% had intermediate and above level education.

Marvi Workers generally have more formal schooling than community women. 17% of interviewed Marvi workers had received education till intermediate and 30% to only primary level education.

Table 4.Educational Qualifications of Marvis, their Clients and their Husbands

	Marvi Workers	Marvi's husband	Clients	Clients' husband
Illiterate	43%	41%	79%	53%
Primary	30%	16%	9%	16%
Middle	8%	9%	3%	9%
Secondary	10%	11%	5%	9%
Intermediate	9%	17%	2%	8%
Graduate/ Postgraduate	0%	7%	2%	5%

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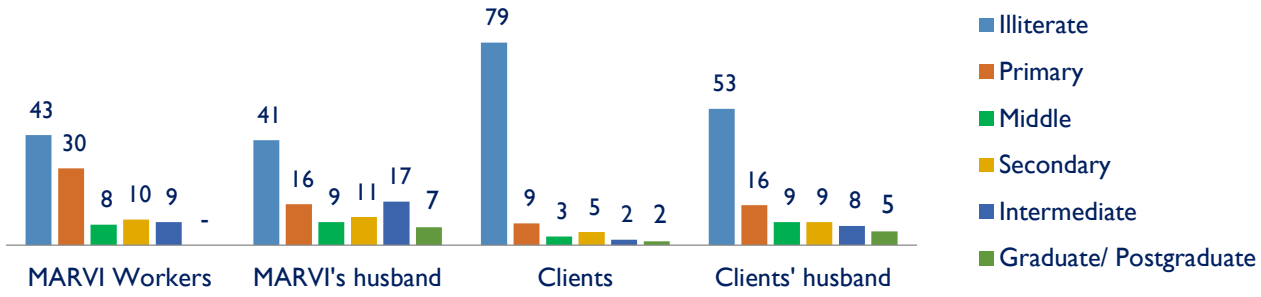
Figure 5. Educational Qualification of Marvis and Members of their community



Household Composition

In contrast to general perception about household makeup of rural areas, Umerkot is distinct in that 89% of households have one family living in the house, but the family sizes are following the general perceptions regarding rural families with mean family size being 6.23.

80% of the community women belonged to the households having 3-8 family members. Marvi workers' households were similar to that of community. The mean family size of Marvis is 6.5, with 57% having household size between 4-8 members.

Figure 6. Size Distribution of Marvi Households

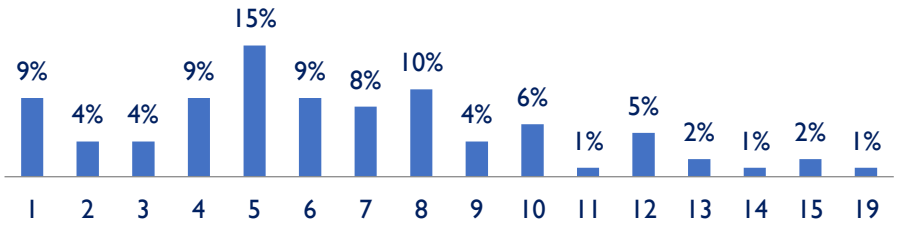
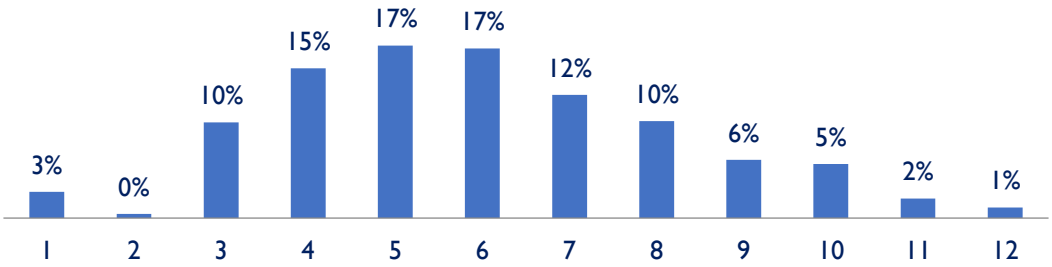


Figure 7. Size Distribution of Community Households

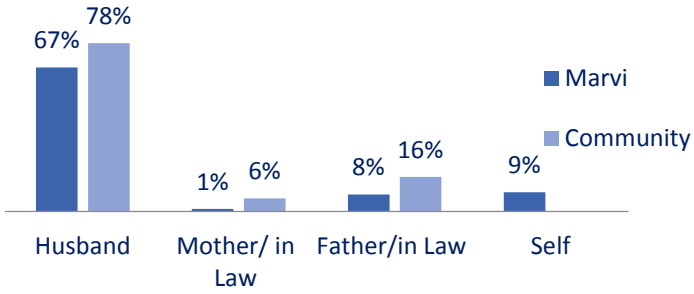


Household Head

94% of community households were headed by men (78% by husbands and 16% by fathers-in-law), while 6% households were headed by mothers-in-law.

A small but significant difference between Marvi workers and community women was that while majority of Marvi workers' households are headed by men but 9% of households were headed by Marvi workers themselves, by contrast none of community households are headed by the woman.

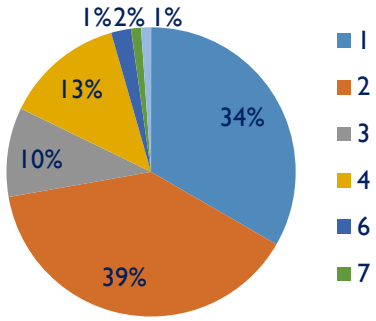
Figure 8. Household head



Financial situation

Two main categories emerged in Umerkot while exploring the sources of income, depending on the educational status of the people. Most of the educated individuals do white collar jobs while the uneducated or less educated do manual labor, mostly farming. The whole families work and live on the fields of land lords for food and some money.

Figure 9.Earning Members in a Marvi Household



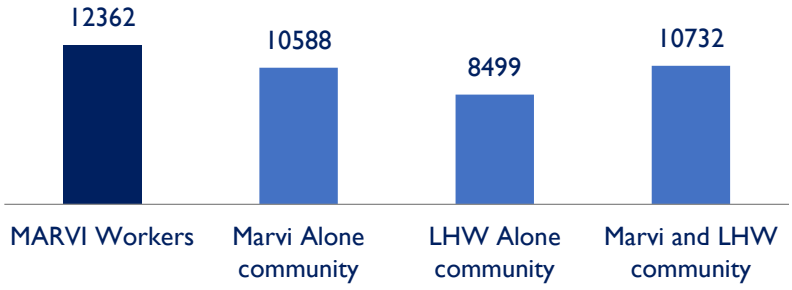
Women actively participate in earning a living for their families along with men. They work in the fields, rear live stocks, make traditional sheets of appliqué and embroidery i.e. rillee. 81% of community households have one earning member followed by two earning members (12%).

Marvi workers, besides doing all this, provide health care services to the community and earn from selling the medicines in addition to the monthly salary they are receiving from HANDS.

67% of Marvi households have more than one earning members. The Mean monthly income in Marvis households was PKR 12362, while mean monthly income of Marvi workers is PKR 3091.

The Mean monthly household income reported by community women was PKR 10176. The table below shows that Marvi households have greater monthly income then the community, it also shows that Marvis are generally targeting comparatively better off areas. The households with least household income are in LHW alone areas.

Figure 10.Household Monthly Income

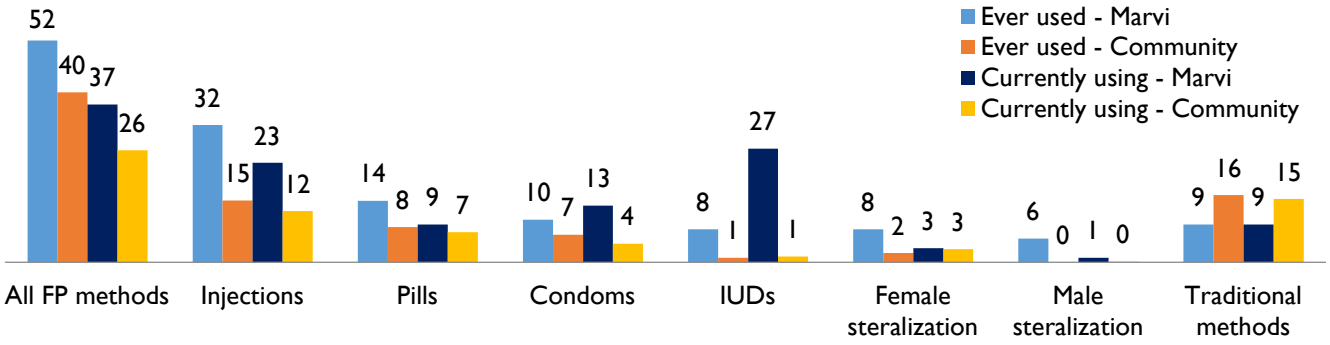


REPRODUCTIVE HEALTH: MARVIS' KNOWLEDGE AND PRACTICES

CPR among Marvis and their Clients

Marvis practice what they promote: 37% of Marvis use some form of family planning– compared to 26% of their clients. Far more of Marvis use IUDs (27% vs. 1% clients) or injections (23% vs. 12% among their clients). Among the clients, the commonest methods were injections, pills and condoms – all that are sold/ provided by Marvis and lady health workers.

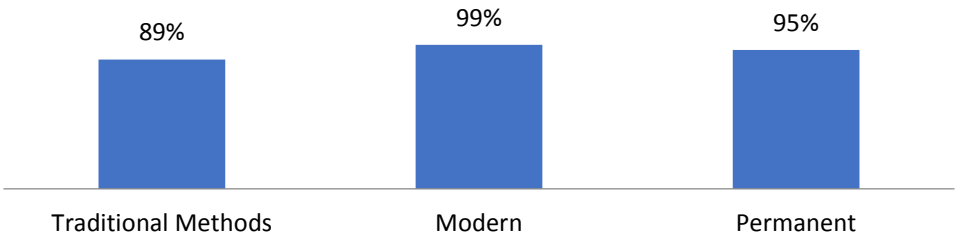
Figure 11.Use of Contraception by Marvis and the Community



Marvis' Knowledge about Family Planning and FP Methods

Generally Marvis have good knowledge about reproductive health and family planning issues. Almost all (99%)Marvis know about the modern methods of family planning and can distinguish between the permanent and short term methods.

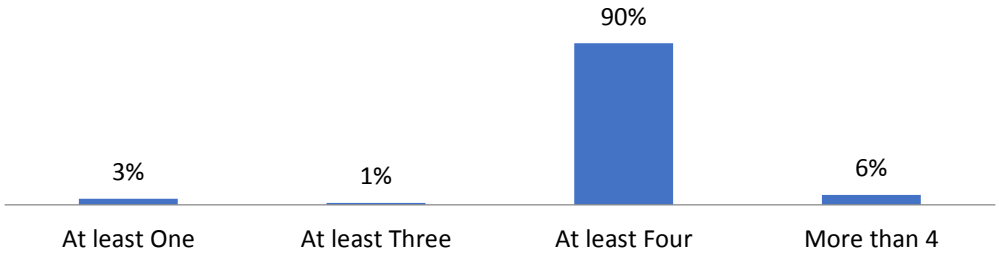
Figure 12.Marvis' Knowledge about Family Planning Methods



Antenatal Care

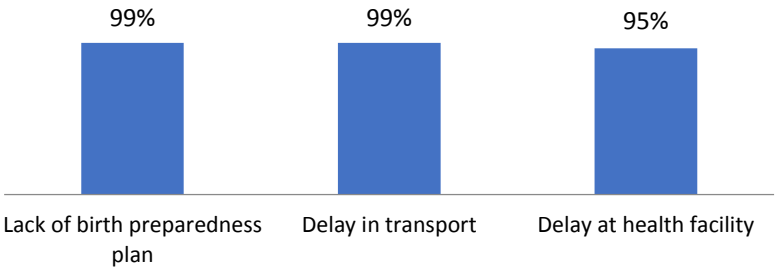
53% of Marvis had availed antenatal care 2-4 times during their last pregnancy and 63% had received tetanus toxoid immunization. Majority of Marvis have correct basic knowledge about ANC visits in 90% recognize that a women should have at least 4 ANC visits during her pregnancy and three delays contributing to maternal mortality.

Figure 13.Knowledge about ANC visits



Almost all the Marvis were aware of all 3 delays that lead to increased maternal mortality. 82% Marvis stated that 4 tetanus toxoid should be given to a woman during her pregnancy. The choice of 4 shots was placed as a misdirection in the questionnaire to see if the Marvis actually know the correct choice (2 during any one pregnancy and 4 in the lifetime, as per the WHO) or would they simply choose the highest number.

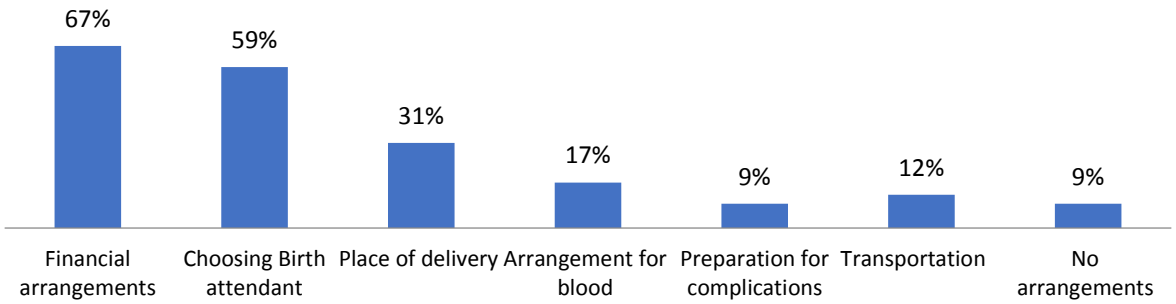
Figure 14.Marvis's Knowledge about 3 Delays



Birth Preparedness

Financial arrangements (67%) and deciding the service provider (59%) for delivery are the two top most arrangements done by the Marvis for their own deliveries followed by deciding place of delivery (31%).

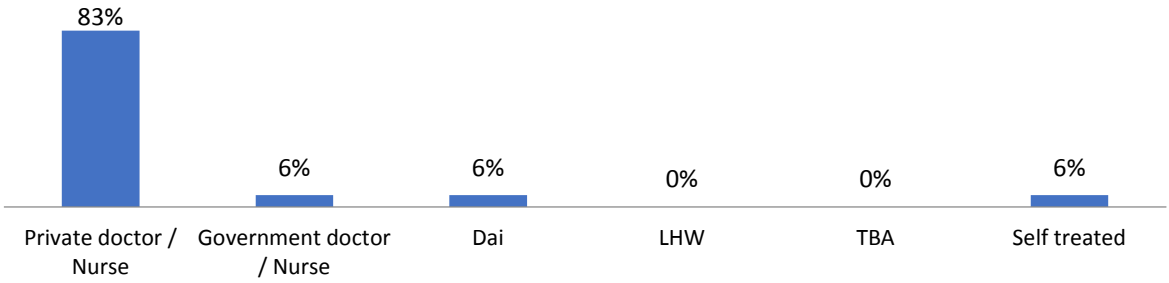
Figure 15.Birth Preparedness by Marvis



Pregnancy and Delivery

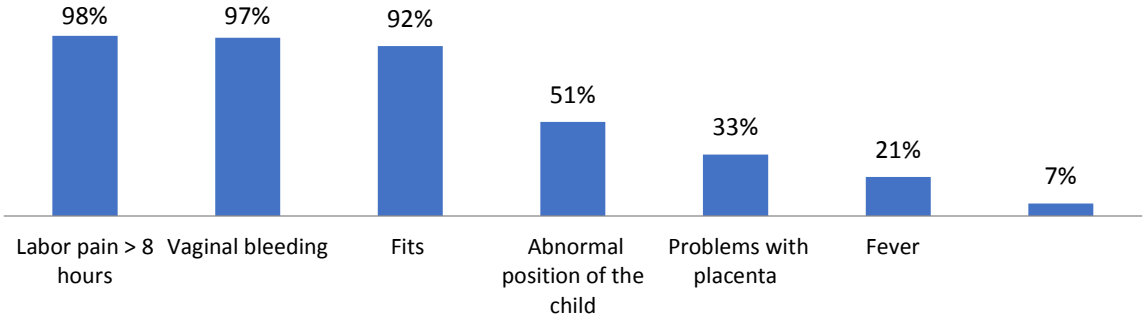
Very few Marvis anticipate having any complications during delivery (9%). However, 20% Marvis reported that they had complications during their last delivery; for which 83% had sought treatment from private service providers.

Figure 16.Treatment of Delivery Complications by Marvis



Extended labor pains, excessive vaginal bleeding and fits were three major complications identified by more than 90% of Marvis. Most of the Marvis have displayed the referral information at their clinics for the facilitation of clients.

Figure 17.Knowledge of Marvis about Delivery Complications



Postnatal Care

44% of Marvis received postnatal care and 22% reported having suffered from postnatal complications during their last delivery. An overwhelming portion (88%) sought treatment from private service providers while the rest had treated themselves. However, 86% feel that more than 4 post natal visits are required after birth, which is excessive and may be addressed in future training.

Neonatal Care Knowledge

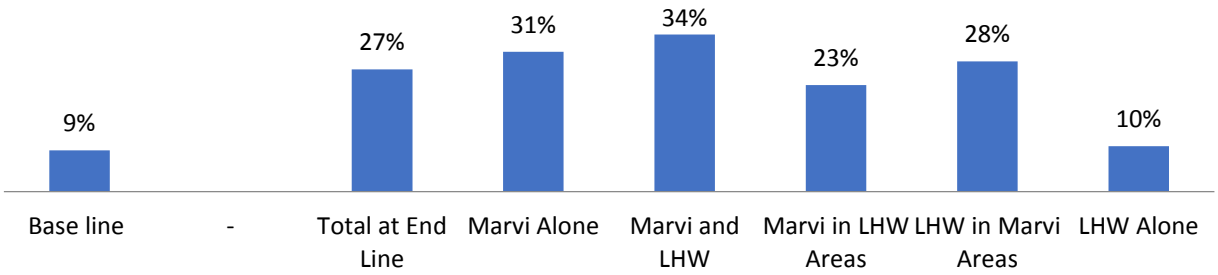
Nearly all Marvis are aware of the three most important components of neonatal care. 93% correctly identified that breastfeeding should begin within the first 2 hours after birth and 92% correctly identified that colostrum should be fed to the baby and that the first bath should be delayed for at least 6 hours after birth.

REPRODUCTIVE HEALTH: MARVIS' CLIENTS

Family Planning Usage

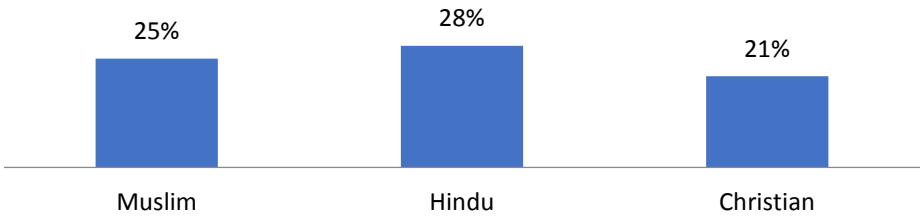
The CPR of Umerkot District, reported by baseline study was 9.3%. During the 5 year intervention period, the current CPR of the district has increased by nearly three-fold to 27%. Even more remarkably, CPR increased to 31% in locations served by Marvis alone and to 34% where both Marvis and LHWs serve together. By contrast CPR increased to only 10% in areas covered by LHWs alone. Differences between CPR by provider type are statistically significant atp: <0.001. As noted in the section on demographics, the areas served by the LHWs are the least well off and Marvis, who are driven by a profit motive, tend to go beyond their assigned areas. Together these two facts could mean that when Marvis go to a LHW area, they select better off localities. Regardless, the fact stands that when an LHW serves an area alone, the CPR is 10% and when Marvis enter that area, the minimum observed CPR was 23%. It should be noted that areas covered by neither a Marvi nor an LHW are few – a mere 2% of the sample.

Figure 18.CPR in Umerkot by Provider Type



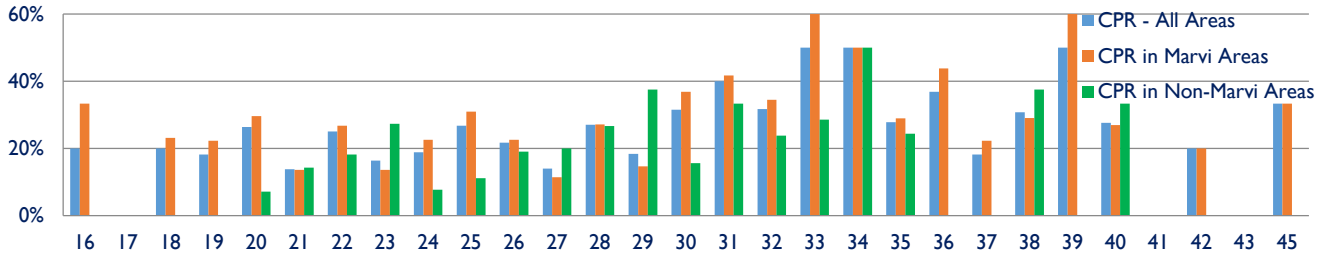
Furthermore, we found little difference in CPR among difference religious faiths (p: 0.501). Muslim and Hindu Marvis serve clients of other denominations just as well as those from their own faiths. This is explored more in the qualitative section.

Figure 19.CPR in Umerkot by Religious Distribution



In contrast to the national trends depicted in the Pakistan Demographic and Health Survey which show that FP use happens mostly among older women, we found that in Marvi served areas, CPR remains around 20% for women 18 or older and then picks up some more after age 30 years. In non-Marvi areas FP use starts much later and is more consistent with the national trend. This suggests that Marvis are targeting younger women earlier. It must be cautioned that since there are too few women in our sample for any one year age, specific comparisons of actual CPR for any particular age are not possible. Instead, the trend graph is depicted to provide some insights into these phenomena.

Figure 20. CPR in Umerkot by Age Distribution



The commonest methods in use – either for currently or ever - are short term ones i.e. pills and injections. The fact that current use and ever use are very similar suggests that most of FP use is recent. The fact that these changes may have been induced by the providers – particularly Marvis – may be inferred by the facts that the commonest methods are those that are provided by these providers and that traditional methods are exceedingly uncommon, suggesting that providers only promoted those methods that they supplied. We also found that despite the fact there is considerable religious, ethnic, caste and linguistic diversity in Umerkot, these factors don't affect CPR.

Figure 21.Contraceptive Mix Current and Ever Use

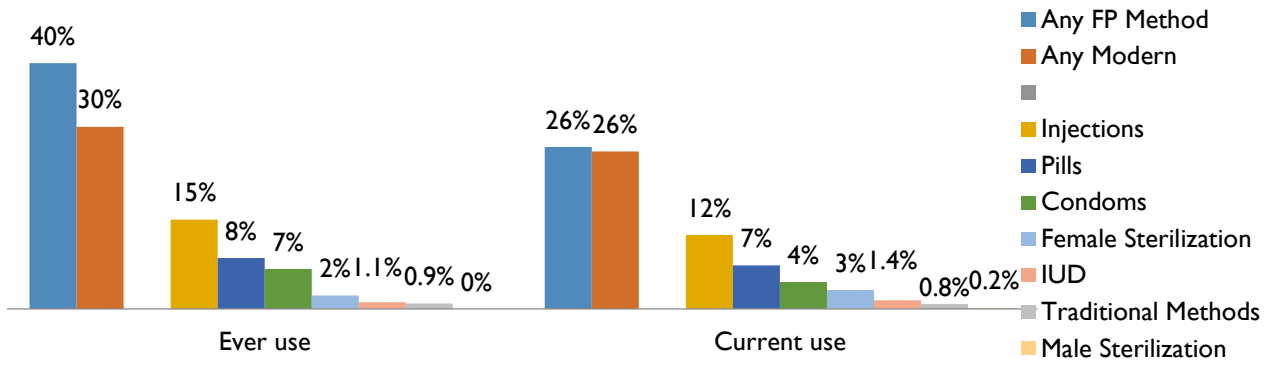
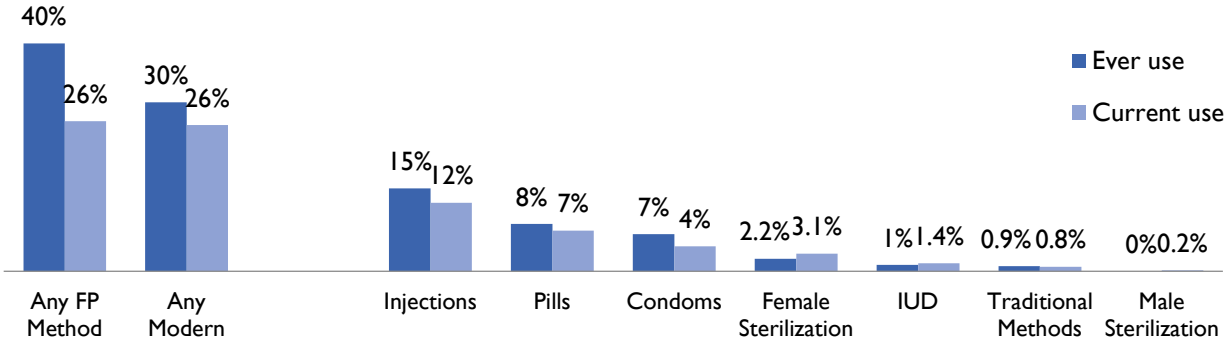


Figure 22.Comparison of Current and Ever Use For Individual Methods



Predictors of FP use were calculated using a **multiple regression** model (table 5). The model shows that FP is predicted by education of the woman to primary level (grades 1-5), belonging to a social organization, if their previous pregnancy was unplanned, being served by a Marvi but by no other

provider and surprisingly: living far from a health facility. Factors that were not significant in the model were: age of the women, age at either she or her husband were married, education of her husband, family income, number of pregnancies, whether the last pregnancy was planned or not and if they want more children (no desire for limiting). The explanations for the "distance" factor are discussed in the Discussion chapter.

Table 5.Summary of Predictors of Family Planning in a Multiple Regression Model

	Adjusted Odds Ratio	Lower Limit	Upper Limit
Education			
Illiterate			
Primary	1.742	1.103	2.753
Middle	1.241	.608	2.531
Secondary	1.449	.778	2.701
Intermediate	0.946	0.371	2.412
Graduate or higher	2.893	.939	8.912
Belong to any Social Organization	1.919	1.433	2.571
Last pregnancy was planned	1.429	1.091	1.869
Distance to a Health Facility(Ref: near)			
Distance Far	5.590	2.750	11.365
Don't know	4.462	2.197	9.066
Provider Type (Reference: LHW alone)			
Marvi alone	2.142	1.406	3.262
Marvi and LHW	2.145	0.999	4.605
None	1.566	0.619	3.963
Factors that were not significant: Age, Religion. Head of Household, Age at the time of marriage, Husband's age at the time of marriage, Husband's education, Income, Number of pregnancies, Last pregnancy was unplanned, Want more children and When do you want the next child			

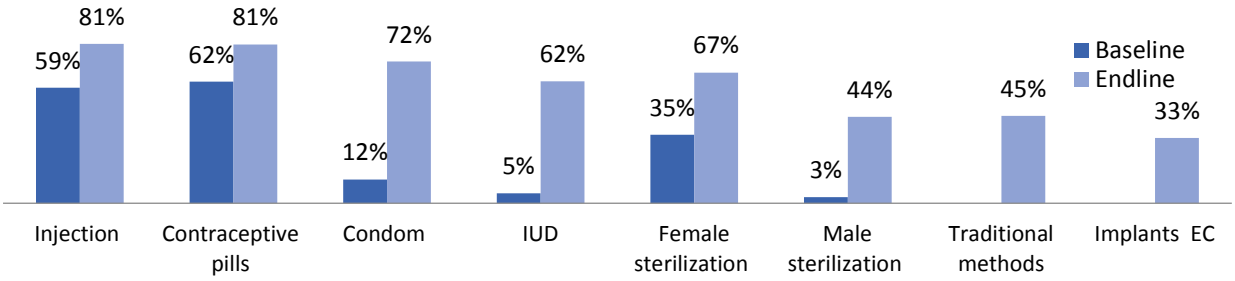
Duration of Use

The mean duration of use of current method was 6.5 (±5.5 SD) months. Clients who had been counseled when initiating FP had experienced fewer side effects compared to those who were not counseled and were less likely to switch methods immediately.

Family Planning Awareness and Practices

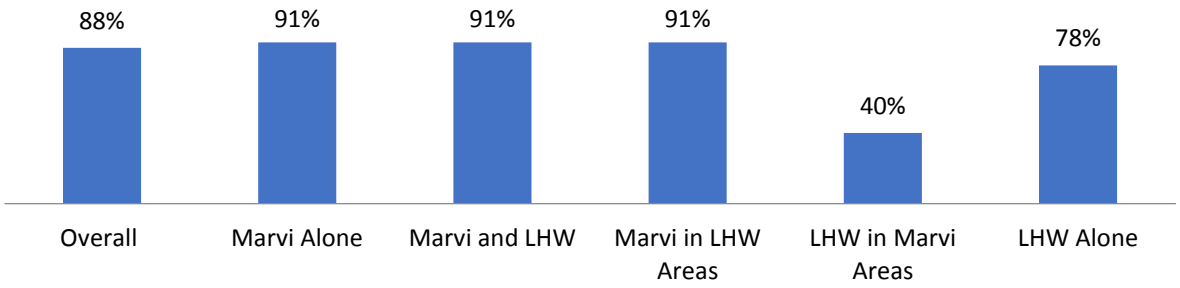
Majority of community women were aware of different modern as well as traditional contraceptive methods and this awareness has increased by an overall 30% since the baseline. As expected, the most awareness is for the injections and pills (81%) followed by condoms. Awareness of different FP methods does not vary much by the providers who were serving in the areas.

Figure 23.Comparison of Awareness of FP Methods



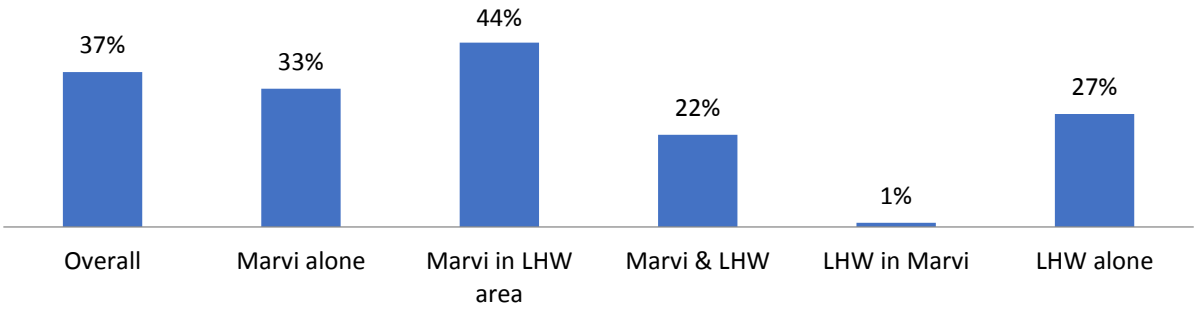
Counseling was reported highest (91%) in Marvi intervention areas i.e. Marvi alone, Marvi and LHW areas and Marvi in LHW areas. Overall 88% clients were counseled experienced.

Figure 24.Counseling vs Provider Type



Among users of FP, 37% of the clients reported experiencing some side effects from their FP method. It is unclear who counseled women from uncovered areas. The least side effects were seen among women from an LHW served area. These differences were statistically significant ($p<0.001$).

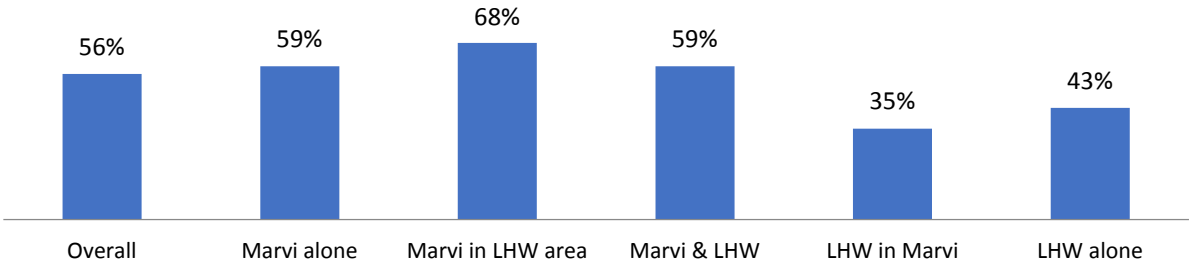
Figure 25.FP method side effects vs Provider type



Future Intention or Continuation of FP Usage

Among FP users 74% were satisfied with the method they were using. 56% of community women wanted to use modern contraceptive method in future. Women from communities served by Marvis, LHWs or both show a significantly higher intention of using contraception in future. For 45% of respondents, FP use was decided together with their spouse.

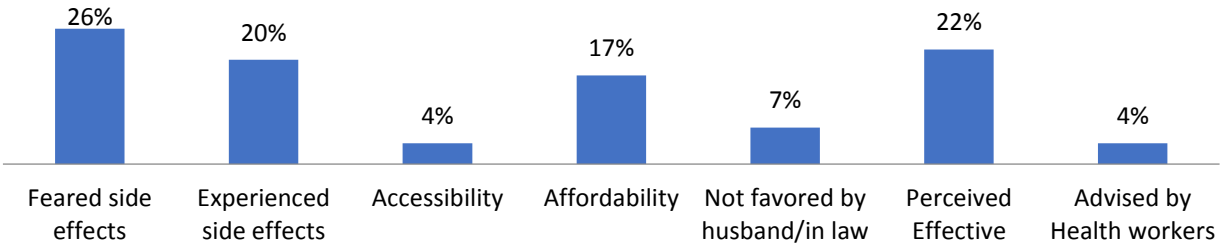
Figure 26.Future intention of FP use



FP Discontinuation:

The commonest reason for stopping any contraceptive methods were side effects related (fear: 26%, actual experience: 20%). Perceived lack of effectiveness and advice by healthcare workers accounted for another quarter of discontinuations while access issues (physical access or affordability accounted for another fifth).

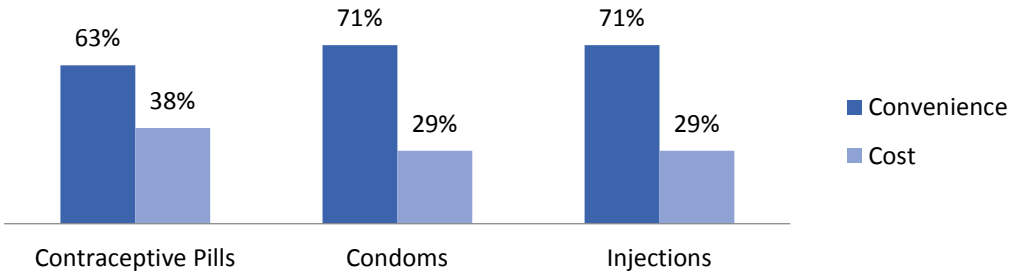
Figure 27. Reasons for FP Discontinuation



Source of FP Supplies

The main source of providing FP methods to the women in community is a Marvi worker as reported by two-third (69%) of the community women; while LHWs account for only of 14% of FP supplies. Preference for Marvi workers is driven by convenience (63–71%). The commonest driver of particular FP methods was affordability (50%) followed by effectiveness of the method (32%).

Figure 28.Reasons for buying FP Supplies from a Marvi Worker



Cost of Contraception

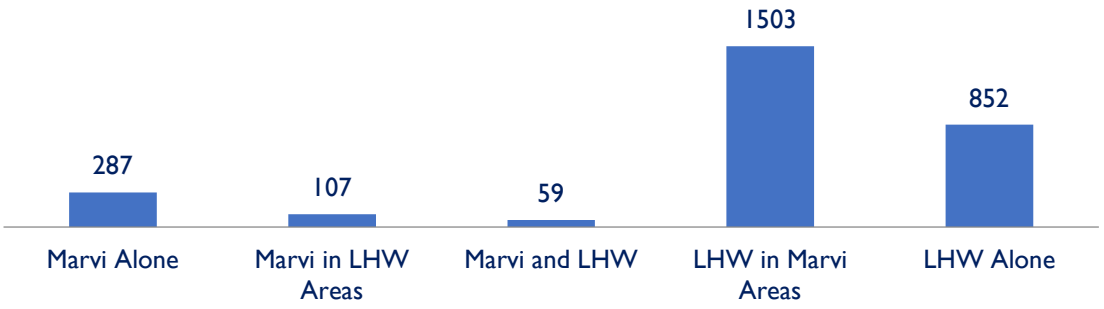
The mean cost of procuring a modern contraceptive method was 199 rupees (SD: ± 630) for the last time and PKR 686 (SD ± 4606) for the year. The community was asked to recall the costs they paid the last time. The costs for pills and condoms are for a month and for injections, IUD and sterilization the costs are for the last time. As such these costs are consistent with what is known about costs of these methods. Annual cost was estimated by multiplying short term methods with the number of times they would be procured in a year and counting longer term methods as being procured once.

Table 6.Cost of Contraception Methods

Methods	Mean cost (PKR) for the most recent procurement	Estimated Costs of the Method for a Whole Year
Pills	93	1116
Condoms	63	756
IUDs	286	286
Injections	297	1188
Female Sterilization	3751	3751

As expected, the costs are low where Marvis serve, since Marvis provide subsidized products. Although LHWs are supposed to provide free commodities, they often run out of commodities to give and thus their costs likely represents at least some methods procured directly from open market.

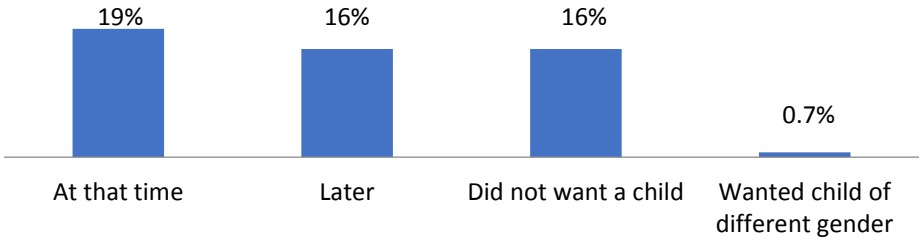
Figure 29.Cost of FP to Clients by Provider Areas in PKR



Reproductive Intentions

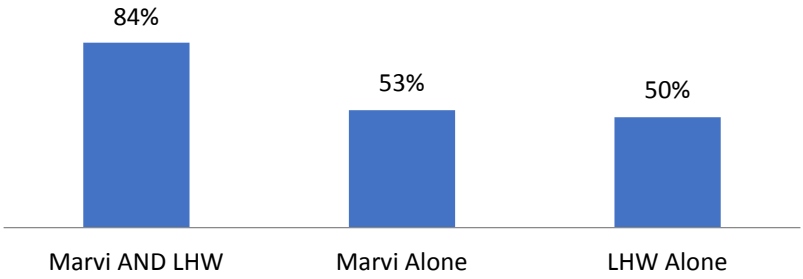
While 61% women reported that they wanted to have more children, only 19% felt that the timing of the last pregnancy had been right; 16% would have preferred to not have a child at all and another 16% would have preferred to have delayed the child.

Figure 30.Planning During the Previous Pregnancy



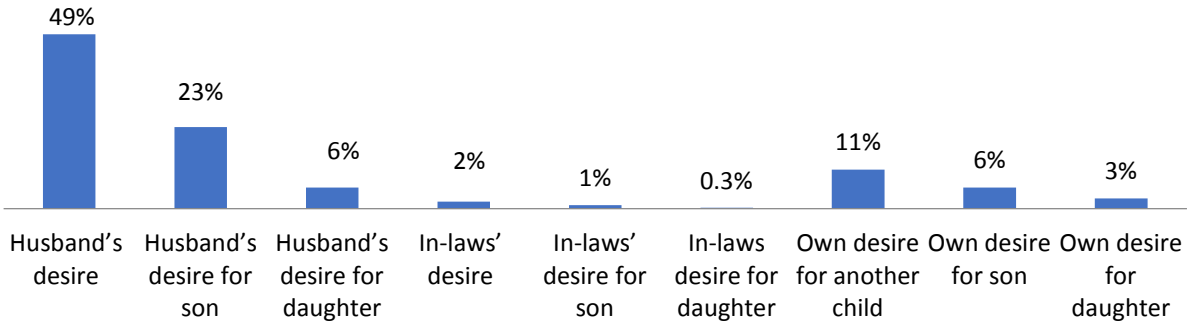
The percentage of planned pregnancies was highest in the women served by both Marvi and LHW whereas the women served by either LHW or Marvis alone planned around half their pregnancies.

Figure 31.Planned pregnancy vs Provider Type



The mean ideal age of girls for marriage was considered as 18.9 years (SD± 2.5). Both women and their husbands felt that an ideal family had 4 children. The intention to have another child was largely driven (81%) not by the women but their family members, mostly by the husbands (78%). Although gender of the child was not a major contributing factor for the intention of having another child, but 29% reported the intention to be driven by the desire to have a son.

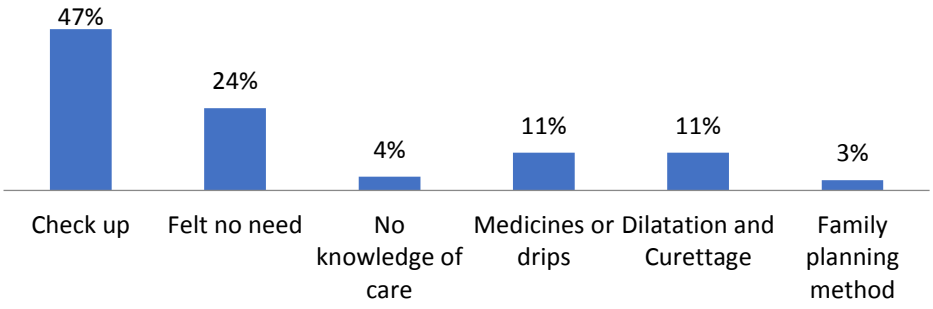
Figure 32. Reasons for Wanting More Children



Abortions or Stillbirths

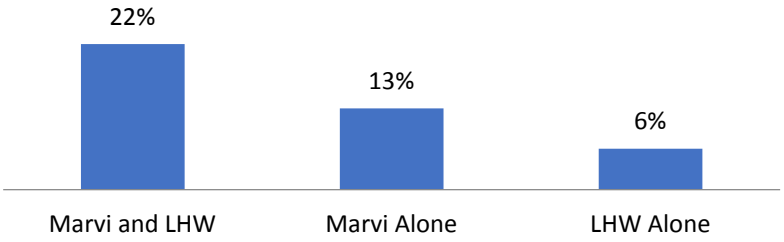
Around 436 women (26%) reported having had an abortion or stillbirth ever in their lives. Of these, 47% women had received a checkup after the abortion/ still birth. Only 3% of these had received a family planning method following the abortion.

Figure 33.Care Received After Abortion or Stillbirth



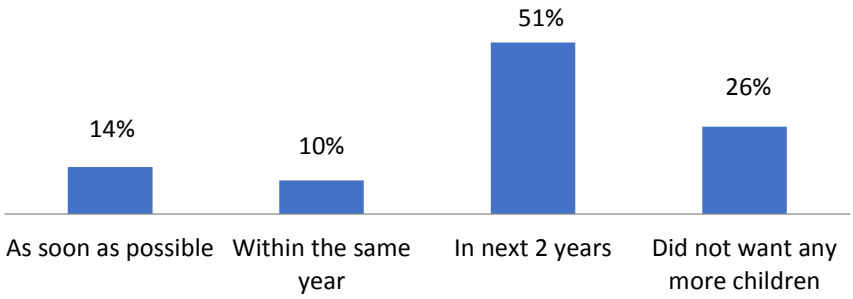
Checkup following abortion was the highest in the areas where Marvi and LHW both serve and the lowest (6%) where only LHW serve.

Figure 34.Post Abortion Check-Up by Provider Type



Among women whose last pregnancy had ended in stillbirth or an abortion, 24% would like a child within the same year, 51% in the next two years and 26% didn't want another child at all.

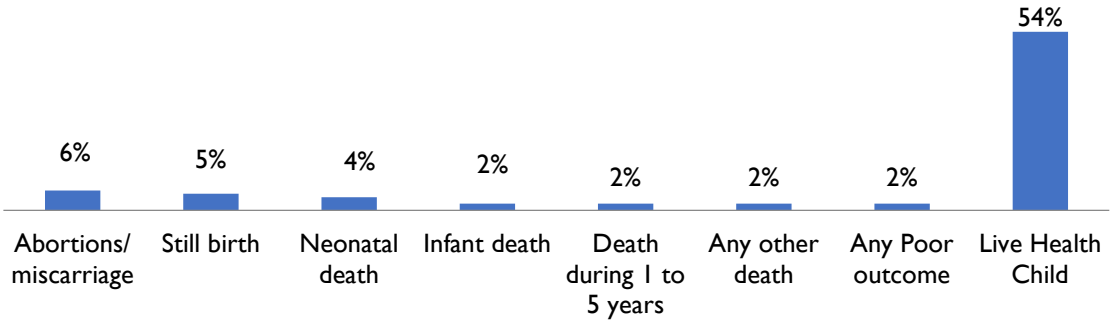
Figure 35.If they had a Stillbirth or an Abortion, When Do They Want the Next Child



Reproductive History

Women report being pregnant a mean of 3.6 times (SD ± 2.063), down from 5 at the baseline. Majority (54%) of the women said that their last pregnancy was planned and ended up in live birth; however, 21% of the pregnancies ended in abortion, still birth or death. About 71% had alive male and 68% had alive female children.

Figure 36.Outcome of the Last Pregnancy



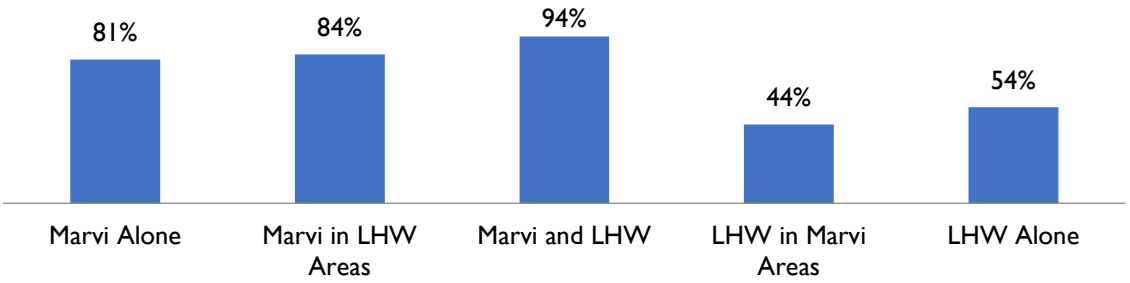
The average number of children per women has decreased from 5 in baseline to 3.6 children in end line; while the spontaneous abortion has decreased by 10%, from 16% to 6%.

Antenatal Care (ANC)

Around 76% of the women reported availing at least one antenatal visit during their last pregnancy – an increase from 71% at the baseline. The frequency was the highest among women served by Marvis (>80%), particularly when they are served by Marvis and LHWs (94%).

Marviswere the main source of motivation for seeking medical advice for any antenatal and delivery complications as reported by 39% of community women. On an average a women went to a provider three times during pregnancy (mean: 3.68 ± 2.3 SD) and 55% of these visits are to a Marvi; and 98% of these womenreported that they were satisfied with the services and intended to avail them again.

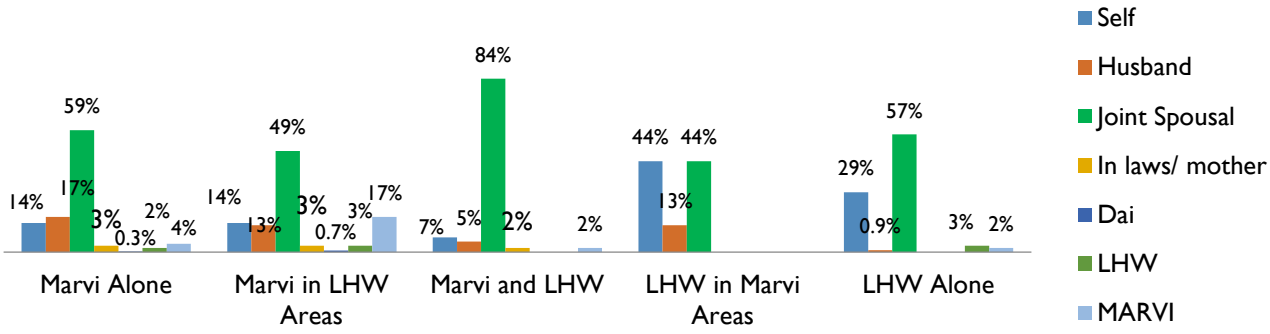
Figure 37.ANC visit by Provider Type



Decision Making for ANC:

The decision to seek antenatal care was mostly a joint spousal decision. The joint decision making has increased since the baseline when it was only 68%. In the areas where Marvi and LHW both are working the reported joint decision making was highest at 84%.

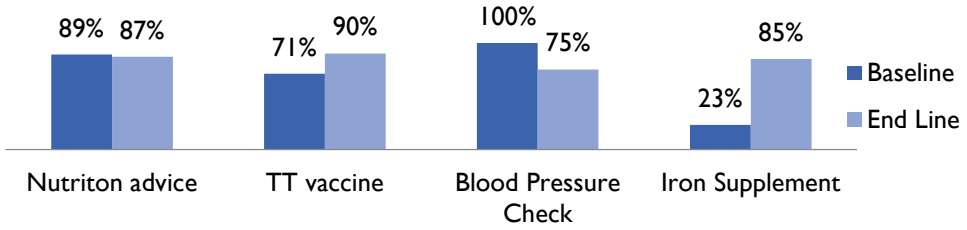
Figure 38.Decision-Making for ANC by Provider Type



Quality of ANC services:

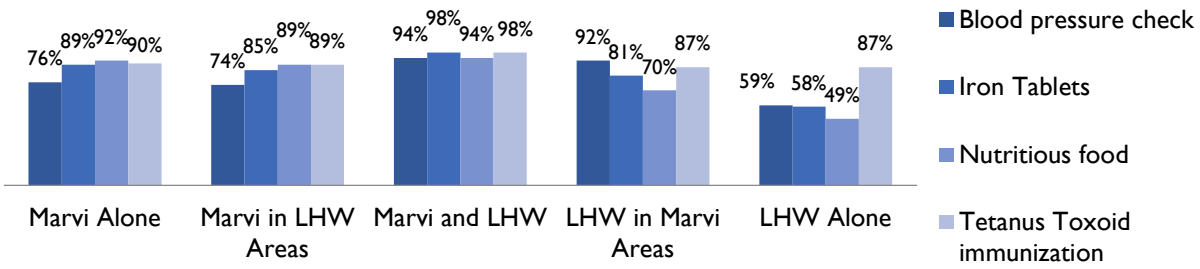
The National Health Policy of Pakistan 2001 and the UNFPA suggest that quality of care can be assessed by the number of antenatal visits, type of provider, provision of iron supplement, nutritional advice and tetanus toxoid; and measurement of blood pressure. Clearly, overall quality of ANC has risen markedly over baseline in Umerkot all indicators were recorded for at least 75% of the women.

Figure 39.Quality of ANC Baseline vs Evaluation



Comparing these differences across provider types describes an even more important point. While on an average 90% women received TT vaccination, of these 70% of the women have been given TT vaccination by Marvi workers. The percentage of TT vaccination has increased since the baseline when it was 71%. Iron tablets and nutritious foods – both commercial items that Marvis market – are much higher for Marvi served women.

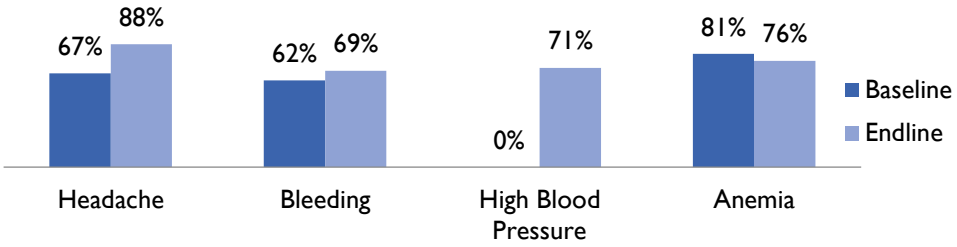
Figure 40.ANC Services Availed by Provider Type



Knowledge of Antenatal Danger Signs

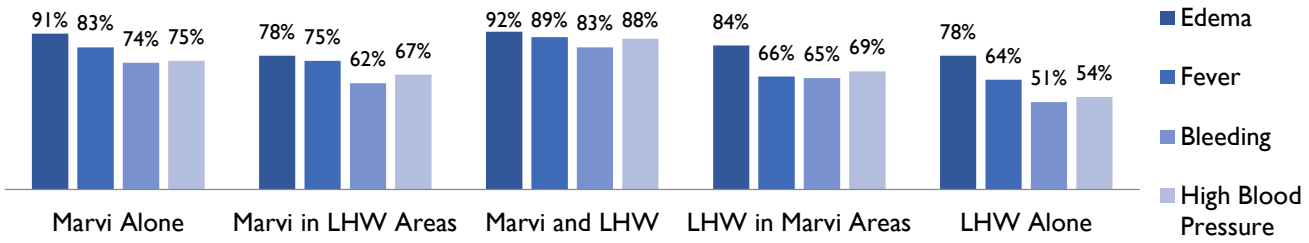
Almost 70% women identified the four main danger signs of pregnancy; hence the recognition of danger signs has increased slightly since the baseline survey when it was 64%. In contrast to baseline when anemia was the only danger sign that was reported by 81% of the women, at end line, most women reported edema (hand, feet, and face) and fever among other danger signs. Overall awareness and knowledge about the Antenatal complications has increased.

Figure 41.Awareness of Antenatal Danger Signs



Comparison of awareness across provider types tells a similar story. Awareness is very high in Marvi or combined areas and the lowest where LHWs work alone. Awareness is the highest for edema and the lowers for bleeding of high blood pressure.

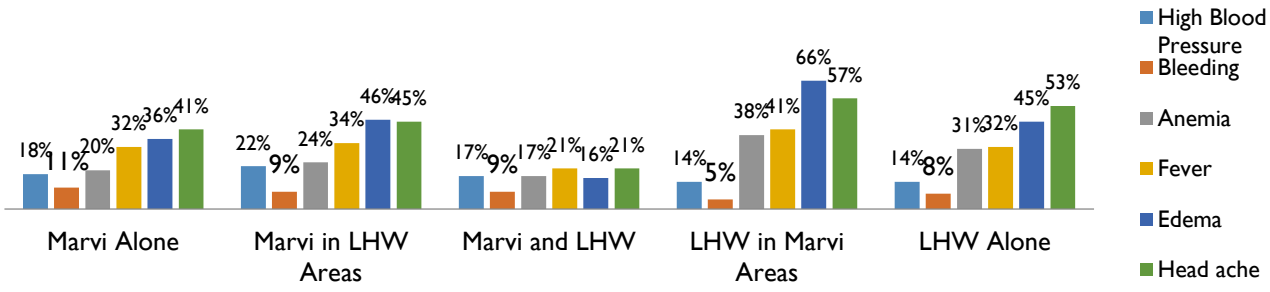
Figure 42.Awareness of Antenatal Danger Signs by Provider Type



Antenatal Complications

The overall incidence of antenatal complications varies complication type and provider distribution. Vaginal bleeding during pregnancy is reported the least and swelling of hand, feet and headache are the reported the most. All complications are seen the most in LHW areas and the least in Marvi areas. As seen previously, the least complications are reported where both LHWs and Marvis work.

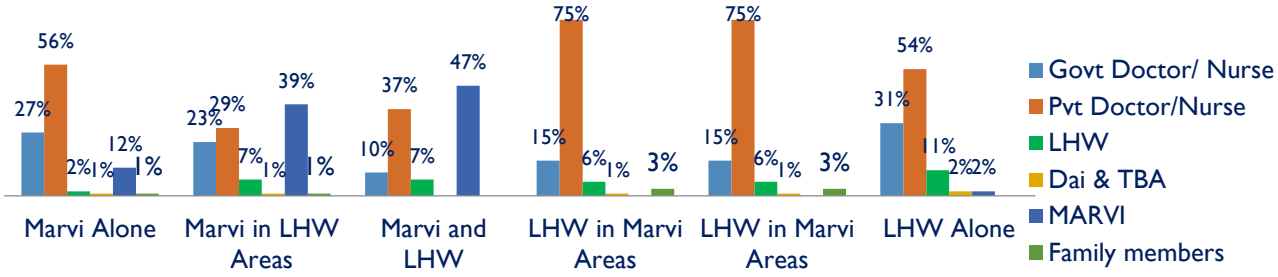
Figure 43.Incidence Of Antenatal Complications by Provider Type



Care seeking for Antenatal Complications

Private doctors are the most common care provider for antenatal complications and account for over 50% of the care provided. Public sector providers including LHWs are sought infrequently. Marvis themselves are sought often.

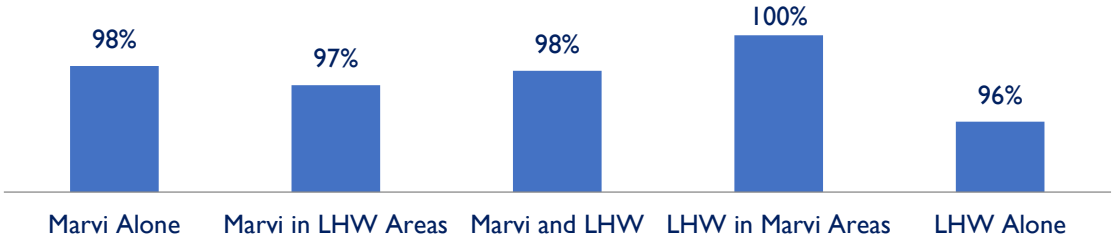
Figure 44.Care seeking for Complications by Provider Type



Client Satisfaction with Antenatal Services

Nearly all women reported very high levels of satisfaction with their service provider and showed the intention of going to the same provider in future.

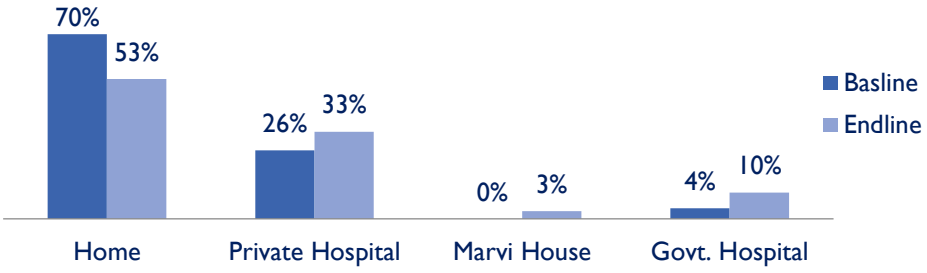
Figure 45.Client Satisfaction by Provider Type



Delivery Care

Compared to the baseline, the proportion of home deliveries has decreased from 70% of all births to 53%. Most of this increase is in both public and private doctors, but 3% of deliveries are also being conducted by Marvis. In all facility births increased from 30% to 46%.

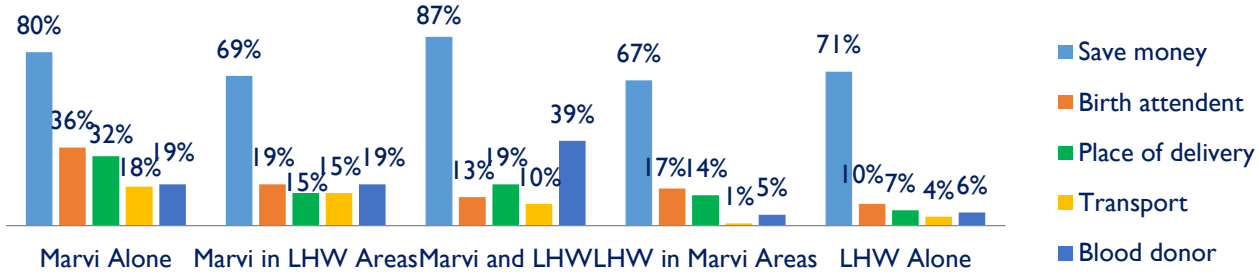
Figure 46.Place of Delivery



To improve the outcome of pregnancy and delivery Marvis were trained to promote birth preparedness and increasing awareness regarding the danger signs. Since the main consideration for

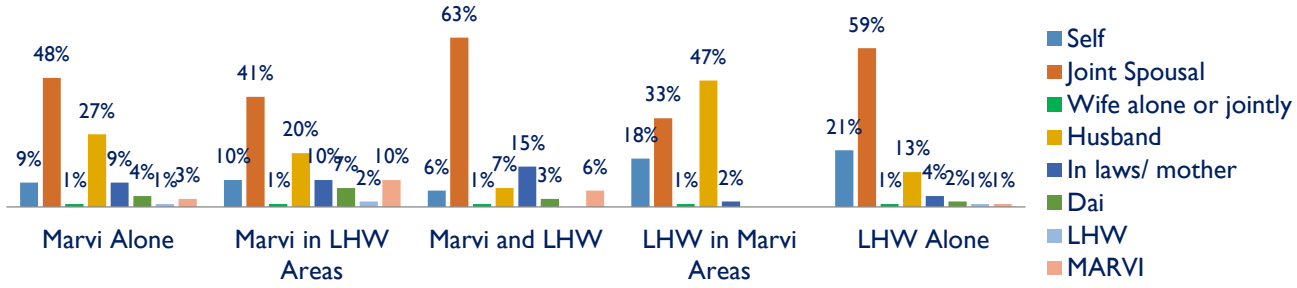
most families is the financial burden of births, saving money was the main planning by all families. Selection of an attendant or a place of delivery were the next most common item and was somewhat higher among women served by Marvis.

Figure 47.Delivery Planning by Provider Type



The decision for the place of delivery is most often taken jointly, more so in areas served by LHWs than otherwise. The wives involvement in decision making is very high, reaching 80% in LHW alone areas.

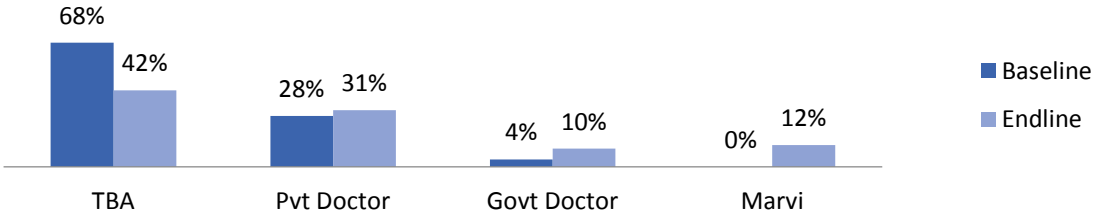
Figure 48.Decision of Place of Delivery vs Provider Type



Delivery Assisted by Provider Type

As expected from the above observation about the location of deliveries, while Dai (traditional birth attendants – TBA)are still the main provider, their role has diminished since the baseline. Public and private sector doctors and Marvis who conduct deliveries have taken over some of the role of TBA.

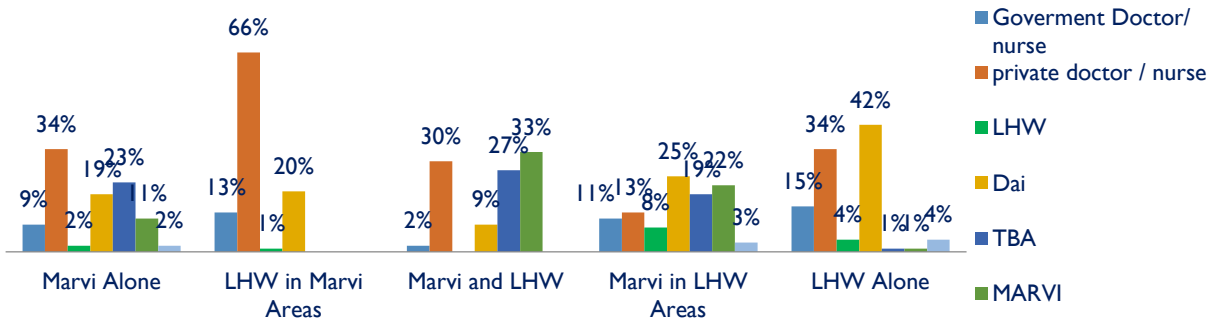
Figure 49.Birth Attendance



At least some Marvis were TBA when they were inducted into the Marvi program. Perhaps this is reflected in the fact that a sizeable minority of deliveries in either Marvis alone or Marvi plus LHW covered locations were by Marvis. Marvi covered locations have a high proportion of private provider

assisted deliveries suggesting that Marvis are developing their business networks that allow them to referral clients to other, higher level providers. As was seen from the qualitative many of these are based on commercial terms.

Figure 50.Birth Attendance vs Provider Type

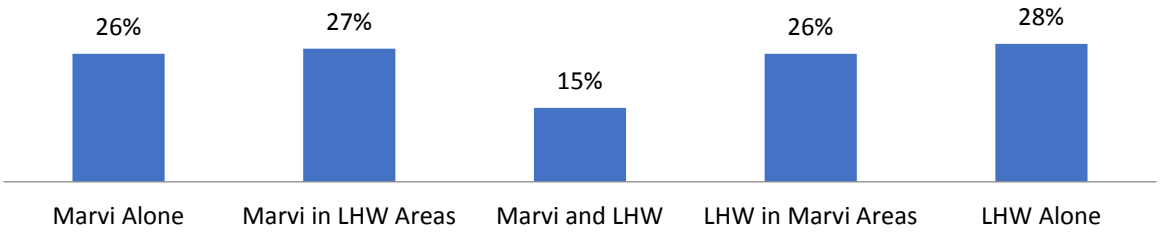


Delivery Complications

Almost 70% of the women knew about seven most important danger signs i.e. prolonged labor, vaginal bleeding, abnormal position of fetus and placenta, fits and abnormal fetal heart rate. The knowledge about danger signs has risen by 20%.

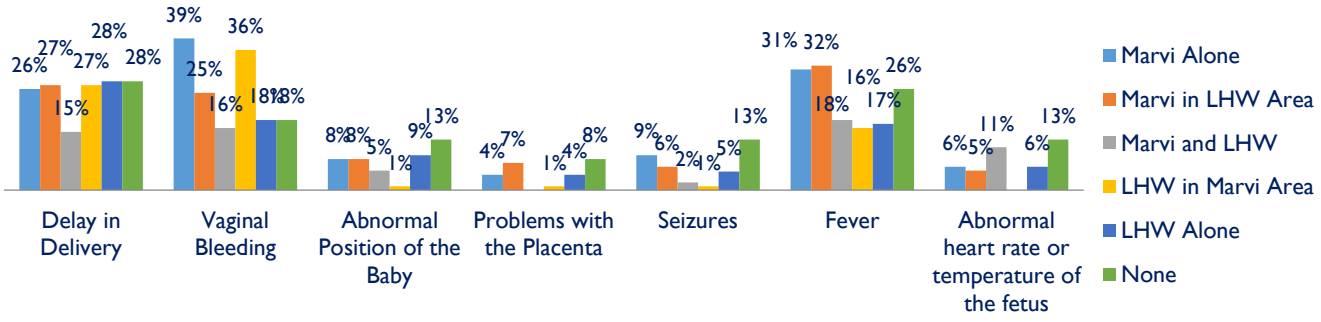
Around a quarter of the women reported experiencing at least one complication during their last delivery. This was roughly similar in all areas except those served by both Marvis and LHW.

Figure 51.Incidence of Delivery Complications by Provider type



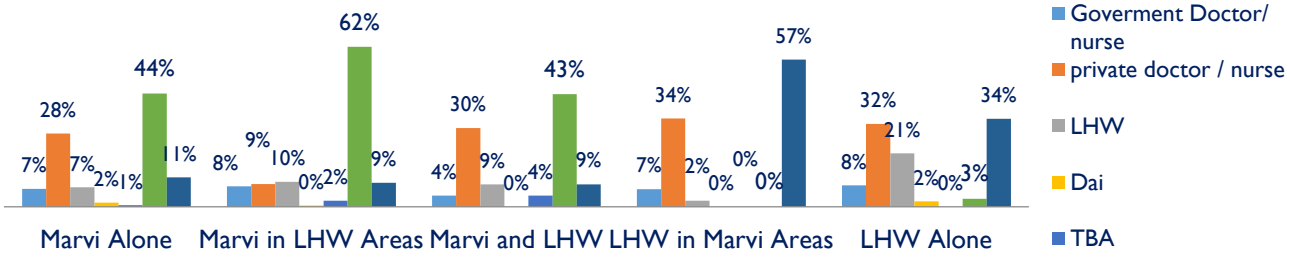
Delay in delivery, fever and vaginal bleeding were the most commonly reported complications experienced by women during delivery. Fever and vaginal bleeding were reported most commonly in areas served by Marvis. This may be related to somewhat higher level of awareness of these complications in these areas which may be due to awareness imparted by Marvis.

Figure 52.Incidence of Delivery Complications vs Provider type



Women from almost all areas reported complications. They were prompted to seek treatment most commonly private doctors (equally in all areas) or by Marvis (where they serve).

Figure 53.Who Prompted the Family to Seek Treatment for These Complications



POSTNATAL CARE (PNC)

73% women reported availing postnatal care after their last delivery and of these 97% reported being satisfied with the PNC services provided to them irrespective of the provider. Care seeking was the highest among women living in areas served by the Marvis. Marvis have also emerged as a key postnatal care provider, having taken over from TBA. The role of doctors – public or private – has also increased.

Figure 54.Postnatal Care Seeking

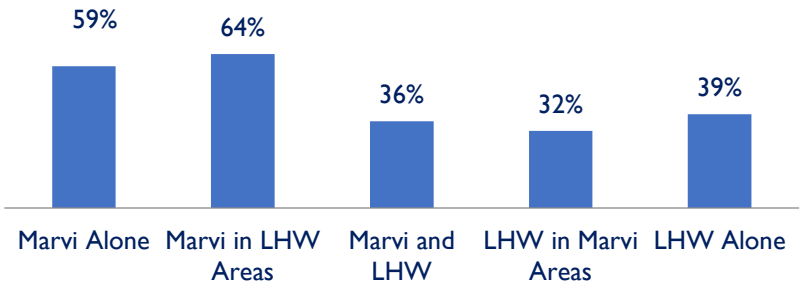
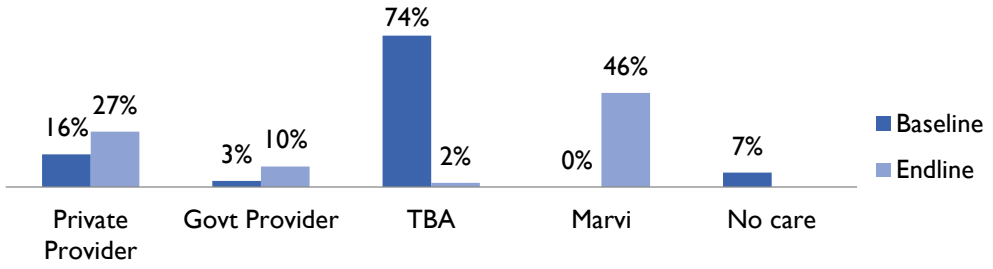


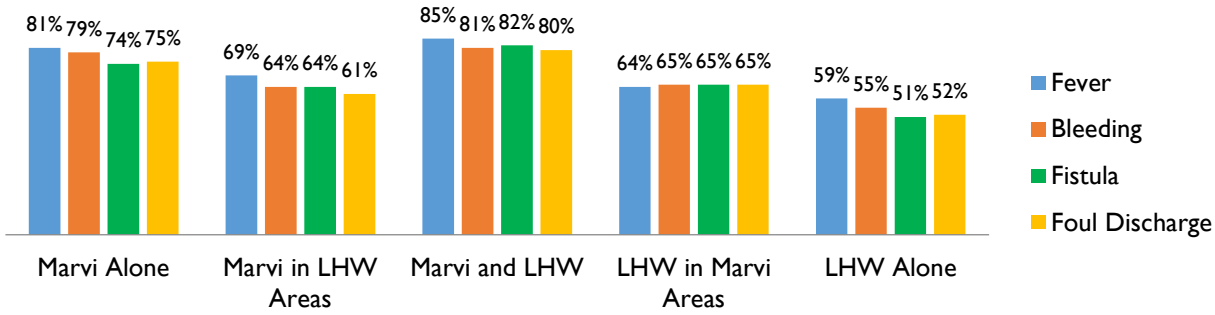
Figure 55.Provider from PNC was Sought



Knowledge of Postnatal Complications

The overall knowledge about the postnatal complications is good ranging from 80%-87% in Marvi & LWH area to 70% - 77% in Marvi alone area. The PNC complication knowledge is lowest in LHW areas i.e. 56%. – 62%.

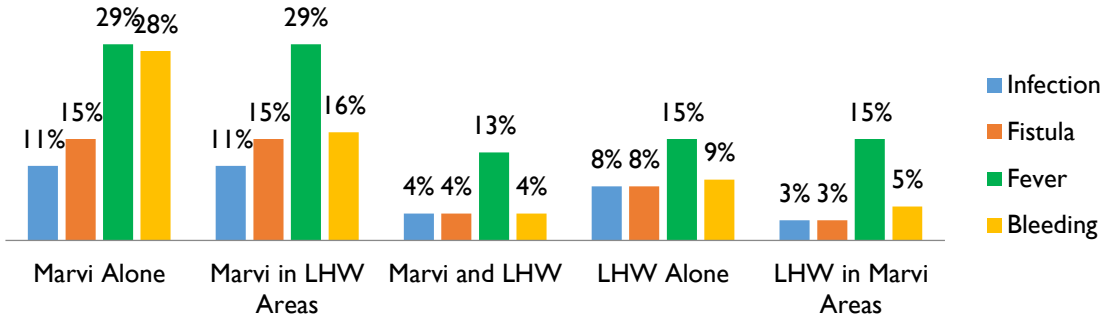
Figure 56.Knowledge of Postnatal Complications vs Provider Type



Experiences and Practices Regarding Postnatal Complications

The most common reported PNC complication is fever and vaginal bleeding after delivery. The areas where Marvis are working have the highest reports of postnatal complications. It is unclear if this is due to higher level of recognition of complications in these locations or some other factor including the fact that at least some Marvis have also started delivering babies.

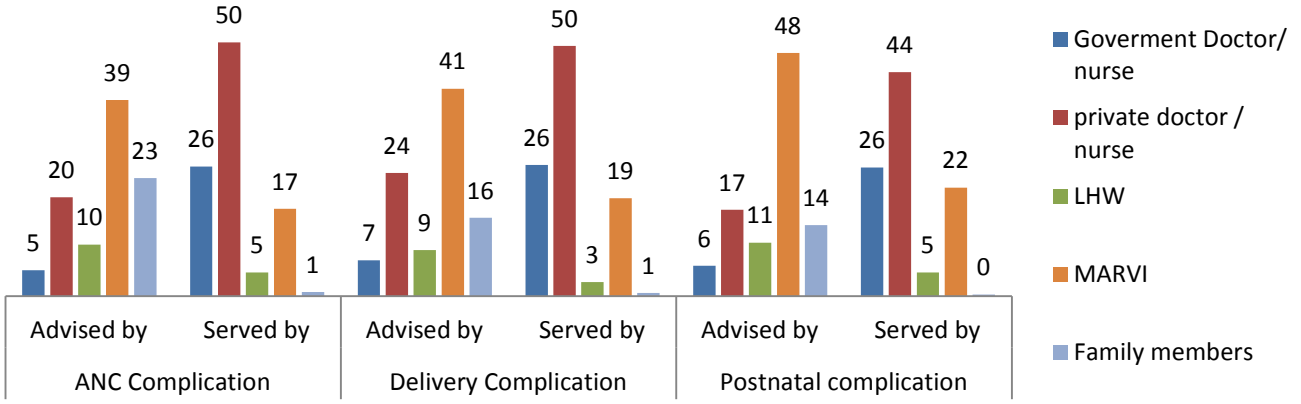
Figure 57.Actual Experience of Postnatal Complications



Counseling and Management of Complications

The counseling regarding ANC, delivery and PNC complications show that most of the women are counseled by Marvi regarding complications, but for treatment of the complications women 50% women are going to Private doctor/nurse and 25% are going to Government doctor/nurse.

Figure 58. Advice for Complication Management



INFANT HEALTH

Feeding Practices

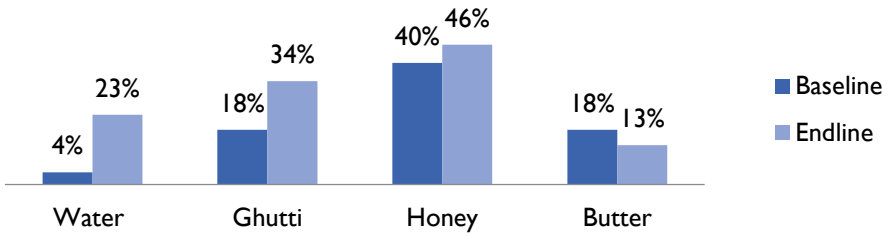
Almost all the community women (96%) reported breast feeding their last child. The mean time for initiation of breast feeding was 2.51± 3.27 hours after delivery. 92% of respondents fed 'Colostrum' to the newborns.

Women reported starting breastfeeding4.49±14.7 days after delivery. Breast feeding was continued till age of 11.83±10 months. The breast feeding practice was generally higher in all the areas, and no specific difference was seen in context to the provider type. The area where Marvi and LHW both were working breast feeding was reported by 100% of the mothers which highlights the fact that breast feeding was reinforced by two different providers and together it has led to better performance in that areas compare to others.

Pre-Lacteal feeding practices

The practice of giving pre-lacteal water, honey, Ghutti, butter, fresh/powder milk has persisted. The practice of giving honey as first feed is highest and stands at 46% whereas Ghutti and water is practiced by 34% and 23% respectively. Pre-lacteal feeding is the least common in areas where both Marvi and LHW serve.

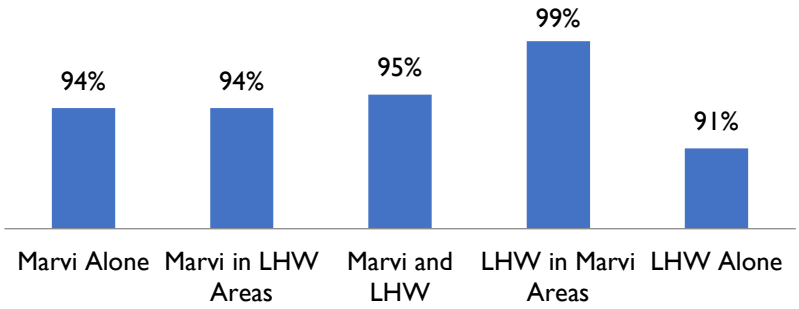
Figure 59.Comparison of Pre-lecteal Feeding



Vaccination:

94% of newborns had received vaccination at birth (usually BCG) as reported by the mothers. The immunization percentage was generally reported higher in all the areas irrespective of the provider type.

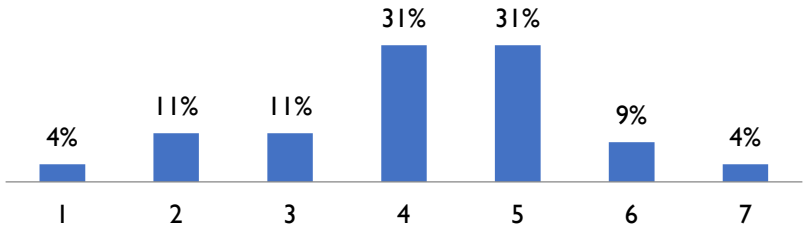
Figure 60.Vaccination vs Provider type



BEING A MARVI WORKER

Marvis included in the study were from both phases of HANDS' intervention but the experience as Marvi worker ranged from one to seven years. This high range likely reflects the fact that most Marvis are illiterate and any estimate of time is merely a guesstimate.

Figure 61.Marvis' Recall of Years Working as a Marvi

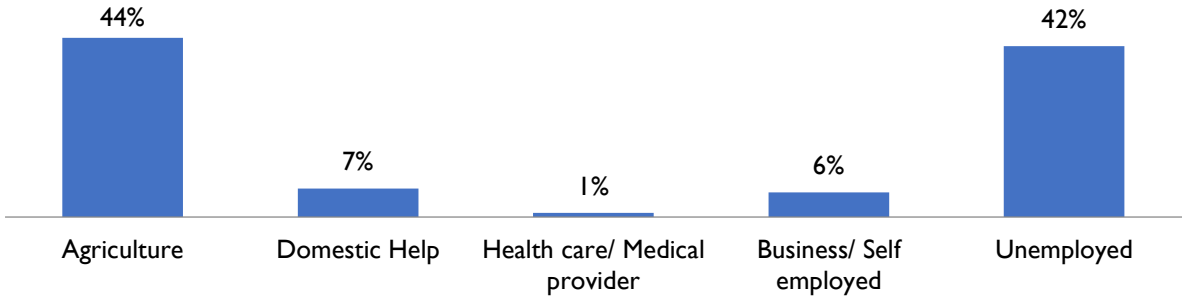


The main reason stated by Marvi workers of joining the intervention was to help other people followed by family persuasion.

Marvis' Occupation

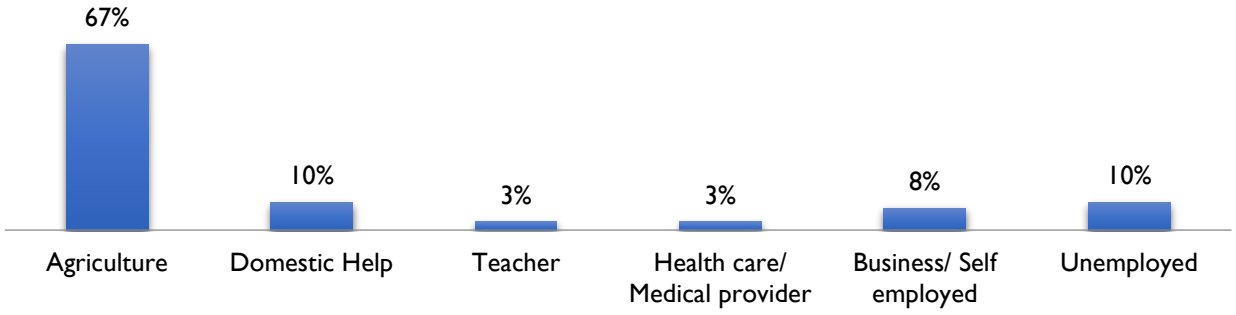
Nearly half (42%) of Marvis were unemployed before becoming Marvi workers. Among those who work, most participate in agriculture or farming.

Figure 62.Occupation Before Becoming MARVIs



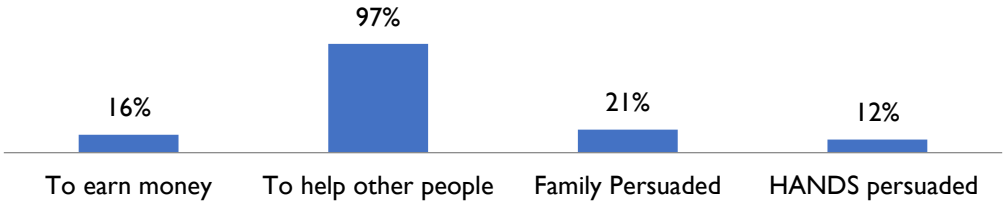
Almost half (48%) of the Marvi workers are doing part time work, with their Marvi responsibilities, as well.

Figure 63.Marvis'Part Time Work



The main reason for becoming a Marvi was to help others. At least in the beginning, financial or other motivations play a very minor role in becoming a Marvi.

Figure 64.Reasons for becoming a Marvi

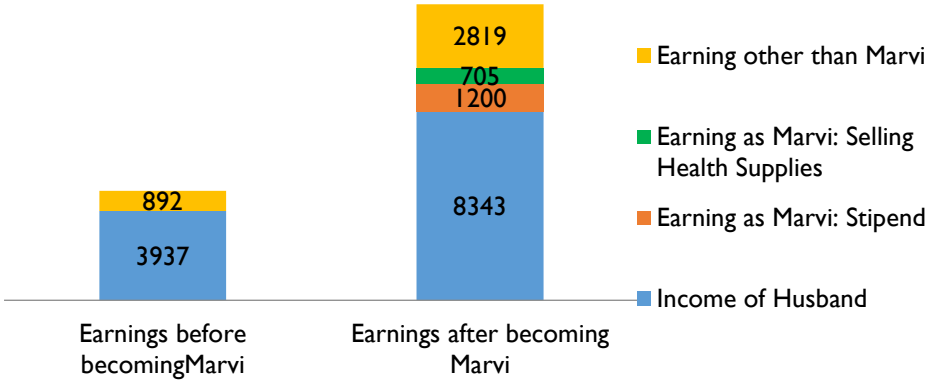


Economic Benefit of Marvi Work

The Marvi intervention has proven economically beneficial for the workers. Prior to becoming a Marvi worker, these women earned on average PKR 892 (range: 0-5000). The average income of a Marvi worker now is PKR 1905 (range: 1100-15000). However, since becoming a Marvi, she has become entrepreneurial enough to develop other sources of income and earns on average PKR 4724 (range 500-25000) per month. This means that her overall income has essentially increased 5 fold and that her Marvi earnings account for only a third of her total income.

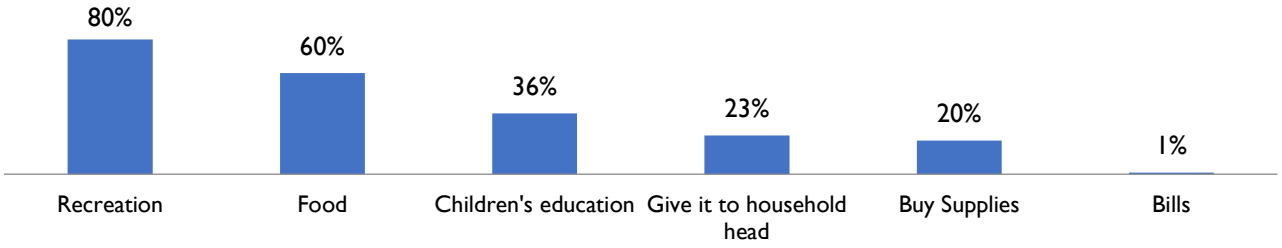
The facilitation effect is also seen on the household in general. While not only is the Marvi contributing towards her household's income, other income for the household (usually her husband's earnings) has also nearly doubled. This is a very interesting phenomenon and needs to be explored further.

Figure 65.Marvi Workers' Monthly Household Income



A key measure of a Marvi worker's empowerment is how she productively she uses the money she earns. A large portion of this money is spent recreation (80%), followed by food (60%) and children's education (36%). The pattern suggests that the extra income has allowed a Marvi the means to spend on her own priorities (i.e. wellbeing) and has also given her the independence to do so. Though this study did not explore the outcomes/benefits on children, future studies should review changes in nutritional outcomes, school enrollment and retention and household level wellbeing for Marvi households.

Figure 66.Uses of the Additional Income by Marvis

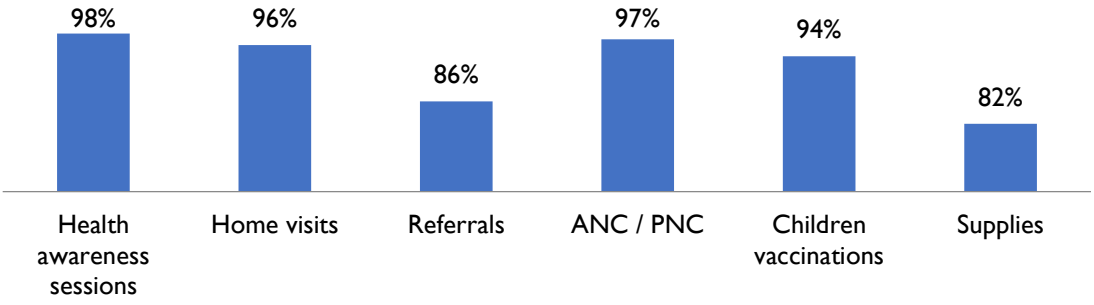


The Work of Marvi Workers

Almost 82% of Marvis have received 2 – 4 training/ refresher sessions. Each Marvi has attended at least 2 such sessions. 95% of the Marvis keep record of the supplies they provide, which is in paper register.

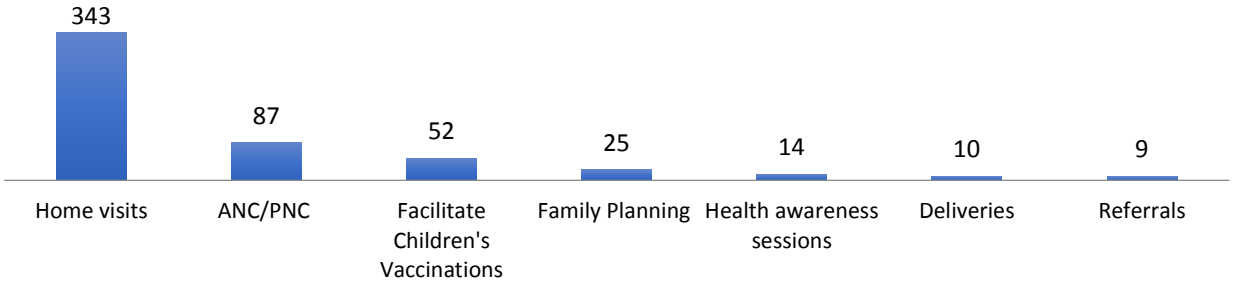
Each Marvi served a mean of 300 households in a quarter. The most services provided include health awareness sessions (98% of all households), ANC/PNC checkups (97%), home visits (96%) and child vaccination (94%).

Figure 67.Marvis Services by Household



The commonest services provided are home visits, followed by ANC or PNC visits and facilitation of children's vaccinations. FP visits and health awareness sessions were also an important part of the services that Marvis provide. In many ways, the work of the Marvis is similar to that of LHW, although LHW engage in considerably more activities.

Figure 68.Mean Number of Marvi Services in a Quarter



Consistent with their role in promoting family planning, Marvis main commercial activities are all related to family planning. The commonest products that Marvis sell include: contraceptive pills

(65/month) by Marvis, followed by injections (18) and condoms. Antibiotics (16) and antimalarial medicines are also common. Other products include those related to women's hygiene and health.

Figure 69.FP Methods' Demand

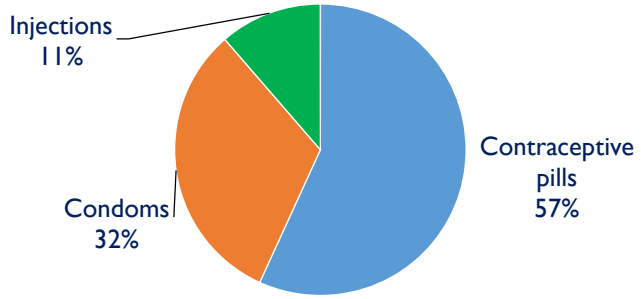
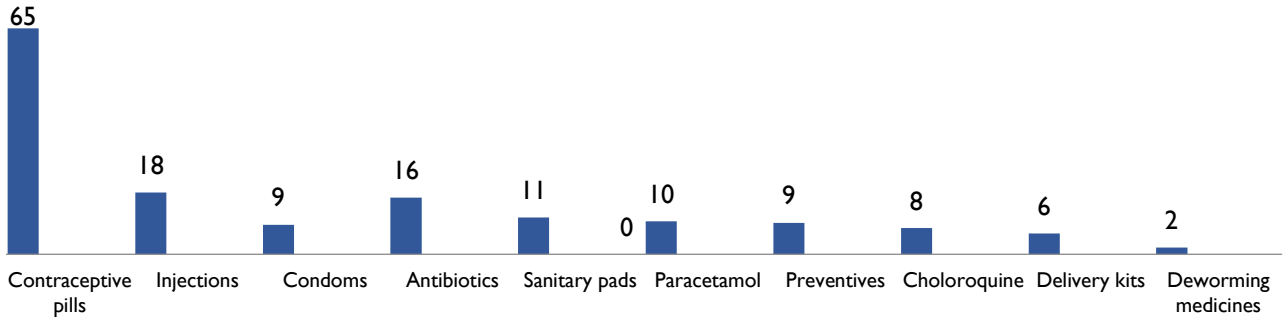
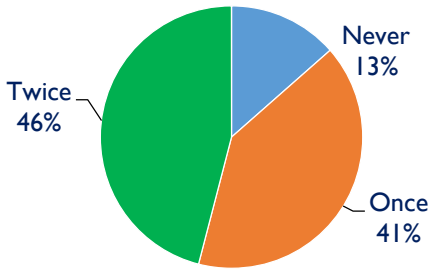


Figure 70.Mean Number of Products Sold per Month



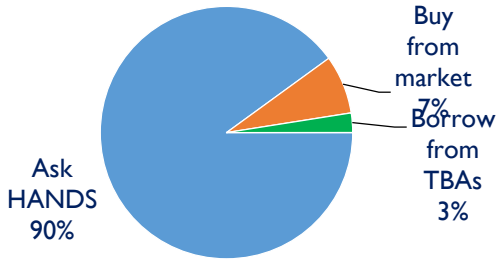
87% Marvis reported that there has been shortage of supplies once or twice during the last quarter. This figure is reasonably high and must be something to address in future interventions, given the fact the main reason for lack of effectiveness of LHW relates to their inability to have supplies for the demand that they create.

Figure 71.How Often Did Their Supplies Run Short During the Last Quarter



When they run short of supplies, they mostly (90%) turn to HANDS for replenishment while 7% bought from the market. Interestingly some Marvi workers also reported borrowing supplies from the TBAs in case of shortage.

Figure 72.Source of Replenishment of Supplies by MARVIs



Marviswork in collaboration with other service providers: 93% Marvi workers reported that they have worked with TBAs during the last quarter for an average 13 times. 63% of Marvis have worked with the CBOs for an average of 4 times during the last quarter.

Most of the Marvis (93%) reported that there has been no maternal death during the last quarter. Only 5% reported that there has been one maternal death during the last quarter.

When Marvis go Beyond Their Assigned Areas

Marvis clearly go beyond their assigned areas. In a multiple regression analysis that compared Marvi areas – where they serve alone or with LHW – with areas that are served by LHW only, Marvis are more likely to serve Hindu households, those with at least a primary level education and those that were among either the richer or richest in terms of wealth. Interestingly, when Marvis work in LHW areas, they are less selective and the only significant correlation was for richer (but not the richest) households. This suggests that their business model which is driven by a profit motive, they maximize their profits where they can, i.e. in their own areas and serve predominantly the rich and the educated. When they have to go LHW areas, they serve whomever they can find.

Table 7.Whom do Marvi Serve when in Their Own or LHW Areas (Multiple Regression Analyses)

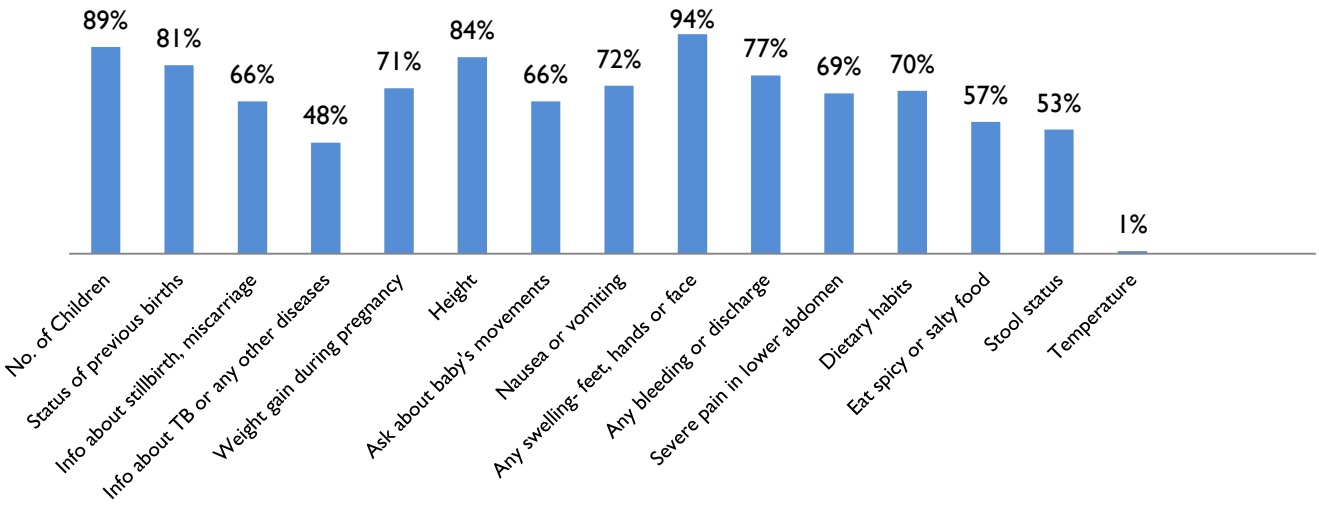
Reference: LHW alone	Marvi working in Marvi alone areas	Marvi working in LHW area	Marvi and LHW areas
Religion(Ref: Islam)			
Religion(Hinduism)	**1.715 (1.174 - 2.505)**	1.460 (.963 - 2.214)	1.350 (.677 - 2.693)
Education(Ref: illiterate)			
Education(primary)	1.236 (.633 - 2.416)	.703 (.316 - 1.564)	2.084 (.790 - 5.493)
Education(middle)	.951 (.310 - 2.923)	1.364 (.419 - 4.440)	2.129 (.486 - 9.339)
Education(sec or above)	**7.915 (1.888 - 33.180)**	3.143 (.689 - 14.338)	3.876 (.665 - 22.603)
Poorest(Ref)			
Poorer	1.314 (.821 - 2.104)	.881 (.523 - 1.485)	.772 (.270 - 2.204)
Middle	1.327 (.812 - 2.168)	1.168 (.687 - 1.985)	1.155 (.431 - 3.096)
Richer	**4.607 (2.418 - 8.778)**	**2.287 (1.137 - 4.599)**	**4.914 (1.772 - 13.627)**
Richest	**18.418 (6.389 - 53.099)**	1.990 (.599 - 6.610)	**16.393 (4.308 - 62.381)**

Vignette Analysis

A different approach was applied to assess the knowledge and competency of Marvi workers. Three vignettes, consisting of different scenarios related to Marvis' work were compiled. First Vignette was of a 25 year old pregnant woman, who comes to Marvi for her first antenatal checkup. The Second is a case of a woman who can potentially use family planning. The third case was a child with diarrhea. In vignettes, we want to know if the provider (i.e. Marvi) will think of critical questions rather than whether or not she makes specific choices. So for e.g. in case of a woman with potential eclampsia, we want to know if she is thinking of blood pressure and the link with pregnancy.

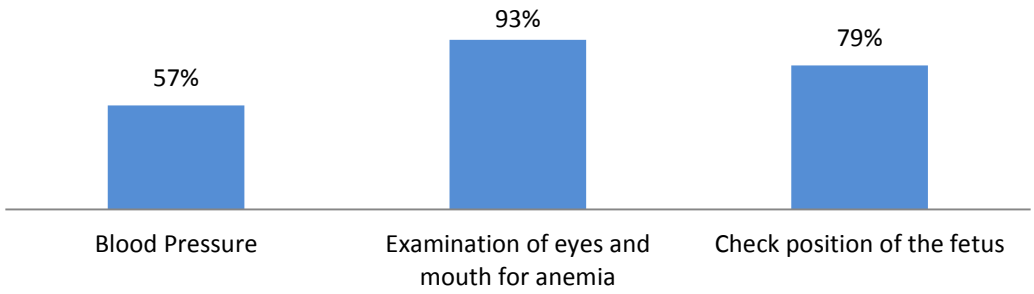
In the case of pre-eclampsia, an acute life-threatening condition requiring immediate referral to a hospital, around two third of the Marvis (71%) asked about weight gain during pregnancy (an important marker to monitor weight gain due to swelling or edema), a similar proportion about the baby's movements (to see if the fetus remains viable) or about nausea or vomiting. Nearly half of the Marvis asked questions about spicy foods and dietary habits that had been inserted in the questionnaire as a side stepping question.

Figure 73.Vignette Pre-Eclampsia - History Taking



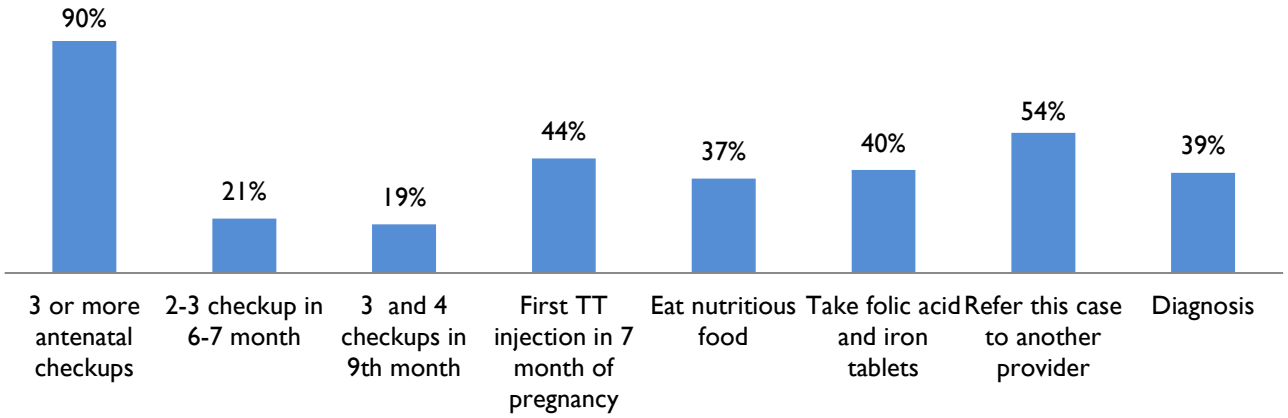
Only around half of the Marvis actually though about measuring blood pressure (the most critical step). Nearly all mentioned checking for anemia.

Figure 74.Vignette Pre-Eclampsia - Physical Check up



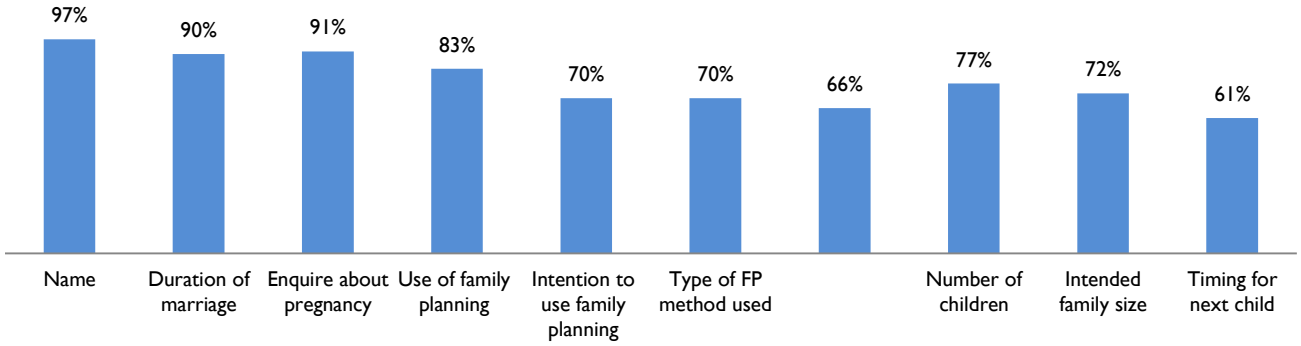
The commonest management suggestion was about 3+ antenatal checkups. Only half of the Marvis thought about referring the woman to a more appropriate provider and only 39% could make a diagnosis. These findings suggest that in a critical case such as this, Marvis can benefit from greater training/ capacity building.

Figure 75.Vignette Pre-Eclampsia - Management



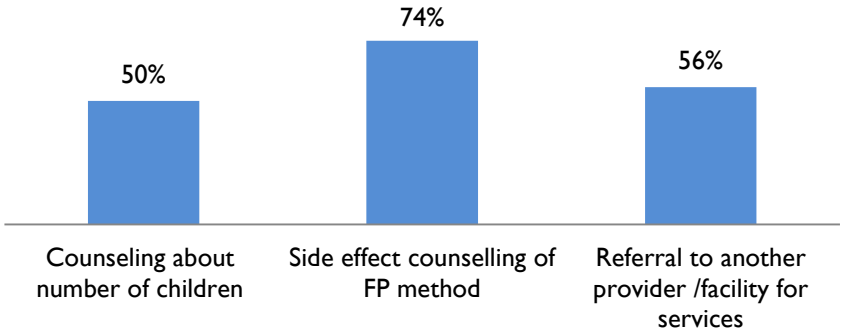
The second vignette was about family planning – specifically what a Marvi would do when visiting a 20 year old married woman at her home – something that is a core part of routine work for Marvi workers. An average of 77% Marvis asked all the history questions. Most Marvis asked about duration of marriage and if the woman was currently pregnant. Fewer (83%) asked about current FP use and only around two thirds asked about intention to use, current method, their satisfaction with the method, number of child and intentions about spacing and family size. This is a major gap since young married women are a key group where Marvis can make an impact with FP promotion.

Figure 76.Vignette FP Counseling - History



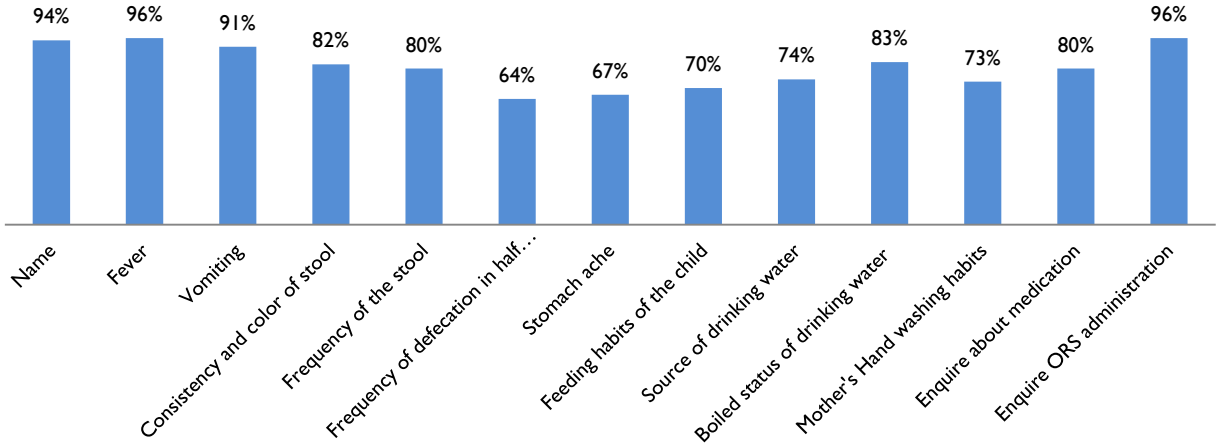
While most of the Marvis rightly mentioned counseling. Only half of the Marvis counseled the client about family size while only 56% referred the client to the other provider for getting the family planning services that she doesn't provide. 36% of Marvis did not counsel the client on any possible side effect of the FP methods.

Figure 77.Vignette FP Counseling - Services & Referral



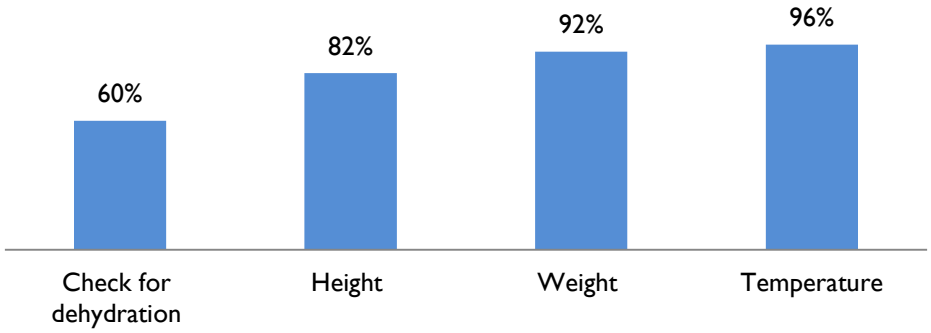
The third vignette of an 8 month old child with diarrhea. A key question: frequency of diarrhea and feeding by the child were asked by only two third of the Marvis. A quarter did not ask about the source of drinking water for the child. Nearly all Marvis asked about OPKR

Figure 78.Vignette Diarrhea- History



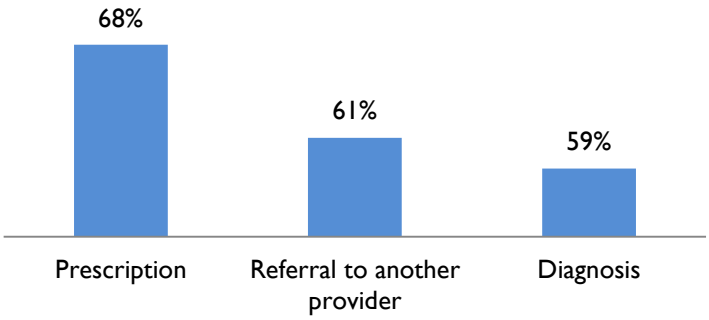
During the examination, the most important element - checking for dehydration - was done by only 60% of the Marvi workers.

Figure 79.Vignette Diarrhea- Physical Examination



Only 59% Marvis could diagnose the problem, while 68% prescribed correctly i.e. ORS intake – even when 96% had actually asked about it.

Figure 80.Vignette Diarrhea- Management



The clinical vignettes provide two key sets of information. One they help implementers such as HANDS understand how Marvi workers think in actual situations rather than simply measure what they could recall. We found that while Marvis are well trained in knowledge, they can benefit from certain "hands on" skills about actual case management. While the 3 examples used in the survey are illustrative, they show where future capacity building work should focus, i.e. on recognizing what clinical issues are the most important in specific clinical scenarios.

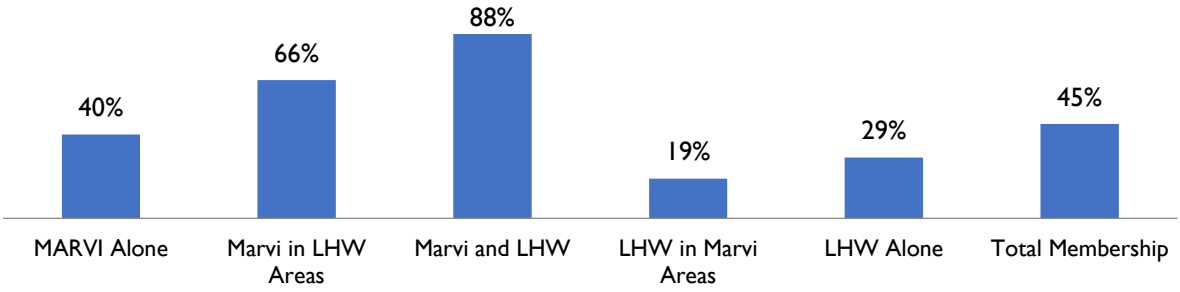
The other aspect is that HANDS should consider including clinical scenarios or case based approaches in their future training regimes – and to measure Marvi skills either by direct observations or with clinical vignettes on a regular basis.

SOCIAL MOBILIZATION

Community Participation

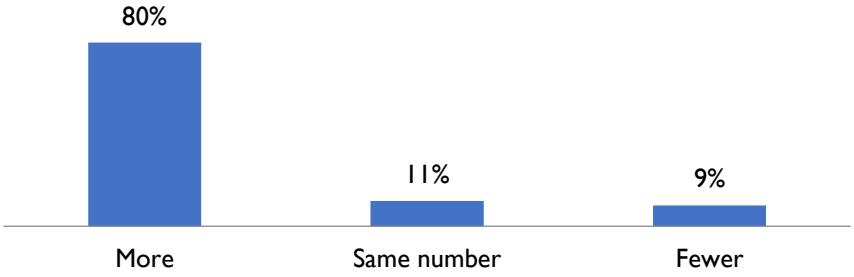
Approximately 45% of community households were members of a community based organization (CBO). CBO are common in Umerkot and are actively promoted by the 19 NGOs operate in Umerkot. Most membership is in areas where Marvis work, either when these areas were assigned to them originally by HANDS or when they enter areas originally assigned to LHW.

Figure 81.Membership of Community Organizations



Over the past 5 years, the overall communities' participation in Community Based Organizations (CBOs) has increased. This may reflect the fact that the HANDS' social mobilization has successfully progressed and established in the consciousness of the local community as a "worthwhile thing". However, one has to account for the fact that during this same period, 22 other NGOs have implemented health and social support projects with possible indirect/spillover effects.

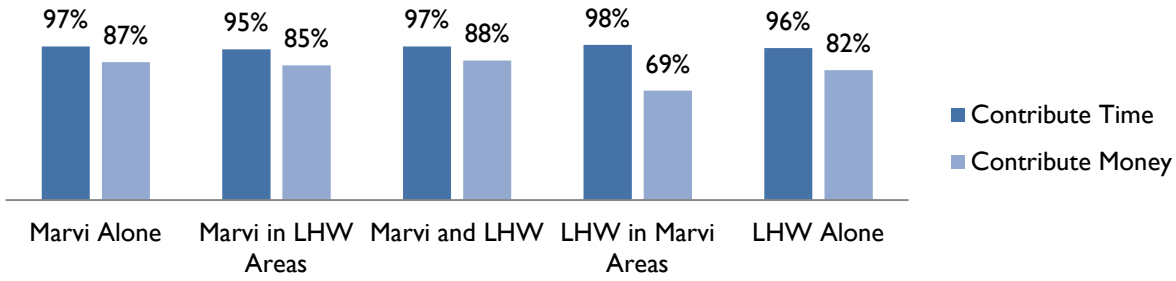
Figure 82.Changes in CBO Participation During the Past 5 Years



75% of Marvi workers were members of some community organization and majority of Marvis (81%) were actively involved with the community organizations as evident from the frequency of participation in the meetings i.e. three to six times per quarter. 27% Marvi workers, interviewed, led the decision making process in the community meetings while 38% actively voiced their opinion during decision making process.

Most community women feel that they (or their household members) will contribute time (> 90%) or money (80-90%) to CBOs even if they don't immediately benefit from it, suggesting that they perceive a long term benefit from involvement. This willingness to participate does not change by the type of provider they are served by. These rates were similar for LHW and Marvi areas.

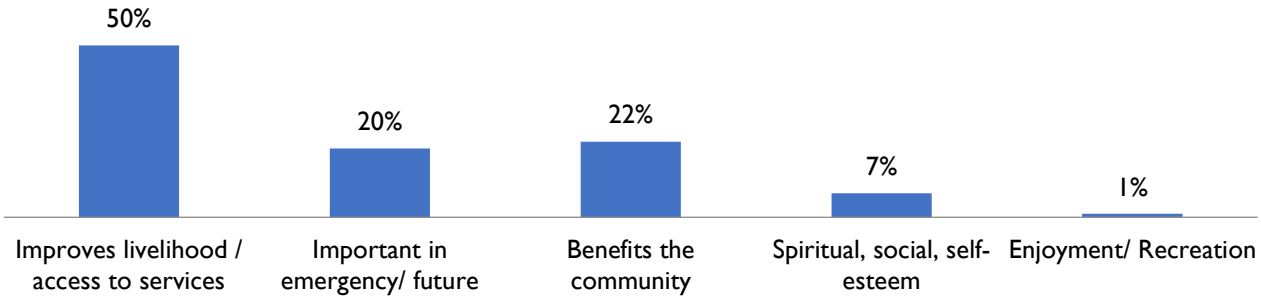
Figure 83.Contribution to Community Without Expectation of Personal Benefits



Community Perception of the Benefits of Involvement in an Organization

The most important benefit of community organization that was perceived by 50% of respondents, was regarding improving livelihood and services, in-line with microfinance groups. They also see benefits in terms of access to resources in emergencies (20%) and see an overall community's benefit (22%) suggesting the realization of the importance of collectiveness by the respondents. This was further strengthened by the majority's readiness to contribute their time (97%) and even money (85%) to any project that don't have a direct benefit for them but would be beneficial for the community.

Figure 84.Community's Perception of CBOs' Utility



The community women were well aware of their local issues and believed that the local realities are main binding force for any community group or organization. They also see the key role of community organizations in solving collective problems such as water, electricity etc.

Figure 85.Priority Issues for Community Cooperation

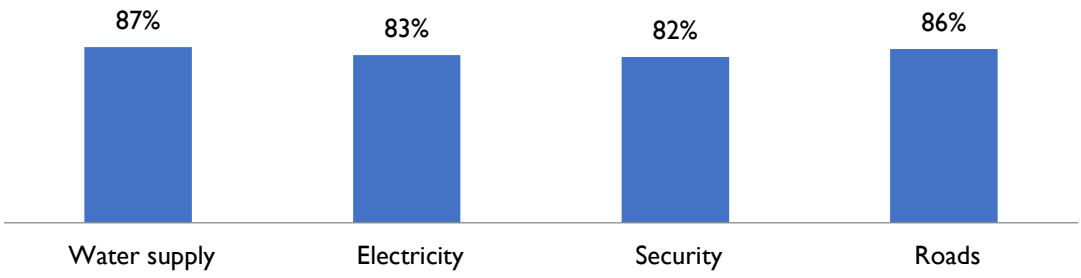
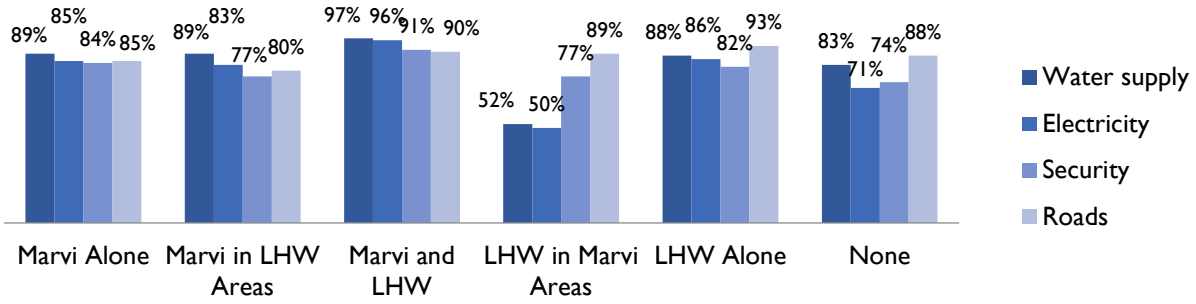
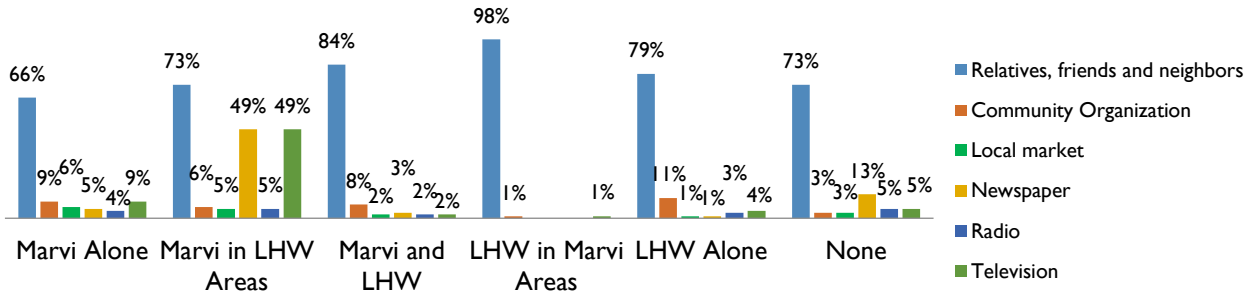


Figure 86.Projects Community Members Most likely to Participate in



A hallmark of informed or rights based community involvement is the ability to have information to act upon. Predominant source of information about are friends, relatives or neighbors. All other sources contribute minimally and community leaders, government officials or work colleagues were not even mentioned as sources. There hardly any differences according to the provider served by.

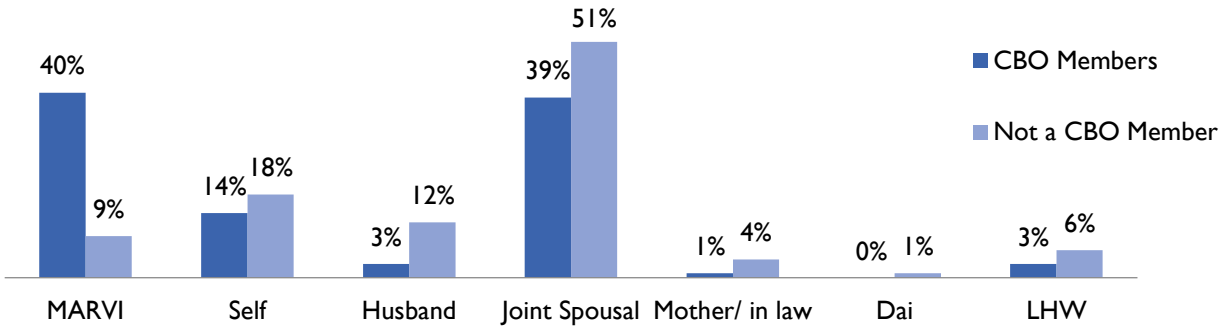
Figure 87.Source of Information about What the Government is Doing



Health Implications of Involvement in a CBO

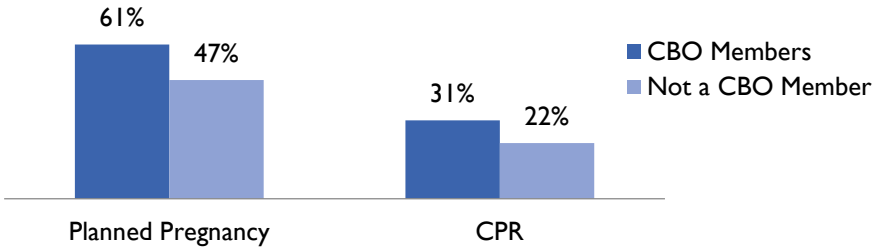
Marvis work closely with community organizations. This is reflected in the fact that they were the main source of FP information for CBO members but not to non-members.

Figure 88.Main Source of FP Information by CBO Membership



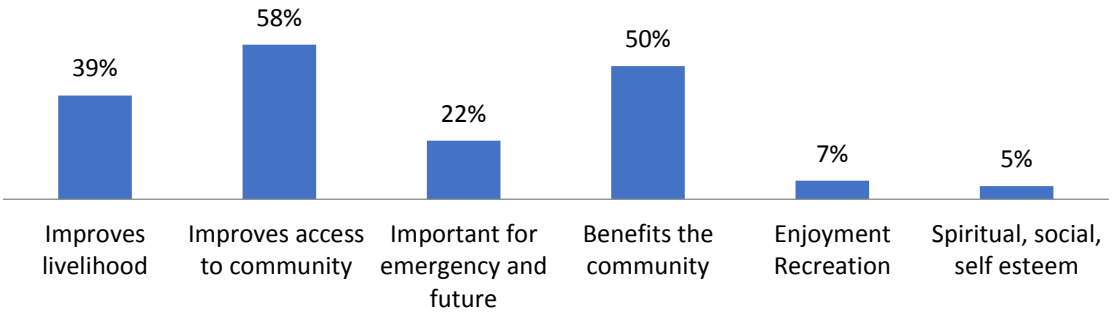
Women who identified being part of a community group have better health indicators. For e.g. CPR of 31% vs. 22% among those whose households belong to a community organization vs. those who aren't ($p < 0.001$). Similarly 61% of from member households vs. only 47% of women from non-member households plan their pregnancies.

Figure 89.CPR and Pregnancy Planning by CBO Membership



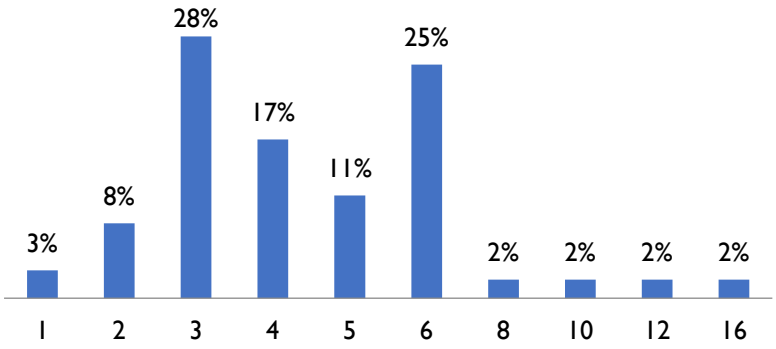
Marvis feel that community organizations facilitate to households. They also feel that such organization generally benefits the community and improves their livelihood. Community organizations are actually supporting the business model of Marvis and this is evident in from high membership by community women in Marvi served area. Majority of Marvi workers (60%) also reported that their clientele has increased after becoming a CBO member.

Figure 90.Marvis' Perception of CBOs' Utility



Over 90% of Marvis had attended up to 6 CBO meetings in the past quarter and three quarter of them are CBO members themselves.

Figure 91.MARVIs' Participation in CBOs' Meetings During the last 3 Months

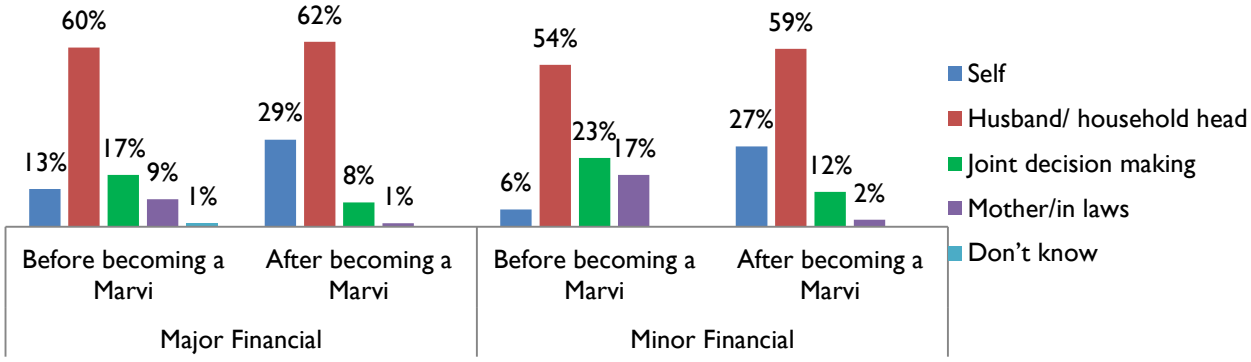


EMPOWERMENT

For Marvis

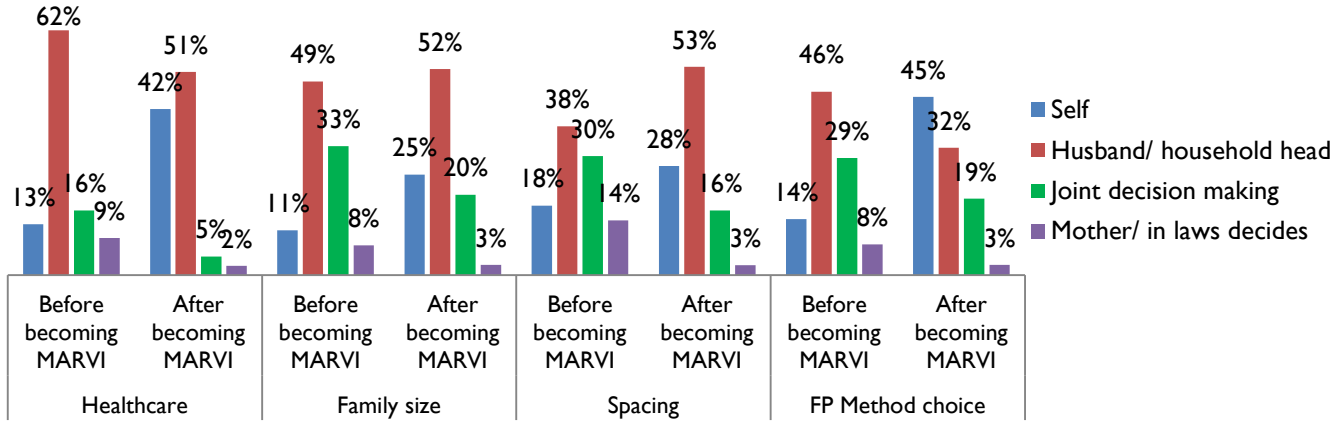
Becoming a Marvi worker has been empowering for the women. A marked change is reported in the financial decision making trend before and after becoming a Marvi worker. Decision making about minor daily household expenditures have increased from 30% to 38%, while the self-decision making regarding major financial matters has increased by more than four times (from 29% to 39%). Most of the gains of the Marvis have actually come from autonomy taken over from their mothers in law. The role of husbands seems to have remained unchanged.

Figure 92.Financial Decision Making for Marvis



Involvement in decision making is even more pronounced in the areas closer to Marvis' areas of training and expertise i.e. health, reproductive health and family planning – where the role of husbands in the FP decision has diminished (from 46% to 32%). Although the overall decision making remains with the husbands and heads of households but in the decision making in all the matters from choosing the health care providers, to restricting family size and spacing to the choice of family planning methods, the authority of Marvi workers has increased up to four-fold.

Figure 93.Health Decision Making for Marvis

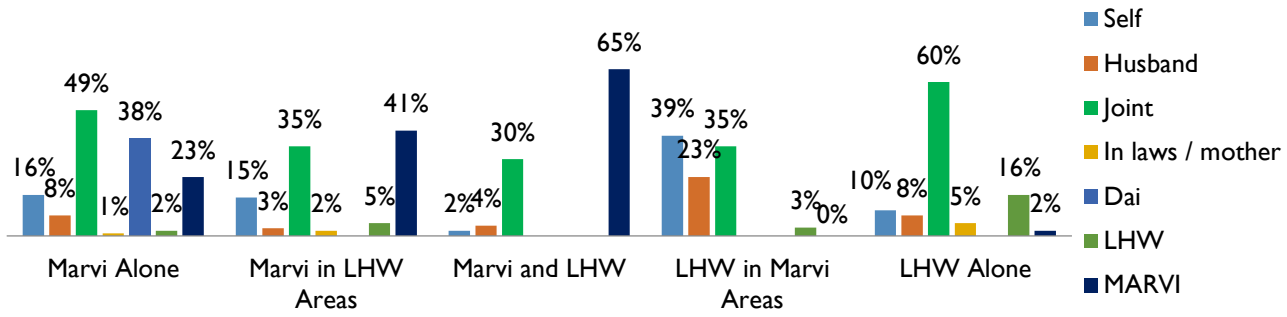


For Community Women

For community women, the decisions about seeking health care are taken mostly jointly by spouses, regardless of whether they are served by Marvis, LHWs or none. Interestingly, in some areas, women asked Marvis how should they seek healthcare, suggesting that Marvis have developed a role as a trusted advisor.

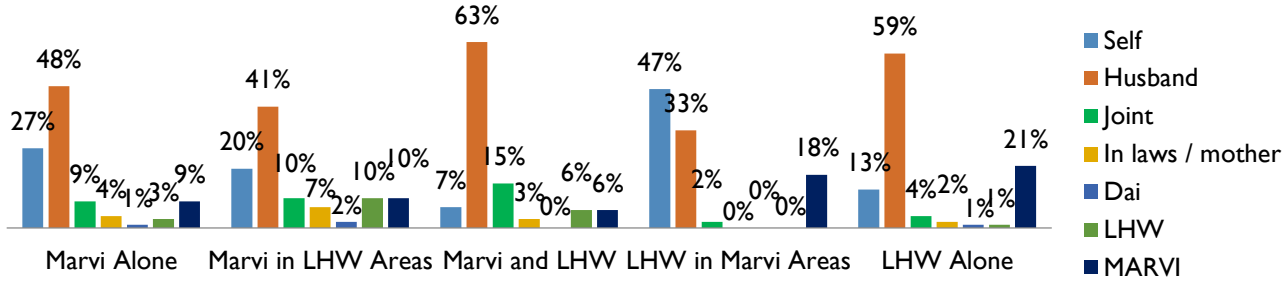
The situation is almost similar for decision making regarding family planning except that Marvi workers have sizeable say in the decision making where they are operational. Interesting to note is the finding that in control area (None) women themselves have the largest share in the decision making regarding the family planning matters.

Figure 94.Community Decision Making about Family Planning



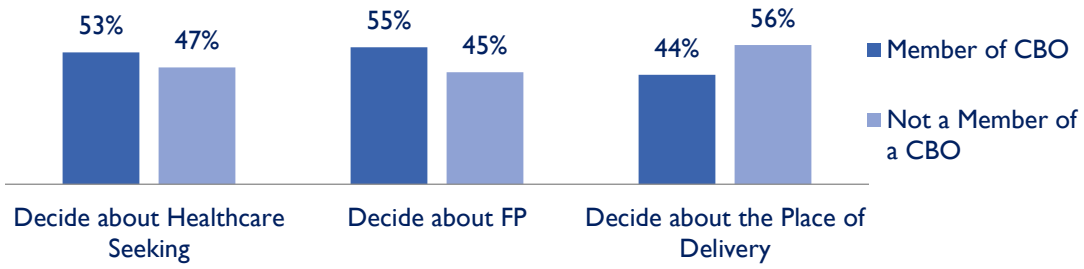
The decision making regarding the place of delivery clearly remains with the husband. It seems that Marvi workers are 'walking their talk' as well. Only nine (9) Marvi workers married their daughters after becoming Marvis and only in one case daughter's age was fifteen (15) years old at the time of marriage while the rest were reported to have been married at the age of 18 and above.

Figure 95.Community Decision Making about the Place of Delivery



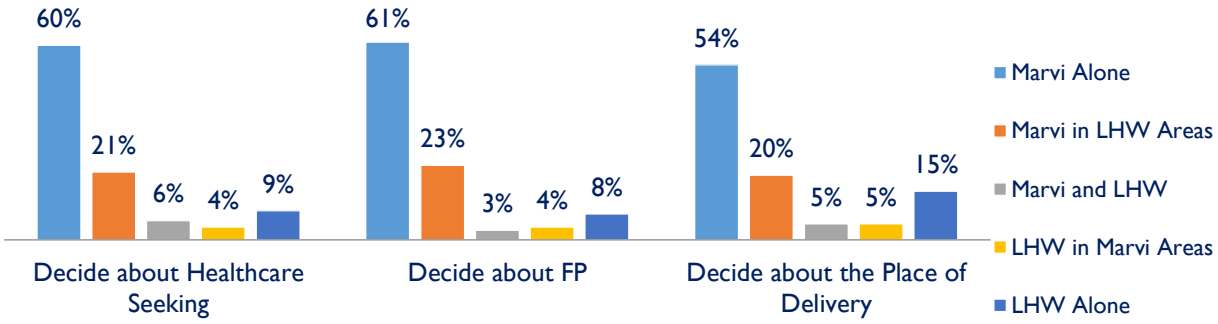
We analyzed the effect of CBO membership by the household on a woman's participation in decision making. A woman was said to have participated in a decision if made the decision either alone or jointly. It is apparent that CBO membership does not change her role in decision making (all p values are > 0.05).

Figure 96.Community Women's Role in Decisions – Disagggregated by CBO Membership



In contrast to a lack of effect from CBO membership, which type of provider is she served by is very important. For e.g. if she served by a Marvi she is highly likely (all p values < 0.001) to have participated in decisions about healthcare seeking, FP or where to have her delivery.

Figure 97.Community Women's Role in Decision by Provider Type



RESULTS OF THE QUALITATIVE ASSESSMENT

THE CONTEXT: LIFE IN UMERKOT

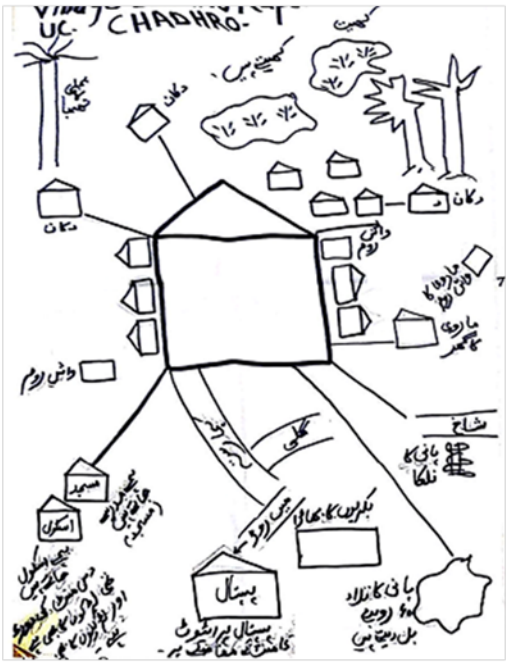
Village Structure

An average village of Umerkot consists of around 50 -300 houses and is often based on shared caste, religion and language; often with members of extended families. We found that there were adjacent villages – essentially a group of houses enclosed by a wall of straw – based on different castes or families. This close knit structure is needed as villagers draw upon these strong bonds of relationship and solidarity for security and for support during good and bad times.

Our village consists of 250 houses; we are all relatives living together. (MALE FGD)

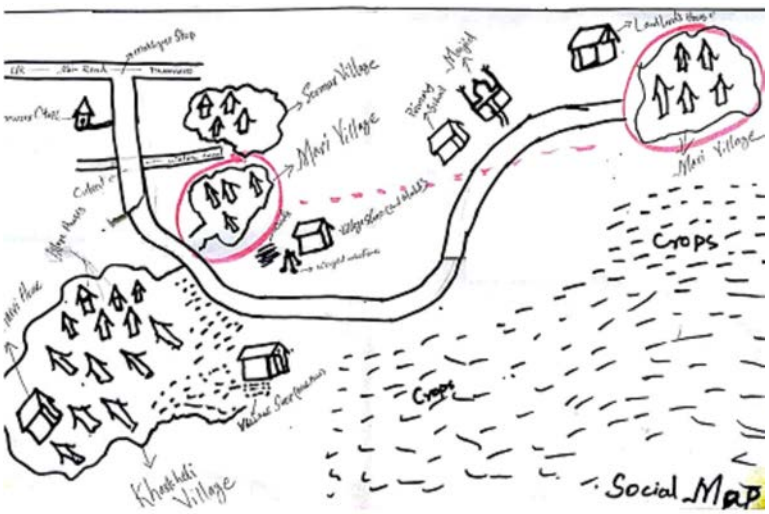
We are one community, one family. We have blood relations and are together in good times and bad. (FEMALE CLIENT OF NEW MUSLIM MARVI)

Figure 98. A Village Map 1



We also observed some very uniform village structures across Umerkot. Usually there is only one entrance for the village, near which there is a room or a reserved space meant for only men to sit and chat. Meetings of local organizations are also held there. Place for livestock such as cow, goat and chicken are also close to the village entrance; as are hand powered water pumps and a village shop (usually run by Marvis' families in Marvis' villages) when they are present. These are all common spaces and are at a short distance from houses.

Figure 99. A Village Map 2



Houses are usually built/ situated without any planning and are often built, when a young couple gets married, in the closest available space next to their parents. Commonest type

of houses are "Chawra", which are one circular shaped room houses; although some square rooms were also seen. Usual structure is that of "gara" – a mixture of mud and cow dung. Boundary walls of villages are made with bushes/ straw. Nearly all villages keep dogs for security as men often travel for work during the daytime or for more extended periods.

The Caste System

Through generations of societal practices the people of Umerkot believe in, follow and identify themselves via a caste system. These castes have three main classes, upper, middle and lower class. We observed the following castes:

- Bheel
- Jogi
- Kolhi
- Khaskhaili
- Thari
- Kunbhar
- Mangrio
- Menghwaar
- Maheshwari
- Mekharo
- Machi
- Marri
- Odh
- Sataidy
- Suthar
- Thakur

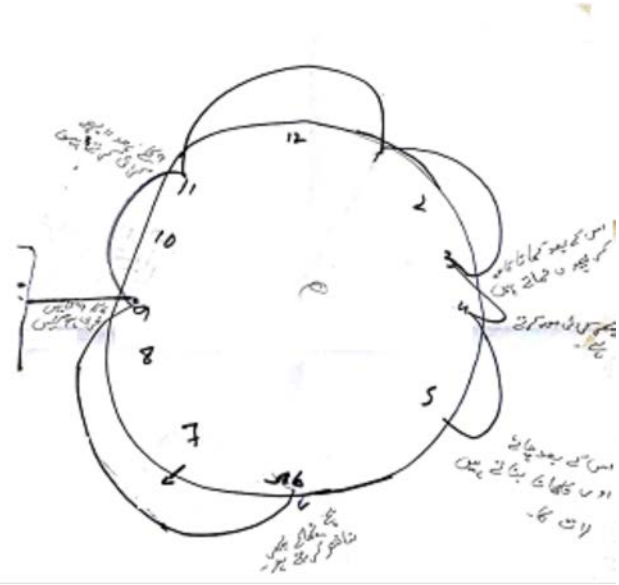
Castes determine whom people talk with, who they listen to and follow. It is very unlikely that a person from a higher caste will listen to one from a lower caste and these rules are strictly observed.

Our middle class castes are Mekhora. Other castes such as Kohli, Jogi and Bheel also live here. There is a perception among the people that poor people are low standard humans. It is a common idea over here that we are poor and no one cares for us. In this country no one cares for the poor people. One who was born as poor will die as poor. (MALE FGD IN NEW HINDU MARVI AREA)

Family Structure and the Identity of Women

Families are mostly nuclear in that a husband, wife and their children share a separate kitchen in a house. Once married, the couple will get a separate room/house near the husband's parents and are responsible for their own food and other major expenses with the husband's parents providing only occasional support. Interestingly, even during pregnancy and delivery, the wife's family is not involved. For most part,decisions are made by the husband and wife and are not directly influenced by the in-laws or other family members. However, family women share chores and give opinions about daily household activities – mostly minor decisions that are already the exclusive domain of the women.

Figure 100. A Clock Map



Daily Routine of the Communities and Marvis

We explored daily routines with PRA clock mapping. Women across the district have similar

daily routines, with the main focus on household work. Their day starts early; they cook and clean then help with farming if needed. They told us that due to hectic time demands of household chores most women do not watch TV or listen to radio. A common social time for women is the mid-afternoon when they sit together and make rillis (traditional patchwork blankets) and talk. For men and women, there is no concept of holidays. Work continues daily even on holidays. A few even stated that their language does not have word for "holiday".

Our daily routine includes cleaning the house, cooking, getting the children ready, working in the fields, making Rillis and fetching water from far away. (FEMALE CLIENT HINDU MARVI)

We do many activities in our day to day life. We attend weddings, go to work in the fields; we are poor people so we go to pick firewood to cook food. We also stitch rillis in spare time, both for self-use and to sell. (FEMALE CLIENT)

As with other community, the Marvi familywakes up early in the morning. After breakfast, men go off to work, and the Marvi does household chores, i.e. sweeping and cleaning the house, helps the men with farming, does some stitching and then collects water from nearby water sources. Some Marvis prefer to go for their household visits in morning around 10 am to 12 pm while others prefer it in the afternoon from 3 to 5 pm. In between, Marvis find time to do their Marvi work while also doing their other responsibilities as a woman from the community. That they can find this extra time in their day – since no Marvi complained that they could not finish their chores of the house or Marvi work – suggests that they have learned to manage their time better. Time management is a difficult skill that can be learned. In the future, the HANDS team would do well to consider including efficient time management in their training regimens to help newer Marvis ease into their work.

I am 35 years old and I just know how to write my name. I do household work along with stitching razayyan (comforters). I do not work in field but I do other labor work like stitching comforters, making head caps and traditional kurtas. (OLD HINDU MARVI)

My whole day passes while working at my home and working as a MARVI. As a MARVI worker I usually visit homes where I check the weight of the pregnant women etc. Then I come back home and stitch clothes. Whenever I get time, I guide my niece as well who is a TBA here. (OLD HINDU MARVI)

I like to eat green vegetables with meat and I also like to read. I also like to educate my village people but I usually don't get free time from work. I start my day with tea; I am very fond of tea. After breakfast I do my household chores and after that I go to the field. (NEW MUSLIM MARVI)

Income and Savings

The main sources of income for men are farming, labor and building mud blocks. When women work for a living they make traditional Rillis (Blanket) andhelp with farming. Women generate less income round than men - about 200 to 500 rupees per month. All too often household incomes are much too lower than those needed for sustenance.

Incomes are clearly higher among educated households. Respondents feel that educated people who work in offices – the exact term used was "clerkly jobs" in a manner suggesting respect for such jobs –

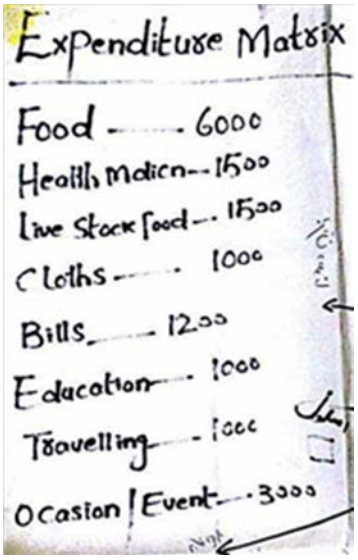
can save since they have surplus income that can be saved. Most educated people work in offices in Umerkot city and earning enough for their family and also have some savings.

They can't save enough for their personal use because it is not enough. They (Marvis) can save the money from handicrafts work. They spend the money on their daily routine expenses, on their children and on their home. (MALE FGD IN OLD HINDU MARVI AREA)

By contrast, people with lower education mostly work on farms or in low skilled labor and are often paid with food items or meager amounts of cash by the landlords. They are also often obliged to "co-opt other family members" including their wives, children and parents for this work thus diminishing the number of people who can generate income for the family. We saw this "barter economy" in many of the poorest households in Umerkot. Even in the more conservative households, women who are not allowed to work outside the house still work in the field or tend the livestock as unpaid labor.

We receive PKR200 for picking 40kg of cotton; in return Zamindar/Landlord provides 10kg of flour and PKR2000 per month which usually finishes before the month ends. (FEMALE CLIENT OLD MUSLIM MARVI)

Figure 101. An Expenditure Map



Compared to community members, the source of income for Marvi workers includes selling medicines and a monthly salary from HANDS. Interestingly, none of the Marvis mentioned their income from selling general merchandize even though this income eclipses their income from health supplies. The LHWs earn a monthly salary of PKR 9000 which forms a major portion of their income. A few also run small scale businesses such as corner shops. On the whole, due to their higher fixed salary, LHW rely less often on selling commodities, secondary businesses or shops as a main source of income.

When women earn an income (Marvi workers or community women), they often spend the money earned, according to their "choice" (i.e. "marzi"). In fact, much of the extra income of women was spent buying additional food for their family and education for the children and when possible towards savings. However when savings accrue, they are meant to have some "available funds" in hand for any cultural, religious and traditional events or for emergencies that come along. Many of the women mentioned that they don't turn over their incomes to their husbands.

I use my earned money for myself to buy clothes and other things as well. I get clothes, household items and other things like that. We do not give this money to our husbands. (FEMALE CLIENTS NEW MUSLIM MARVI)

There is an implicit understanding that households are "expected" to and want to spend on rituals and festivals, to keep up with the societal and communal norms. This highlights the premium placed on

relationships with the community and resonates with the strong sense of "collective" responsibilities and obligations around which life in Umerkot revolves. However, it also means that personal savings are seldom used for investments into long term assets building such homes and livestock.

In 'events", we mortar and color the houses. Someone who has money, they buy clothes as well. (Male FGD)

Sources of Information and Decision Making

Women generally do not have easy or regular access to means of mass communication like TV, radio or mobile phones. This access is hindered partially by the lack of electricity, privacy and time. Where electricity is present, women watch TV with other village women, relatives or friends, but only at times when men are not watching – when men watch, the content is chosen by men and is usually news shows or entertainment, never health. Women prefer cooking shows and dramas and prefer to watch without men, since watching TV is a combined "social activity" for women and usually late in the evening. In a few instances we found that some Marvis read books/ magazine. Women talked of picking up concepts such as small families, family planning, empowered women and speaking up against domestic violence from TV shows. TV viewing is a collective activity for men and women.

Men on the other hand frequently use mobile phones not only to communicate with friends, relatives and co-workers; but also as source of recreation i.e. for listening to FM radio. Mobile phones were also used in the areas without any electricity where people find innovative ways to charge these phones. In contrast to their very common use by men, women almost never use mobile phones.

GEO TV & GEO TAIZ are also informative. We used to watch Geo and KTN, these are very good sources. We get information from these channels. A program hosted by Kamran Khan is a good source of information. (MALE FGD IN NEW HINDU MARVI AREA)

LHW and Marvi are the main source of information for health, especially RH. It was reported that during polio vaccination campaigns, LHW also provide the community information on family planning besides counseling on vaccination. Since the Marvi is available 24 hours a day in the community and due to her work with the community, she is considered a trusted source of health information.

Decision making is largely determined by the cultural and socioeconomic milieu of Umerkot. The village is led by an opinion leader who is a religious person (a ***Surpunj*** in Hindu communities or a ***Haji*** in Muslim communities), the eldest or the most educated in the community. Elders also greatly influence decisions. Village level decisions usually relate to arbitration between castes or families, disputes arising in marriages, property issues and other community or village concerns. These are usually solved by mutual understanding. Contracted disputes require the ***Panchayat*** which is a gathering of household heads in the village to help with the arbitration and to ensure decisions are enforced by a system of collective rewards and/or censure. However, our narratives also depict a diminishing role of the Panchayat and collective decision making; with more decisions now being made independently at the household level.

Now a day nothing happen likes this. Everybody makes their decisions on their own. There is no more trend of Panchayat here. (MALE FGD IN NEW HINDU MARVI)

The data also show that **three types of decisions** are made by families at the household level and that the decision making processes depend largely on the family structure, traditional gender roles and the earning contribution of household members. Usually in nuclear families husbands and wives decide jointly, while in extended households, the head of the family takes the decision. Heads of the extended families usually make major decisions for the family such as marriage, events, finances and other matters outside the community.

Women have limited **autonomy** to take "minor" household decisions such as what to cook, children's day to day activities, and visits within the village. Health decisions that can be done without leaving the house, such as buying and giving medicines to children are also taken by women alone; health decisions that require a visit outside the village require consent from the male head of the household. The one caveat is when women earn money they have "greater freedom" and autonomy over how it is spent.

My husband and I mutually take the decision. Decisions regarding marriages and outside matters are taken by my husband and I take the decisions regarding my house. (TBA)

I go to the city with my husband after taking permission from my father-in-law. (FEMALE CLIENT IN NEW Hindu MARVI)

My husband's elder brother is a key Decision maker in my family. They are 4 brothers. All other family member gives him their money, what they earn and he makes decisions regarding its spending. (FEMALE CLIENT IN NEW MUSLIM MARVI)LIM MARVI)

Gender Preference during Pregnancy

Boys are highly preferred over girls among both Muslim and Hindu communities. They celebrate the birth of a boy but not the birth of a girl. Son preference is culturally determined and continues to have economic roots. Boys are seen as supporters of elderly parents and are in a way a form of social insurance. Girls on the other hand, are married off and go away.

This has contributed to the trend of doing ultrasound during pregnancy to determine the sex of fetus. Ironically, all too often ultrasound examinations are conducted/ read by untrained providers and often women are told about the sex of the child much earlier in the pregnancy than is possible physiologically, suggesting that many such determinations may be erroneous. However we found no evidence that knowing the sex of the fetus changes either the provision or seeking of antenatal services by the women. Our study did not explore seeking of abortions.

We prefer sons because a son helps parents during their old age. Daughters have to leave the house one day and the house becomes empty without them. (FEMALE CLIENT, NEW MUSLIM MARVI)

Yes here ladies get the ultrasound check for the sake of knowing the position of the fetus. They also do it to know about the gender as well. But it doesn't affect the services they avail whether it will be a boy or a girl.(TBA)

We give less importance to the girls as they will leave us after marriage. Boys will take care of their parents in bad times. That's why boys get preferred/ liked.(MALE FGD, OLD HINDU MARVI AREA)

Key Challenges in Umerkot: Poverty

Respondents recognize poverty and unemployment as daunting challenges. Men report that even when they are employed they receive insufficient wages despite long hours and that there were few opportunities available. Households cope with these challenges by having different members undertake multiple jobs and/or diversifying sources of income.

We are poor people. We face many problems as a consequence of poverty. Sometimes I get daily wage work and sometimes not. Poverty brings a lot of problems including illnesses and not being able to better keep your children etc. (FEMALE CLIENT OLD HINDU MARVI)

In turn, our observations suggest that economic necessity is helping break the traditional roles by pushing women into remunerated jobs. However, traditional dependencies on the local feudal remain and that the feudal lords can still demand free labor from villagers – although now, rather than simply commanding villagers to work for free, they renege on spoken agreements such as payments after harvest. On a positive side, we also found that the feudal lord is the "security net" in times of need such as famines and emergencies and will give money and food to needy villagers.

Key Challenges in Umerkot: Education

Increasingly most families want to educate their boys and girls before they reach age of marriages to give them the best opportunities for economic uplift. The desire for education is slightly higher in areas closer to the city and decreases very minimally in rural and distant settings. We found that if there are functional and available schools, public or private, families will do their best to send their children for formal education. Interestingly, while mainly boys' schools are present, in some villages girls are also attending boy's schools. Most education we observed – for boys or girls – is at a primary level. However, it is also clear that families struggle to find solutions where schools are absent.

Access to education is limited by three factors. One, there are no private schools in many areas of Umerkot, perhaps reflecting the fact that education for children is not yet a commercially viable enterprise. Secondly, many public school buildings are being used for other purposes such as godowns or even cattle sheds. Virtually all schools are at a primary level and nearly all are for boys. Often, primary schools buildings are present, school staff are unavailable (ghost schools). In fact, teacher absenteeism is high enough to the point that for most of our interviewees– who do send their children to schools –felt it is acceptable if the teacher is there at least 6-8 days a month (at least there is a school). However, this also means that all too often children stop attending school after 3-4 years.

Teachers do not come to school. They get their monthly pay of PKR 15000-17000 but they do not perform their duties well. Children go to another school which is at a distance of 3 Kilometers from the village and children go there by foot. In our village girls usually study till 5-6th grade. Girls' education is essential nowadays. (MALE FGD IN NON MULSIM OLD MARVI AREA)

Yes we have a school in our village where boys and girls study together. (LHW, Tahli)

In the past people used to hate those who educated their daughters/girls. But now the trend has changed. It is beneficial if a girl is educated nowadays. Educated girls can handle the economics of household in a good way. (FGD Men)

Key Challenges in Umerkot: Health

People perceive health as a major challenge and interestingly childbirth was stated as a leading health challenge, especially for cases with emergencies or complicated deliveries. Awareness of pregnancy and childbirth related complications have seeped through the consciousness of even uneducated rural women in villages in Umerkot and there are structural factors such as costs of facility deliveries, transport and quality of facilities that are holding back skilled birth attendance. Diarrhea and gastric problems were also commonly reported and were perceived to be related to the environment and unclean water.

"Gastro", diarrhea, children'srunny nose and other diseases are prevalent due to the use of unpurified water. Drinking water is unhealthy / unpurified. If an animal dies then it is also a source of many diseases. (MALE FGD, NEW HINDU MARVI)

The few government healthcare facilities are mainly in the city of Umerkot. Local private clinics are preferred since public facilities are perceived to have poor quality or attitude, absentee staff and supplies are simply too far from villages. Qualified and unqualified private providers that are closer to home then preferred.

I think good quality medicines are available in the government hospitals but still the person in-charge doesn't provide these to people. They usually provide medicine which is near to its expiry date. (MALE FGD IN NEW HINDU MARVI AREA)

Yes Dr. S and his team come here often and provides medicines. I also work with them. (OLD MULSIM MARVI)

Key Challenges in Umerkot: Early Marriages

Early marriages are clearly grounded in culture and are driven by expediency. Most marriages occur between 12 to 15 years for both girls and boys, and are within own castes and community. Some respondents cite religious reasons for early marriages, although both Hindus and Muslims marry their children off early. Marrying within the community confers some safety for familiarity and the fact that in case of marital disputes, family elders can have a say in arbitration. Early wedlock shifts the burden of responsibilities from parents onto the newlywed couple (a couple is considered newlywed until they have 1-2 children) since, once married a couple is expected to support themselves, often with little education or skills to prepare them. Indirectly, this leads to early induction of children into family based work such as shepherding or agriculture to help with the family income further diminishing opportunities for education, which are already limited by a lack of access to schools.

In our area, boys and girls marry at an early age; they also have to bear all household expenses at a very early age. This system also introduces child labor in community, and one can see that children are not going to schools, as they are busy in labor. (HANDS local Management)

We found that regardless of class, religion and caste, the majority of the respondents recognize that early marriages are common across the district. Some respondents felt that early age marriages are not good for either girls or boys and that the appropriate age of marriage should be above 18. We found this view more common among LHW and less so among either the Marvis or community women.

While we found some evolving understanding that it's best to marry after 16-18 years, it was apparent from interviews that residents have little idea of actual age of their children; and what they call 16 or 18 years may actually be much younger.

In the past, people thought that 12 years is a good age for marriage both for boys and girls. Now things have changed and we prefer to do it before 15 years. (MALE FGD OLD HINDU)

In my area marriages are conducted in the age between 15-20 years. And I think this is the right age for marriage. (TBA)

The best age for the marriage is 18 years but people of my village are still marrying their children around the age of 15 years. (LHW, SHADI PALI)

Our data clearly show a growing understanding that early or child marriages adversely impact women's health and leads to difficulties with childbirth and household work - core functions of what it means to be a woman. Respondents – both old and young - clearly cite a normative preference for later marriages and recognize that children are marrying later than their parents did.

If girls are married off before 20 years of age. They do not have enough strength to bear childbirth. And they can't manage household chores. (MALE FGD OLD HINDU)

Overall, the cultural milieu favors early marriages for girls (and boys). For the girl, she gets some measure of independence and the family has less of a burden to bear. Since many of the downsides are internalized into the culture, they are less obvious to most people.

Empowerment and the Status of Women

Majority of the men (in FGDs with community members) and direct observations clearly show that most men at least normatively favor women's freedom in daily affairs and respect them as a person. However, societal norms of veiling, traditional view of female modesty and not working outside the house are considered absolute and adhered to where possible, regardless of religion.

Despite the increasing acceptance of the symbolic importance of women in the eyes of men, participation (or representation) of women in major decision making is still largely not accepted. Men are not ready to give up their decision making power to women in matters of marriages, property, girl's education and travel outside the village. In this regard, two clear perceptions exist in Umerkot about women empowerment in decision making. There are a few men who involve their wives in decision making and seek their opinions while the majority of men shun women's involvement especially in major decisions related to property or money. On the other hand, women freely participate in MCH related decisions – domains that are traditionally assigned to women. Elderly women participate and often at times even lead in marriage related decisions.

They are females and they have to do their household work. A woman is a woman. We include them in decision making processes but only a little bit, maybe an "ana" in a rupee (a quarter of a rupee). (MALE FGD IN OLD HINDU MARVI AREA)

Freedom should be given to the females as well; they have equal rights like the males. Women run our houses. They also take care of us by every way. A woman is like a goddess. She should be given 100% freedom. (MALEFGD IN NEW NON MUSLIM MARVI AREA)

Generally, the community, particularly women, feel that marriage is a "way" for getting respect from society. Only after marriage does a woman get a position in her household, and all member of the family treat her in more respectful manner. Realistically, marriage is a "rite of passage" for girls to become women. Girls (and boys) generally have little say in matters where adults prevail.

I think the respect for women rises after getting married. (TBA)

Woman's Mobility Outside the Home

Women usually move freely within their village. When they have to visit outside the village or to city, they must ask permission from the head of the family - usually the father-in-law or husband. For women mobility outside the safety and security of the "4 walls" is a major challenge and usually a male member(s) of the family such as husbands, brothers, sons etc. (but sometimes the mother in law) will accompany the women - their presence felt necessary to ward off potential physical and sexual threats to women while visiting outside the village. The same practice exists irrespective of the religion or caste of the village members. Interestingly even little boys can serve this chaperone role suggesting that the protection function may be more symbolic of male dominance than actual.

Figure 102. A Mobility Map

When there is a wedding or when we have to go to the city, we always go with a male member of the house, but not alone. (FEMALE CLIENT IN NEW MUSLIM MARVI)

Our elders of the house take the major decisions. I go outside to the city for shopping with my father in law or mother in law. As a couple, we mutually decided about our children, my husband and me. (FEMALE CLIENT IN NEW HINDU MARVI)

MARVIS ROLE IN PROMOTING HEALTH

Marvis' Perception and Practice about Family Planning

Marvis are themselves very convinced about the benefits of family planning. Many started using FP when they realized its importance after receiving training as a Marvi and have also promoted themselves as a role model to introduce FP in family and to their community and village. In nearly all cases husbands of Marvis have supported them in practicing FP and the FP decision – and the choice of method - was made jointly by both spouses.

People of my village think that FP is good and necessary as well. This can also save them from getting permanently operated. (OLD HINDU MARVI)

I have 4 children and I have had an operation. The decision about operation was made by my whole family; my husband, my mother-in-law and my father-in-law. (New Marvi)

I am also practicing contraception and using the pills method. I consult with my husband before using the pills, (OLD HINDU MARVI)

I also use injections for FP and my husband decides when to use them. My husband asked me to adopt FP; I get injected at Umerkot from the civil hospital. (NEW, HINDU MARVI)

Acceptance of Birth Spacing and Family Planning

The relatively high uptake of family planning in Umerkot seems to be due to interventions by HANDS and possibly other NGOs. Men and women are well aware of the importance of and accept family planning. Men– who see their role as the main bread earners for the family – connect their poverty to family size and its financial burden. For women, birth spacing is tied to health and wellbeing of the mother and her children. They feel that the increased burden of taking care of large families and in handling children is detrimental to health of families. These messages have been picked up by the Marvis who use them as themes in their counseling. Marvis themselves also completely believe their message and therefore can serve as role models in their communities. For their part, communities relate their FP use to counseling and supplies by the Marvis.

Many children, problems everywhere; few children, love everywhere. (OLD MUSLIM MARVI)

Because it is very difficult to handle and take care of many children. It is a big issue to provide them good facilities of health and proper education.(MALE FGD IN NEW MUSLIM MARVI AREA)

FP is very good for mother and child health. If a woman gets pregnant and her previous child is only 6 month old then she will not be able to look after herself and her child. (OLD NON MULSIM MARVI)

Marvis' Role in Promoting Family Planning

Counseling for FP is the cornerstone of Marvis' work. Most Marvis said that they maintain privacy and confidentiality during counseling sessions and while providing FP products to their clients. On the other hand, a few Marvis do not pay attention to privacy as they feel they have not been informed (or are convinced) of its need.

I counsel women here and tell them that "Few children mean love is everywhere, many children mean problems are everywhere" (OLD MUSLIM MARVI, MARVI ALONE)

I counsel FP client in a separate place. I educate my husband on FP related matters. I counsel only women and my husband counsels the men. A couple decides the FP method on their own. I counsel women about FP; if the husband is present at home I counsel him as well. (NEW HINDU MARVI)

In contrast to what one would expect in a conservative community, some Marvis reported counseling even the husbands when needed. In most of the cases both husband and wife jointly make the decision about family planning and about a particular method. In fact, we found that joint decision making by husbands and wives for FP is the norm in Marvi-served communities. However, some Marvis reported counseling only women and felt that sometimes the husbands may not have been aware about the FP method being used. In some cases mothers-in-law also participate in decision regarding family planning; however this happens very infrequently.

I don't know whether they consult with their husbands or not. But they came to me for purchasing FP Pills. (OLD/HINDU MARVI)

Most of the decisions regarding FP are taken by the husband and wife but sometimes the mother-in-law takes the decisions as well. (LHW, TAHLI)

Some people like my advice regarding FP, some people do not like. I think many people follow my advice when I visit houses and counsel women about FP. Usually the mother-in-law also supports me and tells her daughter-in-law to follow my advice. (OLD HINDU MARVI)

For most part Marvis **counsel** about pills, injections and condoms – commodities that they also sell. We found very little evidence of counseling about IUD or about long term methods in the community, which is consistent with the overall low use of IUD in the community. This may not a bad strategy, since contrary to the belief among the public health community, we found that many uneducated community women didn't fully comprehend the array of **method choices** they had been offered and particularly struggle to distinguish and decide between more than 2-3 choices. This is particular true if they can't actually see some of the choices. For example for some women the concept of referral for IUD is very abstract during counseling unless they actually see the IUD. As Marvis neither insert nor receive any incentive for IUD referrals we found few referrals for these, even though HANDS have assigned an LHV to insert IUD.

I counsel about the use of condoms, injections and pills to FP clients. (NEW HINDU MARVI)

I counsel about the use of condoms, pills, injections and IUD. Many clients come for condoms and pills. The majority of my clientele is related to FP. (OLD MUSLIM MARVI)

I counsel women of my area about all methods of FP like condoms, injections etc. I personally prefer and recommend pills to them but here mostly people prefer injections. (OLD HINDU MARVI)

From the last 4 years nobody is taking pills in my community. At present I do not have a single client of pills, and people prefer condoms and injections. (NEW MUSLIM MARVI)

Injections are used as a priority. Males usually make the decision of FP. (LHW, PITHORO CITY)

Preferably I would use condoms as there are no side effects of them. Once a lady used the "Chhalla" method (IUD) and she developed some complications due to it. After that then other ladies don't use Ring for FP. (OLD HINDU MARVI)

Contraceptive pills are considered to have the most **side effects**, while condoms are popular because of fewer side effects; while its disadvantages such as failure rates are not appreciated by most. Permanent methods such as either male or female sterilizations are avoided. There seems to be a fear of operations (also seen for caesarean section deliveries) behind this choice.

People are not willing to use the tablets as they think that it might cause problems for the next birth. Then I suggest to them to use condoms. (LHW, PITHORO CITY)

Once I recommended pills to a lady but she refused to take pills because they caused excessive bleeding. I referred her to a doctor and she got operated. (NEW MUSLIM MARVI)

Targeted Counseling - Newlywed Couples

Marvis are unusual among health providers in Pakistan in that they actually target newly married couples. Interestingly, sine Marvis are counsel about delaying first child for 2-3 years after marriage. Most old Marvis promote delaying the first conception immediately after marriage and according to them newly-wed couples follow their advice. They prefer promoting condoms as the best contraceptive method for newly married couples. Marvis' husbands also participate in couples counseling sessions. They also counsel couples intending to marry soon about the benefits of family planning as well.

I counsel newly married couples about FP. I tell them they should not have children till 2-3 years after marriage, and a child may make it difficult for the couple to settle down in new married life. (OLD HINDU MARVI)

While these Marvis are targeting newlyweds, many more mostly target couples with at least one child for family planning. Yet others consider a couple with only one child as newly married – and therefore not to be approached for FP. Interestingly, it seems that most new Marvis (in contrast to old Marvis) are reluctant to educate a newly married couple about family planning. LHW also don't counsel or provide FP product to newly married couples; and at times they even discourage women with fewer than 3-4 children from using any FP.

I do not counsel newly married couples about FP, because when I counsel them they reply that 'if God gives us children then we will think about a gap, how can we do this now?' (OLD MUSLIM MARVI)

I don't guide the newly married couples about family planning. (LHW, BOSTAN)

Yes I tell the newly married couples about FP after their first child. (LHW, SHAH MARDAN SHAH)

I do not counsel newly married couple about FP. They should have a few children after that I will counsel them about FP. (NEW MUSLIM MARVI)

Marvis' Role in Antenatal Care (ANC)

In the first trimester of the pregnancy, women contact Marvis for antenatal checkup. Marvis record their weight, height, blood pressure and look for anemia during the antenatal visits to ensure that the mother is healthy and provide advice about nutrition and other preventive measures.

A very clear difference was seen regarding the quality of services provided by the new and old Marvis. Old Marvis have superficial knowledge of ANC and are not very familiar with the use of instruments (such weighting scales, fetoscope, thermometer etc.), danger signs during pregnancy or the minimum number of ANC visit recommended by the World Health Organization. On the other hand new Marvis have a much clearer concept of appropriate weight gain during pregnancy, number of ANC visit, fetal movement and listening to fetal heart sounds. They also use the various instruments provided by HANDS for ANC checkups such as blood pressure apparatus and weighing scales.

If the eyes of physically weak women get white that means they have an iron deficiency. I advise them to eat more bread, fruit and take rest and not to pick heavy things.(OLD HINDU MARVI)

ANC consists of 4 visits. I check pregnant women in the first trimester. In 3-4 months some fetuses develop a heartbeat while others take longer (3-4 maheene mai kisiki sans chalne lagti hai kisiki dair mai sans chalti hai). In the last trimester I again check the pregnant women and at that time a baby is usually completely ready for delivery. (NEW MUSLIM MARVI)

Pregnant women very commonly seek ultrasound examinations and many feel this to be a central part of ANC and a core pregnancy service. Marvis also frequently advise them to do so. Ultrasound is commonly sought to ascertain the position and the sex of fetus.

Yes, we use ultrasound to check the neonatal health. We also check for gender. (FEMALE CLIENT OF NEW HINDU MARVI)

Here in my village getting an ultrasound check is popular. I recommend ultrasound to the pregnant women to check the position of the fetus and confirm the pregnancy weeks; doctor also tells about the gender. (OLD MUSLIM MARVI)

Not from today, we are availing the ultrasound facility from the past many years. Marvi also guides us to get an ultrasound check during pregnancy. She teaches us a lot of other things as well. (FEMALE CLIENT, OLD HINDU MARVI)

Marvis' Role in Promoting Skilled Deliveries

A very dramatic change has been reported with regards to place of delivery. Almost all Marvis mentioned that most deliveries in their area now take place in the nearby hospital and attribute this to the regular counseling they have provided to the women during ANC visits. In case of any emergency or sometimes even for normal deliveries many Marvis accompany women during delivery to hospital. This builds confidence among the women about skilled birth attendance and also respect for the Marvi. Some Marvis described helping families decide which deliveries should be conducted at facilities. They

described examining women during late pregnancy and asking women with potential complications – high blood pressure, pale eyes etc. – to deliver at the hospital.

Because of my work there is a big change occurring. Previously women did not go to the city for delivery but now they are going to Karachi Hospital. It is situated in the nearby city (OLD MUSLIM MARVI)

Last month I conducted 2-3 deliveries. Now I have 3 pregnancy clients. I maintain the record in a register with their name and month of pregnancy. People prefer to go to hospitals as hospitals have many facilities. Otherwise we have 3 TBA in our village; one of them got training from HANDS with me. (OLD MUSLIM MARVI)

We have a hospital very near to the village so most of the women go for ANC and delivery to the hospital. The hospital is very good. We also have a doctor in the nearby village. It is also very beneficial. (OLD MUSLIM MARVI)

I refer the complicated cases of delivery such as high blood pressure, blood deficiency and pale eyes to the city hospital. (NEW MUSLIM MARVI)

In deliveries that are conducted at home, Marvis work very closely with TBA. Their close working relationship is fostered by the fact that TBA's were also trained by HANDS and work in the same area as the Marvi, and because both Marvis and TBA have learned that their cooperation is mutually beneficial. This allows a continuous liaison between the TBA and MARVI.

If delivery is conducted at home, the TBA facilitates it. If the delivery is conducted at the hospital I will accompany the women there as well. Usually here people go to the government hospital to Madam Devi (OLD HINDU MARVI)

I accompany the TBA during delivery. If the baby is weak we take him to the doctor, Sometimes we go to the city for delivery (NEW MUSLIM MARVI)

Old Marvis have developed referrals linkages for delivery and ANC. They are in contact with the TBA, LHW and lady doctors (mostly in private hospitals or clinics) in nearby city. Hence Marvis have very successfully developed business network with healthcare providers in her work environment. Both new and old Marvis are referring patients with any complication to the nearby hospitals. Only a few Marvis reported that they prefer home deliveries in their community.

Mostly people prefer to have the delivery at home. Last month I had 4 delivery cases. All of them were conducted in my presence; when I feel that this is the time of delivery I called the TBA to conduct delivery. The doctor also came to give drops. (NEW MUSLIM MARVI)

Marvis and Promotion of Breastfeeding

Breast feeding is generally regarded as beneficial for neonates and infants in the community and Marvis have worked hard to reinforce this message to new mothers. However, Marvis differ about how soon a mother should start breastfeeding neonates. A few promote breastfeeding within 5-10 minutes after delivery, while others think it should be started within half hour to one hour. Many of them emphasized that the mother feed the child with her "first milk" because this is particularly nutritious.

They differ about how long breastfeeding should continue and counsel continuing breastfeeding for periods varying from six month to 2 years.

Pregnant women should be provided a good and healthy diet. A mother's first milk is very important for the newborn's health. It should be fed to the newborn within half an hour of birth. (OLD MUSLIM MARVI)

The newborn should be fed with the mother's breast within 5 minutes of birth. (NEW MUSLIM MARVI)

The newborn should be fed with the mother's milk right within 10 minutes of birth. And it should continue for 6 months and then you can feed the baby with other soft foods. (OLD HINDU MARVI)

Mothers should feed the neonate within half an hour of birth. Mothers should be provided a good diet before and after the pregnancy. The newborn should be breast fed for more than 2 years after birth. (OLD MUSLIM MARVI)

Religion Doesn't Impact a Marvis' Work

While the communities are sharply divided by religions and castes – as seen by the fact that entire villages are drawn exclusively around these lines – these division don't impact Marvis' work. Many Marvis may feel that they should serve their own co-religionists over others and many community members may feel that they should be served by Marvis of their own religion or caste, in practice this seldom happens. Driven perhaps by necessity or humanitarian concerns, Marvis routinely serve clients of different religions or castes and clients also receive services from Marvis of a different religion than theirs. Thus, while religious and caste differences are commonly perceived, we found no evidence that it adversely impacts practices and none of the clients or Marvis described feeling discriminated against. In fact, some Marvis strongly feel that any such discrimination is wrong. Interestingly, in some cases women would rather be served by a Marvi from a different religion than one from a different caste.

Yes, I am little biased between Hindus and Muslims. If I have one medicine and both a Hindu and a Muslim came to me at a time then I will give the medicine to the Hindu. (OLD HINDU MARVI)

I belong to the Sarenda caste; I do visit Hindu houses but I do not eat anything there. (If you have two clients at the same time, will you prefer to see the Hindu or Muslim one first?) I will prefer the Muslim one. (NEW HINDU MARVI)

They (Muslim) have a different language. We do not discriminate but the Muslims do. (OLD HINDU MARVI)

Yes, this MARVI belongs to our community so we go to her. If any other MARVI came from the other community then we will not prefer to take services from her. The MARVI will first treat the Muslim patient as she is a Muslim. (FEMALE CLIENT IN NEW MUSLIM MARVI)

Muslims and Hindus are both equal in my eyes. If I have two patients at the same time, I will prefer the patient who comes from the farther away place because she will have to leave early. Otherwise, who comes first, I will facilitate her first. Hindus and Muslims are both humans. When God does not discriminate, how can I? (OLD HINDU MARVI)

There is no religious/minority issue. We are all alike. (MALE FGD IN OLD HINDU MARVI)

Key Benefits of the Marvi Intervention: Family Planning and Birth Spacing

As per the MARVI intervention's original goal, to increase CPR in Umerkot; Marvis have proved successful in promoting FP and birth spacing. The Marvis not only counsel couples on FP but also ensure supplies are available. This is in sharp distinction to LHW who also counsel, but seldom have supplies – a fact that limits their effectiveness, which was repeatedly highlighted to us by Marvis and their clients.

The differences in patterns of FP use have also changed. Previously those desiring FP either practiced traditional methods or in rare cases went for tubal ligation. Now with the availability of modern methods, many of the women are shifting to these, particularly the ones that Marvis carry: pills, injections and condoms.

It is clear that Marvis have generated demand for FP. More couples are aware of the value of FP and are seeking it out. While we didn't see a clear distinction in the perceptions about spacing and limiting, much of the use seems to be for **spacing**. This is perhaps understandable since although couples sometimes do talk of small families that is mostly too distant in the future. Much of the rationale for FP use described by community women and men is for the benefits they see now. They talk about the health benefits to the mother, pregnancy related health and on the older children due to the fact that the mother is not repeatedly pregnant and therefore able to devote more time and energy to her family; and this benefit is seen in the context of spacing births so that there is more time available to the women between births.

People didn't know about family planning when I first came here. Now people above the age of 15 are practicing family planning in my locality" (OLD HINDU MARVI)

Yes, a lot has changed. Earlier people directly went for operations but now they use pills, condoms and rings for spacing between births. Earlier people were reluctant about using F.P medicine but now they are not. There were some family hurdles as well to adopting F.P practice. Previously, women were not aware about the importance of FP. I told them about the importance and the different methods of FP. Now I have 15 clients of FP; injection is so far the most popular FP method. (OLD HINDU MARVI))

I have seen a lot of pain; 2 of my children died within 5 months of birth. I miscarried when I was 8 months pregnant. Then I had contraceptive injections from Umerkot city. At that time MARVI wasn't here. (FEMALE CLIENT IN NEW MUSLIM MARVI AREA)

Key Benefits of the Marvi Intervention: Birth preparedness

High expenditures related to deliveries and the inability to pay for these has been a major concern. People in the community are now planning and preparing themselves for delivery. For this the main preparation that they do is to save money. They repeatedly mentioned that they now "proactively" arrange money for any emergency that might arise at time of childbirth; and that the Marvi has played a vital role in making people realize the importance of saving money and to utilize these savings rationally. Beyond counseling couples to save money, Marvis have also been able to suggest ways in which households can save money. We found little evidence that other birth preparations such as

identifying a health provider or venue is done; perhaps reflecting the paucity of choices, i.e. even when a couple decides to deliver with a skilled provider or at a facility, there may not be many choices available to them and they really must go to the ones that are available.

Before the Marvi started working here, the community's women did not save money for delivery but now they are aware enough to save money for emergencies. Now we feel a clear benefit from it. (OLD HINDU MARVI)

Yes, before delivery we save 50 rupees each day when expected date of delivery is near, and MARVI guided us to use this technique' (FEMALE CLIENT IN NEW MUSLIM MARVI AREA)

Key Benefits of the Marvi Intervention: Accessibility and Availability of Healthcare

The biggest benefit of the MARVI intervention has been the increased accessibility and availability of healthcare services. Most villages in Umerkot don't have a health centers nearby and patients have had to travel 10-15 km to access any kind of medical care. Although intended to serve remote rural locations, LHW actually reach fewer than half the population. Even when government hospitals are available, they provide unsatisfactory services and their working hours clash with those of community members who in turn don't bother going to these facilities. For absolutely essential medical needs most respondents report traveling to the city to receive medical consultation and in doing so incur high financial and opportunity costs.

By providing medicine and services at their doorsteps, Marvis are saving them time and money, which can be better used for other needs. It is worth noting that Marvi services are not free and yet not a single interviewee mentioned that these costs are prohibitive or even high enough that they would reconsider their decision to seek medical care. This suggests that most people have some form of an idea how much they are willing to spend on health services and don't necessarily expect healthcare to be free; and if Marvi services are considered reasonably priced, then cost is not a barrier to healthcare for most villagers.

There is no other health worker in our area except MARVI. People are willing now to have some other health person in our area. And there should be a hospital from where they can get help in cases of emergency. (OLD HINDU MARVI)

MARVI AS AN AGENT OF CHANGE

Marvis are local women residents of Umerkot that were trained to provide health and outreach services in their village or nearby. They were meant to provide services where LHW are unavailable, since there aren't many educated women, let alone those who have to be educated to grade 10, in Umerkot. Marvis were selected irrespective of their educational status and many are illiterate. As with other community women, most Marvis are married, live in nuclear families and do all the chores that all other community women do. Their husbands are also similar to other men from the community.

While Marvis' do nearly everything that other community women do, their unique position also leads to important departures from the traditional roles for women in the community. For e.g. while women generally help their husbands, Marvis' husbands help their business by keeping records, marketing her services, procuring and helping to sell the general supplies she carries in her store. In our interviews with the husbands, this is completely voluntary and Marvis seldom asked for this support, most husbands recognized the benefits of supporting their Marvi wives and suggested it themselves.

Marvis are also more actively involved in household decisions as compared to other community women. They participate in household decisions and about planning for their children. Even those Marvis who live in an extended family system along with their in-laws, have a greater say in decisions than their community peers.

On the whole the Marvis are perhaps friendlier and more socially adept than their compatriots from the community. We found no instance of ill-will towards any Marvi in our interviews with men or women. Women find Marvis approachable and wise; and seek them readily for advice on not just health but other issues.

Perception and Response of the Community to Marvis

Marvis have put in considerable effort to establish their place in their area as a person, worker and healthcare provider. The strategies followed by them in making this happen include inclusivity, quality services, ensuring that they are present when the community needs them and having services and commodity available.

Marvis who were comparatively older in age were accepted more readily in their communities. It was assumed that she is an experienced woman having two or three daughters/ daughters-in-law in her family and this experience has prepared her for new role as a Marvi.

In beginning when I started working as a Marvi, men of my community reacted badly. Even some women also didn't encourage me. Actually, they were afraid, but with the passage of time things came under control. I regularly conducted meetings as well. When I won their trust, I invited a doctor to my village and arranged a big gathering. The doctor recommended to the community that the Marvi is doing good work so they should listen to her carefully because it will be beneficial for them. After that meeting the women were convinced. (NEW HINDU MARVI)

When I was going to attend training of MARVI the first time, people of my community criticized me. But now they are all happy with my work. (OLD MUSLIM MARVI)

I faced a lot of difficulties in the beginning. When I visited homes, the women used to say, 'Why do you come daily? Why are you teasing us?' But now they are very cooperative with me. (OLD HINDUMARVI)

A Marvi is the first contact of community members in case of any illness. She performs the first assessment, treats what she can with medicines she has, refers more complicated patients to the hospital or other more sophisticated providers, advocates and mobilizes the community for health and health related issues and advises community/women in their personal affairs. Thus the Marvi has a central role as a "wise woman" in her community. The communities they work in, readily attribute a number of changes such as cleanliness, better health of children and mothers etc. to the Marvis.

Yes, we feel the difference here after MARVI intervention in our village. A trend of cleanliness has flourished here due to the MARVI presence. (MALE FGD IN OLD NON MULSIM MARVI AREA)

In the past, people didn't vaccinate their children. But now we do. Ladies who pick animal waste didn't wash their hands properly. So we force them to focus on the cleanliness as well. (MALE FGD IN OLD HINDU MARVI AREA)

When I was not a Marvi, there was nothing good in my village. Children were dirty, and nobody cared about cleanness. Now people are conscious about cleanliness. (NEW MUSLIMMARVI)

There is a marked realization of monetary as well as non-monetary benefits of Marvis' services. The community is appreciative of their presence and facilitation that it has brought to their lives. Marvis has proved to be source of great comfort and guidance for their communities, who also help them in their difficult times.

We get medicine from them and now we don't need to go to the city for this. Yes, we feel the difference after the MARVI program was introduced in our area. We get the medicine on time. (MALE FGD IN OLD HINDU MARVI AREA)

We take medicine from them for all sorts of diseases. We don't go to the city for getting medicine and by this we can save our time as well. (MALE FGD NEW MULSIM MARVI AREA)

Yes, there is a change. If someone gets sick we go to her for medicine. If children get diarrhea then we can get medication from her too. There are a lot of advantages of her being here. (FEMALE CLIENT IN NEW MUSLIMMARVI)

There has been a lot of benefit. If we require any medication but if have no money for it they provide us with the medicine. They explain to us about illnesses and also provide guidance to pregnant women. They also visit households, weigh children after they are born using a weighing machine. (FEMALE CLIENTIN NEW MUSLIM MARVI AREA)

The MARVI guides us about health-related issues. In the past, people were unaware about health related issues. But now they are conscious. Here has been a lot of change. We get advice from the MARVI now but before we were unaware of a lot of issues. For instance, the MARVI tells us about using (Sanitary) PAD instead of using cloth. (FEMALE CLIENT IN NEW NON MULSIM MARVI)

There is a clear difference between the area with MARVI and the area with no MARVI; I found bad hygiene conditions, low FP practice and low knowledge levels in non-MARVI areas. (NEW HINDU MARVI)

As a person, the Marvi is seen as an empowered woman who can take household decisions which she couldn't prior to becoming MARVI. While she is certainly changing many traditional paradigms – including that of a decision making woman who sometimes even counsels and advises men and the community as a whole – the overall perception is that she does all of this within the bounds and norms of the traditions that her community follows.

Most of the Marvis feel that their work as a Marvi has raised their social status and respect in their community. People perceive Marvi as a respected member of the community by calling her Baji (elder sister) and recognize her importance as a healthcare provider by calling her "madam" or even "doctor".

Before I became a MARVI nobody knew me, but now I have to visit people and meet them so many people know about me now. I also feel a change in my status at home. (NEW HINDU MARVI)

My community considers me a doctor and says that I give them very good suggestions regarding health. (OLD MUSLIM MARVI)

Marvi as Source of Information in Umerkot

Marvis have been a key source of information for both men and women. Although they started by counseling women, they are trusted enough now that even men listen to their advice. The key means of communication is face to face counseling, perhaps the only one available. These sessions are done formally when the Marvi gathers the women around for specific sessions; informally, when women gather during social times such as the daily rilli stitching or one-on-one. During such type of interaction client can ask her questions for a better understanding. Since the counseling is done in the local language and involves the local community it gives the community confidence in the Marvi. On occasion Marvis hold community meetings where men and women attend.

I think face to face interaction is very effective in counseling people about F.P and other health issues. (OLD HINDU MARVI)

At least some Marvis feel a competition from the media such as the television; and interestingly, when it happens the concern is with the language and understandability of the message rather than its accuracy.

I think TV is not a good source. It is better to counsel people live in local language; here people speak Sindhi language so Sindhi should be the source of communication. (NEW MUSLIM MARVI SUBHANI)

What Marvis Aspire to Be

We asked Marvis to list of all their duties as they perceived them. Nearly all Marvis have the same perception of what their responsibilities constitute

1. Mobilization of community regarding pregnant women and childhood vaccination.

2. Playing an advisory role to improve standard of living of community, e.g. convince them to adopt habit of saving money.
3. Recommend medicine and treat diarrhea patient
4. Providing a selected range of medicines
5. Counseling of young girls/unmarried on cleanness, health and hygiene
6. Providing FP products, and FP counseling
7. Perform pregnancy test
8. Provide ANC, check anemia, edema, BP, monitoring of weight during pregnancy, recommend nutrition diet and recommend ultrasound.
9. Accompany pregnant women to health center for delivery.
10. Promoting breastfeeding till 9 months
11. Monetary assistance of poor clients

Marvis reported that they serve many needs of their clients including family planning and treatment of fever or diarrhea. FP clients form a relatively larger share of their services, followed by those seeking treatment of fever and diarrhea. ORS is in demand and used to maintain hydration of diarrhea patient. Her clientele ranges from 10-15 patients/day.

I mostly deal with pregnant women. Sometimes from start of pregnancy they contact me, and sometimes in the last trimester they contact me. (OLD HINDU MARVI)

Mostly FP clients, fever patients and patients for Nimcol (ORS) visit me. (NEW HINDU MARVI)

Marvis have a perception of what it means to be a "good" or "best" Marvi. Our interviews highlight two main definitions of a good Marvi. She is as **healthcare provider**, who is delivering health services to her client with full responsibility. She serves her community and feels responsible for their health. She pays attention to details and accomplishes all that she was trained to do.

Marvi provide information regarding health to community, making them better aware of health related issues. Among her efforts she also counsel even men from the community, many of whom told us that they now feel the need and importance of MNCH. Interestingly, as she raises awareness about FP, safe births and child health, she also helps herself by developing a market and demand for hers services. This helps raise her income and therefore the chances that she will continue her work in the community and will ultimately prove contribute to the sustainability of this intervention.

A good Marvi should work with full responsibility otherwise there is no importance of PKR1200 (the HANDS stipend). The HANDS team visits my area, I have to spend 3-4 hours with them. I do this work just to help the poor, otherwise, PKR1200 is nothing against my services. (OLD HINDU MARVI)

A good Marvi should measure weight and height of the patient. If we get some more quantity of medicine I will give free of cost medicine to villagers at their door step. I got less quantity of medicine this time. (NEW HINDU MARVI)

It is my responsibility to tell the women about cleanliness and family planning. I deliver all that to the people what I learnt from the training. (NEW MUSLIM MRVI)

Secondly, a good Marvi is an **agent of change** in her community. She is self-motivated and feels her responsibility to change and improve her community. As seen earlier, they often become the change they want to inculcate and practice what they teach.

Marvis perceive their work as educating and informing people about health, cleanliness, ANC, FP methods and vaccination. She also provides medicine, refers patient to other health provider and even accompanies them to health facilities if needed. Some even go beyond their training by counseling young couples or even unmarried girls, others talk about hygiene or other services such as transport for women in emergencies in their communities. Thus, most see their roles in bringing change both at household and at the community level.

A good MARVI should have some character building skills. She should educate her community, emphasize on education and work to build some schools in her area. (OLD HINDU MARVI)

However, for a few Marvis there isn't any picture of a "good Marvi" in their minds; rather they simply see themselves doing good work as a Marvi but don't have an ideal persona to aspire to.

I counsel pregnant women about getting rest, taking good and nutrient diet, and advise them not to pick heavy things during pregnancy and also to take medicine on time. I suggest fruit, bananas, eggs, meat, and fish to eat. (NEW HINDU MARV)

My duties as a Marvi include monitoring the pregnant women. If there is need of money, I also accompany her in delivery and I also give needy people some money. (OLD HINDU3` MARVI)

Motivation among Marvis and its Implications

The motivation to become a Marvi varies between old and new Marvis. Many of the old Marvis cited economic reasons. Most of these were already working for Thardeep – HANDS' partner in the MARVI project -prior to becoming a Marvi. Newer Marvis' did it more through inspiration after seeing the old Marvis. The community perceives the Marvi as a working woman who is an opinion leader, salary earner and a health practitioner. Marvis themselves recognize this respect and work to earn it.

There was a MARVI in our area; I was very inspired with her work. I usually asked her about how to become a MARVI. Luckily, she got married and moved to another area. She recommended me to join the MARVI program and occupy her position. (NEW HINDU MARVI)

I want to do good for people so that people will remember me as a good person, and say how good she (the MARVI) is. (OLD HINDUMARVI)

First I was not interested in it. But later on I realized that it is good work. I can do my best for my community. I provide them medicine in times of emergency. I like the work …… as we are all working for the benefit of humanity. Yes, this is beneficial for me. I am earning something while sitting at home. (OLD MUSLIM MARVI)

Some Marvis joined the program to improve their community and believe that they can improve the health status of their communities, enhance their own technical skills and gain self-recognition along

the way as well. Others joined to generate income as it is good money from work that can be done close. The monetary benefit is definitely complemented by the respect they receive.

Since much of her income depends on the Marvi developing her business and selling products, her motivation is crucial. Whether they were selected in the first round (old Marvi) or second (new), motivated Marvis engage their clients, seek to improve their lives and health and take pleasure and pride in the respect their new profession has brought them. They are also entrepreneurs, many of whom have diversified their income sources beyond the Marvi work.

Comparison Between Two Old MARVI Persona	
Less Motivated	**Highly Motivated**
First I was not interested in this work but later I developed interest. I can do my best for my community. I provide them medicine at time of emergency. I am earning while sitting at home. If this MARVI project will close in future due to some reasons; then I will do my house hold working and work on the farm (Khait). (OLD MUSLIM MARVI)	I am 22 years old. I am married women with 3 children. My husband is a teacher and I have studied till 10th grade. Now I am working as Marvi with HANDS. My whole day is spent working at my home and as Marvi. As a Marvi worker I usually visit houses; where I check the weight of the women etc. Then I go back home and stitch clothes. If I have time then I guide my niece as well. Earlier people used to hesitate to use FP but now they don't. There were some family barriers as well for acceptance of FP. It has been 4 years since I am working as a Marvi. I will continue my work as a Marvi in my village. I will build my own Marvi Markaz like doctors have. Now I am skilled and can do my work properly.(OLD HINDU MARVI)

A key area where Marvis may have played some role as an agent of change is that **early marriage**. The practice of early age marriages still exists and not much has changed in this context because of Marvi. Some Marvis who themselves understand and internalize the problem of early marriage showed intention to change this behavior regarding early marriage. In our interviews, we frequently encountered men and women who felt that girls should wait before they are married. However, none of our interviewees was a Marvi with a daughter in marriageable age to see if the Marvis' attitude has translated into action.

My elder daughter got married at the age of 15 and younger one at the age of 14, because I was not aware of consequences of early marriage. I also got married at a very early age, my husband is 10-15 years elder than me. After 12 months of my marriage I had my first baby. (NEW HINDU MARVI)

I got married at the age of 13. I feel marriage should be done at the age of 18, when a girl is old enough to manage the responsibilities of marriage. I will marry my daughter around 20 years of age. (NEW MUSLIM MARVI)

Empowerment of Marvi Workers

We assessed Marvis' empowerment based on the definition proposed by the United Nations[1]: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.

Marvis are empowered as seen by the fact that they are making household and reproductive health decisions in her own household, steps out of her house for her work and is seen as an opinion leader by women of her community. Her husband usually helps her business and she often experiments with her business model to enhance her income. We also found that in locations where the Marvi is highly motivated and empowered, positive changes are visible in the community's behavior as well.

Marvis' Business Model

The Marvi is essentially a household business. Her income includes a fixed stipend from HANDS, profits from selling medical products such as family planning supplies, iodized salt and ORS to her clients and by selling grocery and general supplies from the shop that she maintains in her home. Her family participates in the business model. The husband and older children help in record keeping– as most Marvis are illiterate. They also help with supplies and procurement. The whole family helps to market the services and takes turns to "man" the shop. Many members of Marvis' family also belong to health related occupations. For e.g., husbands or brothers of some Marvis are dispensers or vaccinators; other Marvis are related to TBAs. All of these serve to increase the credibility and acceptability of the Marvi in her community.

Marvis receive a monthly stipend of PKR 1200 from HANDS but the payments are made every two months. The practice was adopted to reduce the travel time and cost for the Marvis. A HANDS representative visits the Marvi, holds a formal feedback session with the Marvi and pays the money. Many Marvis are not happy with their salary and feel that all their salary is spent in buying stock and not much is left for them. They usually make slightly less than PKR 1000 from selling medical supplies and around PKR 2000 from the shop. Hence the income from the store is roughly equal to the income from direct Marvi work, but probably would not have been possible were she not a Marvi. Both the confidence she gathered and the marketing she is able to do due to her Marvi wok contributed to their opening and maintaining this shop. Some Marvis also "moonlight" during polio campaigns or with other NGOs for additional income.

My salary is PKR1200 and I get my cumulative salary after 2-3 months. I buy sugar, flour, tea from Kunri city when I get the salary. I now feel that the economic condition of my house is getting better. Before I became a Marvi,the household expenses were very difficult to handle. I myself decide what to buy? (NEW MARVI)

[1]United Nations population information network, UN population Division, Department of economic and Social Affairs with support from the UN Population Fund. http://www.un.org/popin/unFPa/taskforce/guide/iatfwemp.gdl.html

As a health provider, her positioning helps her. She lives in the community and is therefore approachable at all times. She visits her clients as per her routine or if needed and they can also come to her when they need to. This helps position her as nearly the sole health provider to their communities; something she builds upon by referring the more difficult cases to TBA or doctors and therefore functions as a healthcare gatekeeper.

Saving money is not possible for me as the salary of PKR 1200/- is not sufficient. I spend it on a monthly basis. In my area medicines are profitable. We take medicines from the city and sell them in our village. This medicine is beneficial for the villagers in cases of emergency. And if there are any emergency cases then we refer them to the city. I own a small store. Apart from it I don't have any type of business. Through my store my community can get medicine at their door step. (OLD HINDU MARVI, MARVI ALONE AREA)

Village women come to me and ask about training and learning from HANDS. In this way they come to know about MARVI work. (OLD MUSLIM MARVI)

Mostly I visit home by home. But when people need medicines they come to me. (OLD HINDU MARVI)

Marvis' Services are Commercial

Majority of the new Marvis stated that they do around 5 household visits a day. During their visits they share information regarding the medicines available with them to villagers. By contrast, old Marvis do 2-3 household visits every alternative day, clearly much fewer than new Marvis. They tend to focus more on relationships and less on the commercial benefits from their work. Marvis market to clients directly as well as to the community as a whole via community organizations. Her family – husband and children – also participate in her business by marketing her services to the community.

I work daily for 2-3 hours as a MARVI and after that I do daily household work. I do MARVI work in my own village, and visit every alternative day.(OLD MUSLIM MARVI ALONE)

Marvis promote and sell emergency contraception along with the condom, sometimes together. On the one hand this provides dual protection to the clients; it is also more profitable for the Marvi. In addition, they also provide pregnancy test services which are lucrative and cost up to PKR 50 each. Finally, medicines for infectious diseases such as diarrhea and fever are also highly popular.

Amoxil and fever medicine are in demand; but most of my clients are FP patients. (NEW MUSLIM MARVI)

Some new Marvis sell and market their products even in areas which were not assigned to them by HANDS. Many think that they may be censured for this and try to justify on grounds that they sell in these locations only if they can't sell in her nearby/own locality.

Regardless of whether the Marvi is working alone in the area or there areother providers, the process of establishing the business is as follows: initially the Marvi introduces herself, her products and services during daily household visits; then counsels and convinces the community women to use these products. Community women then visit her in her home to get products and services. The Marvi provides ongoing and "after sales" services for products she sells, along with advice and counseling on health in general.

Interestingly, when she works alone, the major item she sells are oral contraceptive pills, which incidentally have more side effects and therefore require more time for counseling. However, where she is working along with other health providers the Marvi predominantly sell injections and condom which require less convincing and side effects management and therefore less time to be spent with each client.

Marvis earn a profit of PKR 3-5 on each of the product they sell and prices vary to some extent between Marvis. Although they self-regulate to a large extent, HANDS also keeps a check on the profit they can take and to contain costs to the consumer. They require that Marvis clearly display a prescribed price list. However, Marvis make more money selling general items that are not procured from and are therefore not subject to HANDS pricing. Many of their consumers were also well aware of the costs of the commodities and medicines they buy from the Marvi and can tell when she is charging too much.

I receive a profit of PKR 5/- from each medicine. Medicine of PKR 20/- is sold for PKR25/- and Amoxil of PKR50/- is sold for PKR60/-(OLD HINDU MARVI)

I get a delivery kit for PKR 20, and sell it for PKR 25. (OLD HINDU MARVI)

I sell the delivery kit for 35 rupees, while I get it from HANDS for 20 rupees. I get a condom for1 rupee and fever tablet for 1 rupee.(OLD MUSLIM MARVI)

I get a delivery kit forRs30 and sell it for Rs30-35.The price I charge varies according to clients. I really do care about poor patients because rich patients have enough money but the poor patients cannot afford expensive medicine. (NEW MUSIIM MARVI)

I sell condoms for 2 rupees and I sell emergency pills at 5 or 10 rupees. These pills are useful when the condom is ruptured or leaked then this tablet should be used within24 hours of intercourse, otherwise it is not effective. (NEW MUSLIM MARVI)

I purchased P.T.(pregnancy test) Strip in PKR 6/- and sold it for PKR 10/-. Yes I also do checkups using the P.T Strips. I take PKR50/- rupees for that.(OLD HINDU MARVI)

She sold me this syrup for PKR 45. If I go to the city I can buy it for PKR 40. But it takes 2 hours to go there. So this is a good price. (CLIENT IN MALE FGD)

Relationship with HANDS

Majority of Marvis are happy with their relationship with the HANDS team and acknowledge the cooperation and support provided by HANDS field staff. Many feel that frequent visits by the HANDS team help them perform better, learn new things and rectify the identified mistakes. Some Marvis also tell story of how HANDS personnel helped them beyond their duty requirements. For e.g. one Marvi recalled that she referred a woman to a doctor for emergency surgery during labor. Since it was late at night and transport wasn't available, her HANDS supervisor helped transport the woman in his own car. These instances build up the esteem of Marvis in the community and make her more acceptable.

Only a few Marvis complained about the bad attitude or mistreatment by specific HANDS personnel and hinted that they intend to quit as a MARVI worker.

Marvis keep in close contact with the HANDS team usually through mobile phones which were initially provided by the HANDS team for communication during emergencies. Some Marvis use their husband's mobile phone to contact HANDS. This use of phones distinguished Marvis from other women of the community as women usually don't have phones in Umerkot. The commonest reason to contact the HANDS team is to re-order supplies and medicines. Occasionally they will do so for emergency referrals for clients. Close coordination with HANDS allows Marvis to avoid stock outs in general and boosts their confidence in case of emergencies.

I have the HANDS staff mobile numbers so that I can contact them at any time.(NEW HINDU MARVI)

Whenever I face shortage of medicines I callShanker and Mussarat from my Husband's mobile. They also visit us after one month. (OLD, HINDU MARVI)

When I became a Marvi I got a PTCL V-phone but that stopped working. It was really helpful but now I face trouble in contacting HANDS. I have asked my husband to bring me a mobile phone, it is very hard to have a source of communication in cases of emergency.(OLD MARVI HINDU

Marvis' Relationship with Other NGOs

Many international organizations have focused on Umerkot, especially following the recent floods in the district. While Marvi workers remain loyal to HANDS, with which they are working for betterment of health in Umerkot, on occasion they work ("moonlight") for other organizations as well. We found that while communities served by Marvi were not familiar with the name "HANDS", they readily identify the logo. On the other side, Thardeep seems to be the most popular organization in all Umerkot. People recognized it as a microfinance organization which provides loan to the community directly. Many Marvis had already been members of Thardeep and were introduced to the MARVI program by Thardeep. Some Marvis identified "Save the Children" and a few stated having received a field job offer from the NGO. Other Marvis have worked in polio vaccination campaigns held by the government – something that has traditionally been done by LHW.

Save the Children and IRC is working in our community. Yes SAVE THE CHILDREN offers me to do work with them. (OLD MUSLIM MARVI)

Yes an NGO made a road, provided Water pumps and built toilets in village. But I don't remember the name of that NGO. (OLD NON MUSLIM MARVI)

Marvis' Relationship with Other Healthcare Providers

Marvis were meant to be a solution for areas where LHWs are not available. They encounter 3 different kind of healthcare providers – LHW, TBA and doctors – and have defined working relationships with each that are symbiotic and the Marvi enter each with certain confidence.

There are a lot of differences between a Marvi's work and the work of other health providers. You see, doctors and TBA are literate while I am totally illiterate (ganwaar) but I am doing much better work than them which makes me feel as if I am matriculated. (OLD HINDU MARVI)

In many ways the **LHW** have already lived through the initial "teething" experiences of Marvis. LHWs feel that their status had improved after becoming an LHW. They too had initially faced social barriers from their own family and from their community; the usual concerns had been that of a woman stepping out of her home unaccompanied by a man and about her safety. This eventually gave way to respect.

Now people of my village are getting better. At the start of my career they didn't even understand my language but now they understand my language and can also speak Urdu language.(LHW)

When I was selected as a LHW then my family supported me in this regard. But my relatives were against the decision. They were of the view that no girl from our family should go outside for such type of work. (LHW, SHEER KHAN CHANDIO)

Yes villagers raised objections when I joined the LHW program. But we never listened to them. My family supported me. (LHW, MARDAN SHAH)

The role of LHWs has receded since 2009 when they stopped receiving commodities from their program. Now, much of their work is counseling, for example, advising women during pregnancy or to use FP. They create health awareness in their community and are accepted and respected for it. However, LHW receive their monthly salaries irrespective of whether they actually provide services or not and most state that they visit only a few households in a week.

We found that Marvis and LHW have worked out harmonious relationships with one another and usually don't compete to provide services. Marvis feel that LHW just provide polio drops – a view that was also shared by many community women. On the other hand, most LHW described that they are exclusive in promoting family planning in her community.

Of course, there is a difference between my work and that of a LHW. They work on polio drops and I work on family planning. (OLD HINDU MARVI)

Some Marvis are now operating in LHW areas. Marvis report that once they started working in these areas, LHW stop visiting those communities, leaving the Marvi as the only healthcare provider in that area. Marvis take pride in comparing the situation before and after the MARVI intervention. Some even go to the point of saying that LHW had been working in these communities before Marvis but had failed to bring any change in health condition of the area; however, the Marvis have actually changed the health in these communities for the better.

There is a LHW in our area but she lives very far. She comes only for polio vaccinations; and then she also educates us about FP and general health. She also provides FP medicine to us. The LHW paid very frequent visits before the MARVI project began but now she comes only for polio vaccinations. (NEW MUSLIM MARVI)

A LHW sometimes visits us and delivers lectures on FP. She visits on a monthly basis. The LHW is also doing a very good job, she vaccinates our children. (OLD HINDU MARVI)

My work is different as compared to the TBA. I have to do a lot of other things while the TBA only conducts deliveries. (OLD HINDU MARVI)

Marvis feel that **doctors** fill a niche – conduct surgeries and management of complicated cases etc. Some Marvis have a business relationship with doctors where they refer complicated cases and deliveries to doctors for financial considerations. For some Marvis, these relationships are extensive enough that they feel that if HANDS were to withdraw entirely, they will be able to maintain their incomes based on these referrals. Since many Marvis operate in villages and doctors in cities, there is no competition.

Doctors are also doing very essential jobs, for example, surgeries. Doctors are much more knowledgeable as compared to me; I just provide medicine nothing else. (OLD HINDU MARVI)

Traditional Birth Attendants (TBA) is usually older women from the community with experience in delivering babies. They are considered skilled (although many lack any formal training) and trusted by community for conducting delivery and available 24 hours a day and close by. She is usually the person first resorted to for conducting deliveries. On the other hand a Marvi is often a younger woman, respected for her medical care, but a TBA has more legitimacy in the eyes of the community.

The Dai's (TBA) work is very good. And the Dai comes first in times of emergency. The Dai (TBA) coordinates well with all of the town people. People consult with her for normal delivery as well. Consulting her is cost effective as well.(MALE FGD, MARVI WITH TBA AND LHW AREA)

Many Marvis are either related to or otherwise work closely with TBA. Some of the Marvis were already working as TBA prior to their recruitment into the MARVI project. Some assist TBA during deliveries. HANDS also trained some TBA at the onset of the MARVI project and these women work particularly closely with the Marvis in their areas. Marvis carry delivery kits that contain clean equipment that helps reduce infections during deliveries. We heard about many a case where the Marvi had sold the delivery kit to the family for a delivery that was conducted by a TBA, exemplifying synergies in their work. In other cases, Marvis and TBA share experiences (Marvis sometimes assist TBA as well). They also seek each other for guidance. This collaboration seems stronger in the more remote villages.

The MARVI and I are close relatives so we remain in contact with each other all the time.(TBA)

My aunt is a TBA but if the case we are dealing with is complicated and the woman has a lot of pain then we refer her to the hospital. We are also facing a deficiency of instruments. I also accompany her while on this case. (OLD MUSLIM MARVI)

I also work with the TBA and usually accompany her in every 3-4 deliveries. The TBA uses delivery kit during delivery. A delivery kit consists of hand gloves. (NEW MUSLIM MARVI)

Yes there is great worth for the TBA in our village. We share our experiences regarding delivery with her. Sometimes I also go with her. (OLD HINDU MARVI)

Usually the Marvi is younger in age as compared to the TBA, who is more aged and with more years of experience in performing deliveries, which is mostly all they do. Since the division of work is fairly circumscribed and well understood by all parties, we found no evidence of any conflict among Marvis and TBA. This allows TBAs and Marvis to share their networks and to support each other without feeling threatened.

Yes we have a TBA in our village; the TBA used to attend to the delivery cases in our village. But we referred the urgent cases to the city. (NEW HINDU MARVI)

I became a TBA while working as a MARVI. I also get the training from there. If there is water discharge then it is the sign of normal delivery. And if blood is discharged instead of water then we refer that delivery case to the hospital. There are also many complications in the delivery cases of hepatitis patients.(TBA)

Once there was a delivery case at my home and I was alone at home. At that time I had not been trained by HANDS, so I was unaware about the delivery process. After the delivery I just rashly ran from the home as I feared that the child had died, but the mother sent a boy after me and he informed me that you have to come back as newborn is alive. Then I came back and did all the necessary things. Now I am capable of handling delivery cases as I have received training from HANDS.(TBA)

Interview with TBAs revealed some concerns about the MARVI project. They complained that although they had been trained by HANDS, as were the Marvis, the TBA were not given any incentive or monetary benefits after receiving training from HANDS; in contrast to this Marvis had received both support, supervision and a monthly stipend from the HANDS team.

TBAs also feel that due to the MARVI intervention raising awareness, the expectations from the community have increased. As a result the TBA now face more severe reactions from the community if she cannot perform her work or if there is some kind of complication. However they also feel that the training HANDS provided was very beneficial to them in that they can now recognize danger signs during delivery, and feel more competent and skilled.

I am a TBA but I don't like the work of TBAs because people blame me if there a girl is born and not a boy. And if a newborn gets ill right after birth then people also blame us.(TBA HINDU)

Marvis thrive where there are synergistic factors

As can be expected, Marvis who working villages with other synergistic factors such presence of other healthcare providers such as TBA, LHW or doctors, easy terrain, somewhat better off communities etc. were more enthusiastic, energetic, informed and trusted within her community. These Marvis also have higher levels of knowledge, positive attitudes and better communication with communities. This suggests that interventions having multipronged approaches that cover different aspects of community life can provide better results.

INTERVIEWS WITH HANDS MANAGEMENT

Organization of This Section

The main points highlighted during the interviews conducted with the HANDS management were divided into three themes which are:

1. MARVI Pre-Implementation phase
2. MARVI implementation and intervention phase
3. End phase and exit strategy/ sustainability

MARVI Pre –Implementation phase

Why Choose Umerkot

HANDS management at the head office views the population of Umerkot as very vulnerable compared to other communities of Sindh such as Dadu or Thatta. While HANDS had no prior presence in Umerkot, it had a good working relationship with Thardeep Rural Support Program (TRDP) which was already present in Umerkot and could provide networking and access to the communities. TRDP became a partner and helped recruit potential Marvi workers.

'I remember, when we were planning the MARVI program, we felt the need to extend our coverage to more far flung areas, and we found that Umerkot was a best fit as it has many exceptional features as compared to other regions of Sindh" (M&E Manager, HANDS –Rubina Jaffri)

"As you have visited and seen that Umerkot is a very remote area with low access to health care, low women empowerment and high poverty, because of these characteristics we chose Umerkot as an intervention area. (General Manager HANDS-Khalid)

"The third reason was the presence of the organization Thardeep in Umerkot, as HANDS had a very good liaison with Thardeep. HANDS never planned on going for micro-finance or community mobilization because Thardeep was doing a good job in that field but Thardeep did not have expertise in health related matters" (M&E Manager, HANDS - Rubina Jaffri)

We knew that acceptance of family planning is very high in Umerkot. The actual problem is accessibility and affordability of FP products. We knew if we provide FP products at an affordable cost, CPR in Umerkot will increase. (High level Management HANDS)

Naming the MARVI Project

HANDS named the project on a famous legend from Umerkot. Marvi was a famous heroine who stood up against oppression of her time and her courage is well recognized. The naming process included local interviews and inputs from local personnel and also involved evaluation of other possible names that had resonance with the local population.

When we went to Umerkot for the needs assessment, we found that the name Marvi is very famous. Everybody was telling us the story of Marvi. It is HANDS policy to tag internally a project or program, so we figured it is better to give the name of Marvi to this intervention. Attaching a name to a program gives the opportunity of

ownership over the program even after the grant closes, also it helps the program in becoming sustainable. (M&E Manager, HANDS –Rubina Jaffri)

*Marvi is the name of trust and respect who secured her virginity against a lord, I recommended the name **Marvi** to HANDS and HANDS appreciated my suggestion, after finalizing the name; HANDS held some meetings to give MARVI name a meaningful abbreviation. Before suggesting the name Marvi I suggested **Mamta** which means **a mother's love in the Sanskrit language**. (Regional head Umerkot - Bansi)*

Marvi Recruitment

Regional management mentioned that their biggest challenge was to recruit women and convince them to work. Firstly there weren't many educated women and a few educated ones, were unwilling to work. HANDS worked via Para Development Committees (PDC). TRDP and PDC helped convince the community to allow women to work as Marvis.

According to the management from the head office, the criteria for MARVI selection were: willingness to be trained by HANDS and must be productive with some level of education. In both the phases the selection criteria was the same expect that initially the recruitment team sought matriculations desired level of education to be selected as a Marvi, however, the baseline study showed that only 13% women were even literate in the entire district of Umerkot, and this led HANDS modify the selection criteria.

HANDS felt that TBA recruitment was much easier, because no specific selection criteria for was set for recruitment of TBAs and many TBA were already serving in the area.

Our focus was to reach uncovered areas. We recruited illiterate women, they took support from (male members of) their families - brothers, husbands or sons. Although the selection criteria were defined it had to be compromised. (M&E Manager, HANDS –Rubina Jaffri)

The basic criteria for selection was 5th grade education with good communication skills and willingness to get trained. Unfortunately, we searched in 35 villages but found no one who was educated and met the selection criteria so later we had to change our criteria. (Bansi)

"as it is very hard in Umerkot for women to be allowed to work outside the house, so in the recruitment phase of MARVI we motivated women of Umerkot with three main influencing themes. 1. You do not need to go outside daily for work, 2. You can maintain your privacy while working, 3. You will be trained and skilled in health related matters, which will be very beneficial to you and your family' (FIELD MANAGEMENT-UMERKOT)

TRDP did a very good job at the grassroots level. It was a difficult task to identify 400 villages, also 400 potential Marvi workers and 400 TBA's were identified, even though the literacy rate was very low in the district. (HPA Lead in Regional Office, Ashok)

Community Involvement

Community based organizations (CBO) and landlords were involved in selection of Marvis due to their local knowledge. None of the management interviewees reported any resistance from landlords or

political personnel. Some regional managers of HANDS described resistance or un-acceptance of the MARVI intervention from the Muslim religious leaders in a few villages, but none of the managers from head office mentioned this.

"We faced non-acceptance form religious leaders of some Muslim areas of Umerkot/ Khokherapar, and we had to stop our work in such areas because of the high level of resistance. (Regional Head Umerkot - Bansi)

MARVI Implementation and Intervention Phase

TRDP Partnership

HANDS originally partnered with TRDP to test community mobilization in promoting health, as HANDS management was aware of the good work of NRSP (a TRDP partner) with CBOs. However, the end-line assessment of the 1st phase suggested below par performance of CBOs. Additionally the HANDS team felt that since TRDP was giving stipends to Marvis, they were doing TRDP's work rather than the health work for HANDS. Finally, TRDP became more involved in microfinance and paid less attention to social mobilization. These factors led HANDS to end their partnership with TRDP and start working independently. HANDS did some social mobilization through its own personnel over the project life, it was somehow never very central as this was not a core competency.

After the 1st phase of MARVI, we took control of stipend distribution; we also hired some LHVs at that level so we felt more empowered in the field. (M&E Manager, HANDS –Rubina Jaffri)

Issues Faced and Addressed

Poor infrastructure and geographic distances were the main challenges for the intervention, but as HANDS was implementing the Marvi intervention, there was simultaneous – public sector and NGO driven - physical development which facilitated their work in Umerkot.

In other instances, HANDS team member provided personal transport to Marvis and their clients in need. It is worth noting that perspective of clients and HANDS regional management were slightly different based on the distances from the main cities of Umerkot and Kunri. In distances, more innovations and local solutions were sought and allowed to take place while closer to the cities, HANDS protocols were followed more closely.

When we started working, the situation in Umerkot was very bad. Now we feel there has been a clear improvement. For e.g. water level has increased, link roads have been constructed and means of communication have improved. (M&E Manager, HANDS –RubinaJaffri)

Overcoming Illiteracy as a Limitation

Since only some Marvis were educated – and many were illiterate - HANDS used smart charts as communication tools which were prepared by ROZAN (pictures of smart charts were taken during direct observation and are annexed). Interestingly though, despite the high illiteracy, initially record keeping was attempted, resulting in very scant and sporadic records being collected. In terms of record keeping, although they don't report to HANDS, many Marvis' husband and children help maintain

record for them. This again highlights a positive aspect of the Marvis' business model and household level collaboration and sustainability.

Marvi Drop-outs

According to the management, performance and function of Marvis is assessed monthly during training through facilitation and on-job coaching. A few Marvis have dropped out when she was unable to perform up to standards despite continued on-job coaching. In others cases a Marvi gets married and leaves the program when she moves away from her village. Almost 58 Marvis have dropped out from the total of 350 that were hired initially and others were recruited, so that currently there are 328 Marvis working in Umerkot.

But most of them are well trained and working with full enthusiasm and feel proud when their communities call them 'madam', 'baji' or 'Dr. Marvi'. (General Manager HANDS, Dr. Khalid)

Issues with TBA and LHW

In effect, HANDS created a new cadre of health workers that directly competed against existing providers such as TBA and LHW. Although selected TBA received initial training from HANDS and were linked with Marvis, they did not receive the stipend or ongoing support that Marvis received. This created a number of complaints from TBAs that were communicated to HANDS management. Interestingly head office managers acknowledge hearing about these complaints from TBAs while, regional level managers completely deny any such complaints.

These complaints led to some initial friction and some TBA tried to hinder the work or minimize the utility of Marvis in the communities. Given the respect that TBA command in their communities, this could potentially have been catastrophic. However, it seemed from interviews of Marvis and TBA that this was resolved over time and a "de facto" division of labor was identified and agreed upon in which both parties knew their roles and worked together, including referrals to each other.

LHW generally felt that they had lost ground to Marvis. While they also understand that this largely happened because they had virtually stopped keeping supplies and commodities since 2009 and people turned to Marvis for these. HANDS regional and head office management understood this dynamic. We also found considerable hostility towards the Marvi program among the officials of the LHW program that was grounded in the feeling that Marvis are now taking over from LHW.

TBAs felt that MARVIs are getting money but TBAs are not getting anything while TBA have to purchase delivery kits from the MARVI. (M&E Manager, HANDS –Rubina Jaffri)

2011 Floods and the Shelter Program

Excessive rains in 2011 affected the overall Marvi program, and some modifications were made in the initial planning which included providing the flood affected Marvis money for Shelters for which funding was provided by Packard. Approximately half – around 170 – Marvis received these funds. In many of our interviews, Marvis who did not receive these funds were very upset and pointed out that although

their homes were not destroyed during the heavy rains, they were hardly better than those that had been destroyed and that they should also have received support for shelter.

We did not go into field and ask the flood victims about using condoms; instead we had to follow a supportive strategy. Packard donated some funds for this. Some other stuff was also provided by Packard but it was not as a part of the MARVI project. In my point of view due to the shelter program a clear improvement in their performance and in their data management abilities was seen. (M&E Manager, HANDS –RubinaJaffri)

During the 2011 floods, around 200 MARVI workers' houses got damaged. After assessment of their houses we provided them shelter. Only those MARVIs got the money for shelter that fit the criteria set by the management. (General Manager HANDS, Dr. Khalid)

Gap in Communication (Researcher note)

Our research team felt that there were visible gaps in communication and perception of various levels of management. It seems that the head office receives filtered information and this is largely rooted in a perception among the district level managers that they can manage issues and therefore should not bother the head office with what they consider small issues – rather than an intention to hide facts or faults. For e.g. we found that some Marvis exceed the HANDS provided price lists and that at least some local managers were aware but chose to ignore this since much of this happens in more remote locations and is considered an adaptation to the higher transport costs in these areas; as larger distances mean higher transport costs for communities to access healthcare and supplies, Marvis charge extra in understanding that by providing supplies and services at doorstep, they are partially allaying this additional cost to villagers but are also charging a little extra for it. Similarly in early recruitment selection criteria were ignored by local managers. However monitors from the head office don't get to hear about this.

In a reversal of this dynamic, TBAs were trained initially by HANDS but received no further support as did the Marvis. They felt that they had been given an unfair deal and they complained of this to HANDS head office managers when they visited. However, regional management denied receiving any such complaints.

Table 8.Information Flows between HANDS Offices

Management Level	Information Type	Information that Flows	Information that is Filtered out
Head Office Level	M&E team gets feedback daily from regional team. Monitory team comes twice monthly to Umerkot and presents their report directly to program management	1. Monitoring 2. Stock sand supplies 3. Achievements 4. Targets 5. Training material, arrangements 6. Financial decisions e.g. salaries	1. The severity of problems that are found at any level is communicated at lighter tone

	team.		
Regional (District) Office Level	The Coordinators receive information through HPA's. The head of regional office shares information further to head office.	1. Daily report from HPA about visits with ten Marvi per day. 2. Monthly reporting of supplies and stock in form of a report. 3. Trainings updates 4. Any field visits by third party like donors 5. Achievements 6. Financial matters	1. Regional office can independently take decisions if need arises and some information is filtered at this level. 2. Not all the information about field related issues is forwarded.
Field Level	The information from MARVI about the field is communicated to Health Promoter assistant HPA's	1. HPA twice monthly 2. Supplies 3. Medicines 4. Stipend (by separate team) 5. Training, supervision 6. Contacts with HPA for any help 7. Issues any if arise are communicated to HPA's.	1. First filtering is done at HPA level as they report about the visit on set proforma provided to them and apart from that what issue share brought forward are not communicated as it is.

End Phase and Exit

Marvis' Success in Increasing CPR

A number of factors can be attributed to the success of the Marvi intervention. Marvis overcome a major problem of access to FP and health services for the communities, i.e. the distances. Doorstep delivery of basic medical care and family planning along with behavior change counseling is a major departure from what residents of remote rural communities have faced and this was recognized and addressed by HANDS. They understood that there is some need/ demand for FP in these communities that could be met by providing these services. This was verified by the rapid rise in CPR once quality and reliable services were made available. Interestingly though, the managers feel that poverty continues to limit FP uptake despite the success they have achieved. Perhaps a more nuanced view of which community residents are availing services and which are not along with an assessment of the factors that need to be overcome to meet the needs of this latter group can help extend the gains of the current intervention.

The team – at the head office, at the regional office and in the field – is extremely dedicated. We heard at least 2 stories from local women where a client of a Marvi was having difficulties with labor in the middle of the night. The Marvi called her HPA who brought his own car and drove the woman to the city for advanced medical care. Such dedication was well recognized and respected in the community.

The overall quality of care was generally perceived as high. The HANDS team takes extra care to ensure quality of care and behavior and this is readily evident during interviews with Marvis and communities and the attention to quality is reinforced by the head office for regional managers. We found that head office visits fall into two categories. One is for general management assessments where operations are reviewed. However, the Director Research (usually monthly) visits are specially designed to spot check and refresh quality of care standards. In effect, this separates two essential management functions – management and quality of services - so that both are fulfilled by specialists and are not compromised.

MARVIs are very successful as we have some Marvi contacts who were working as a Marvi but now the government has offered them LHW job and they are successfully doing their duties. (HPA Lead in Regional Office, Ashok)

The knowledge about the family planning is 80% while the unmet need is 32-35%. The basic problem is access to their door steps. (General Manager HANDS, Dr. Khalid)

'We learnt the lesson that people are convinced to use FP, as poverty is the main factor that influences them. The only barrier was accessibility and affordability. So, we made a strategy that if we provide FP on their door steps and facilitate them with accessibility then we can meet our target. (General Manager HANDS, Dr. Khalid)

CPR can be increased further if people get their method of choice at their door steps on an affordable price. This is a lesson learnt. If we want to improve adoptability so we need to increase accessibility. (General Manager HANDS, Dr. Khalid)

Replication of Marvi Model beyond Umerkot

HANDS has extended the model to Ghotki, Dadu and Sanghar with support from Greenstar Social Marketing (GSM). The overall intervention is nearly the same except that Ghotki, Dadu and Sanghar have a predominantly Muslim population. HANDS managers feel that they are seeing their success in Umerkot being replicated in Ghotki, Dadu and Sanghar and they expressed surprise over the fact that the perceived religious differences between the communities are not a major factor.

We are getting wonderful results. We have to target the number of CYP but we are achieving more than we estimated. Both GSM and Packard Marvis are almost the same, but there is a difference of religion, and area which is Ghotki instead of Umerkot. We had assumed that due to differences in religion we might face resistance but the good news is that we did not face any such resistance. (General Manager HANDS, Dr. Khalid)

With GSM, we are following the same MARVI model in Sindh and already 600 MARVIs have been enrolled till now in Dadu and Sanghar. (M&E Manager, HANDS - Rubina Jaffri)

Religion is a not a constraint but it is perceived to be so. Even I gave that statement in a national health conference 2 years ago. (General Manager HANDS, Dr. Khalid)

Review of Marvi Project documents

A number key points stand out during a review of key Marvi project documents (Annex).

1. During initial surveys, its best to include intervention and control communities, since there is often a need to discern intervention effects from secular trends. Absent such controls, it has been very difficult to interpret the effect of secular trends, particularly since a number of other actors such as the LHW and other NGOs were also working in Umerkot.
2. Since the baseline survey was only conducted in a limited part of Umerkot (which was later exceeded by Marvis as demonstrated in the end line survey), it is very difficult to compare the results from the baseline survey with those at the end line.
3. A project such as this generates large volumes of data, much of which are in the field under difficult conditions, We found that we could not use any of the Marvi or their HPA data since all of that were on paper copies. With a page of register per week per Marvi, this was considerable amount of data. Even if Marvis or their HPA can't enter data directly into an electronic database, this can be done easily and inexpensively at the HANDS Umerkot office on a regular basis if incorporated into the project design from the beginning.

SUSTAINABILITY OF MARVI WORK AFTER THE HANDS INTERVENTION

Majority of Marvis want to continue working even if the supply of medicine and FP products or even their monthly income from HANDS is discontinued. However they also feel that they will suffer in the absence of monthly income. However, a number of supply and demand factors contribute to sustainability of Marvis' work in Umerkot. From the Marvis' point of view, she has gained tremendously from the prestige she has received from being a Marvi. Some of this also translated into considerable financial benefits from other sources. From the Community's perspective, there is a higher level of awareness of health and appreciation of the ready access to healthcare that the Marvis bring. It may be difficult for many in these communities to revert to a pre-Marvi stage and they may continue to pay for these services that they have become accustomed to.

Reason 1: Recognition by Her Own Community

This is the key reason behind continuing work as a Marvi. She feels she is needed by and receives a lot of respect and recognition from her community. She is considered a healthcare provider and is the first person to be contacted in case of any illness and emergency; and feels that she has the competence and skills to meet these needs. Both old and new Marvis recognize this and wish to continue her services to and be perceived as a dependable resource by her community.

I want to work as a MARVI in the future as well; it benefits me and my village. (NEW HINDU MARVI)

I really want to continue my work; it is very beneficial for poor people and my village. A few days ago my husband told me that now this MARVI work is going to end. I was shocked and said "oh God, this should not be stopped, I will not only do this work but spread it even more.(OLD HINDU MARVI)

Yes I will continue working as a MARVI as I have a lot of support from my husband. Due to this work, my home is running in a good condition. My village also needs a MARVI, and I will serve them. (OLD HINDU)

It has been 4 years since I started working as a MARVI. I will continue working as a MARVI in my village. I will build up my own MARVI Markaz like doctors build up their hospitals. (OLD HINDU MARVI)

Reason 2: Financial Benefits of Being a Marvi

Marvis gained tremendous benefits after becoming a Marvi. Not only do they generate an income directly from the Marvi related health work, the empowerment from being a Marvi has translated into sources of income that more than double her income from her health work. Furthermore, some of this income is entirely independent of support from the HANDS and this project. However, if she stops being a Marvi, it is unclear if she will retain the prestige she now has and will be able to retain those other sources of income as well.

Reason 3: Continuing Demand for Marvis in the Communities

Perhaps as a consequence of the MARVI interventions villages served by Marvis have higher awareness about health; they now discuss health more often in their day to day life and also feel the need for quality health facilities in their village. They also recognize that access to healthcare has improved

tremendously for them due to the MARVI intervention. They now receive services at their doorstep when previously they had go to cities to see doctors, which often meant loss of income for a day or more and was more expensive. Finally they trust Marvi workers who are from their own village. Even when the Marvi refers them to the city, they know that she is often familiar with the provider she is sending them to and they would receive better care. In addition to the medical care they receive, they also appreciate health advice and information she provides and feel that these have substantially improved their outlook on health. The discontinuation of the MARVI intervention will revert them back to their pre-MARVI state and they would like the intervention to continue.

My monthly income is PKR 1200/-. In the past I was a teacher in an adult education project. I taught women there. Now they can read and write their name. They also have awareness about health and family planning.(OLD HINDU MARVI ALONE)

We do not have a LHW in our area. The Marvi's brother is providing services of polio drops and the other work of the LHW. (OLD HINDU MARVI ALONE)

There was a delivery case in my brother's house 15 days ago. They guided us there then we took the lady to the trained doctor. (MALE FGD, NEW NON MULSIM MARVI WITH TBA & LHW AREA)

We used to get family planning and medicines from baji (LHW) until a few years ago. Then they stopped carrying these and so we started buying these from the Marvi. Even though they charge us some money but at least we get these and don't have to go to the city. (MALE FGD)

Marvis' Fear of HANDS Leaving and Possible Solutions

Marvis expressed many fears of what will happen if and when HANDS concludes its support and leaves. They recognize that MARVI and HANDS have become established and widely recognized in the community as brands of quality healthcare. If HANDS withdraws its support Marvis will eventually lose this credibility in the eyes of the community.

Beyond the prestige they fear the loss of instruments, (the subsidy for) supplies and technical support that HANDS has provided and are uncertain how well they will be able to perform without these. They fear that they may not be able to maintain quality without their instruments and without the subsidy for supplies or medicines (and the support for procurement and distribution); they may not be able to buy the medicines they sell to their clients. This is roughly the same situation that LHW are in and Marvis and their communities recognize that while useful in many ways, the inability to provide medicines has seriously limited the effectiveness of the LHW.

If they stop their funding and close MARVI project then I will continue my working as a MARVI in my community. , But if they take back their instruments then I will not be able to do the work. (OLD HINDU MARVI)

HANDS is really doing a good job and, it should be continued.(If the project is closed)I will just continue to advise about medicines and other things but I cannot afford providing medicine as I am also a poor person.(OLD HINDU MARVI)

We will go to the city for getting the medicine... but no one will tell us about health related issues. We will also have to go to the city for delivery cases as well.(FEMALE CLIENT 01)

… then it will become compulsory for us to take the patient to the city. (MALE FGD)

Some Marvis – particularly those who live closer to cities that have existing clinics - have established links and network with these clinics to refer patients for a fee. However Marvis from remote areas with fewer options feel that they may revert to prescribing only, while recognizing that her clients will likely be unable to afford medicines she prescribes.

'Some Marvi said that the HANDS staff used to say that 'you are doing wrong, you are not performing well, you are not good to my village women', and she would feel ashamed because of this attitude and really wanted to stop working as a Marvi. However, now she feels that she is skilled and can run her own Marvi clinic without HANDS support. (Interview with interviewers, Female Data Collector)

HANDS Views on MARVI Sustainability

HANDS management perceives several elements are crucial for sustainability. They feel that Marvis should act as **entrepreneur.** This idea will be tested by reducing the stipend to Marvis. HANDS reduced the subsidy to the intervention and heard no complaint. However, it would more apt to discern if Marvis were directly affected by this decrease (in our qualitative interviews in January, we did not find any Marvi mentioning any change in support). Even so, a more realistic test would be to see if there is a decrease in sales or other performance indicators of Marvis with either a reduction in the overall subsidy or more directly the stipend of Marvis. As of January, none of the Marvis we interviewed were aware that this reduction in stipend is about to take place and some even asked our team to advocate to HANDS to increase it.

In other conversations, aspects of sustainability that have been considered by HANDS (as per Dr. Tanveer Ahmed, CEO) are **continued availability of supplies and training**. HANDS is considering forming a private company from existing Umerkot personnel that can procure and supply Marvis with commodities once this intervention concludes. **Continued training** – i.e. continued refreshment of Marvis' skills – is more complex. It is not clear if specific means have been considered for this as yet.

Now we are trying to make them entrepreneurs. We will continue the supply of products without any subsidy. We have already reduced the subsidy but didn't face any objection from the field. The second step would be minimizing the stipend of the Marvi. I know because I attended a strategic meeting few days ago. This issue was also brought up and discussed with Packard as part of the Exit Strategy. In order to exit from this program, while still empowering Marvisas entrepreneurs, Packard will give them 10-20 thousand rupees and our livelihood implementation program will also work on this issue. My personal view is that even if 50% MARVIs will continue working it would be a great achievement. ((M&E Manager, HANDS –Rubina Jaffri)

MARVI Scalability

MARVI is now a brand name, well recognized in the development sector by many NGOs, donors and government officials. HANDS management understand that the brand has been established and

replicated in 2 additional districts with a total doubling of Marvi workers and has started experimenting with versions of the Marvi approach, tailored to different locations. It seems that to senior managers, the Marvi approach is well established and could be sustained only if it is expanded further.

We found no expectations that the approach will run into difficulties in other locations. The management seems confident that what they have learnt in Umerkot is replicable and they understand enough of difficulties to overcome possible complications in new areas.

I do not feel any barrier or challenge with this brand name MARVI in other areas of Pakistan. We might face some cultural difference in other areas of Pakistan. We feel that there is a great acceptance of the MARVI program at the national and international level……We learnt many lessons from this project and took all possible corrective measures. I feel sustainability of the MARVI program could be a challenge. (M&E Manager, HANDS –Rubina Jaffri)

In the single model of MARVI we are trying different approaches. Along with an NGO "IMmedico" situated in Korangi crossing we are doing work on mental disorders, while with Greenstar Social Marketing (GSM) we are working on FP. (M&E Manager, HANDS –Rubina Jaffri)

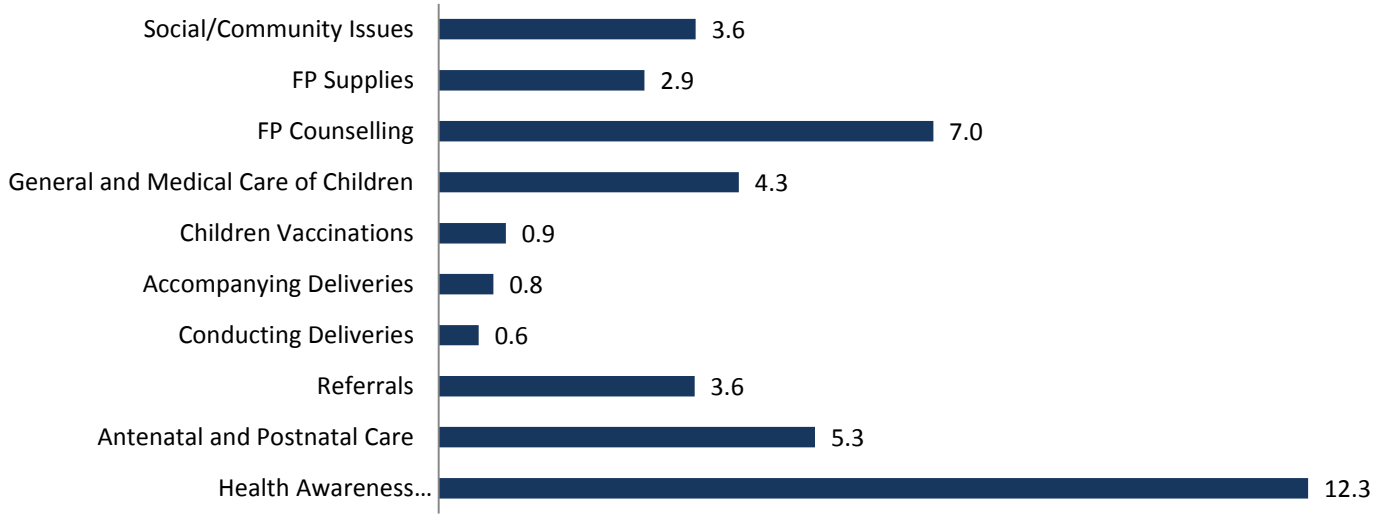
For other regions of Pakistan MARVI will go with this program. We have already started work in Awaran Balochistan where we are working with UKAID and Plan Pakistan. We are now opening offices in Balochistan and KPK. So the MARVI program is included in our 2020 vision. (General Manager HANDS, Dr. Khalid)

COST EFFECTIVENESS ANALYSIS OF THE MARVIINTERVENTION

On average Marvis are doing Marvi work 4 days a week with approximately 2.3 ± 1.9 hours per day. Besides, they are charging rupees 23 ± 26 per household per visit. Marvis are visiting approximately 3 ± 1.5 households per day and within each household, they are serving nearly 5 clients.

Marvis provide various services of maternal and child health care services to their clients and therefore distribute their time among these services. On each visit (on average), Marvis spend most time on health awareness sessions (12 Minutes), followed by FP counseling (7minutes) and antenatal/postnatal care (5 Minutes).

Figure 103.Marvis' Time Allocation by Services provided (in Minutes)



This time allocation was used in FP costing analysis. Of the total time allocated among various services, 15% of Marvis' time is used for FP counseling and supplies. Considering, the total program budget for Marvi intervention up to year 2014 of USD 1,750,000, the total cost of FP by the MARVI intervention is USD 262,500 (total budget x time allocated to FP).

We estimated that Marvis served approximately 127,656 ± 382 with FP services and supplies. Briefly, we assumed that no woman was served by a Marvi with FP in year zero (2008); CPR was 9% in 2008; in 2013, the overall CPR had increased to 27% and 84% of all women had received FP supplies from a Marvi (based on end line assessment); this meant that 35,811 women availed FP services from a Marvi in 2013; and that the coverage and CPR in the intervening years between 2008 and 2013 would increase arithmetically. Using extrapolation function of Microsoft Excel, we estimated the number of women that would have been served by Marvis with FP services in each of the intervening years and then added all of these to arrive at approximately 81,363 total women served with FP by the Marvis during 2008 and 2013. Similarly, an estimated 194,742 CYP were provided by the Marvis in the intervention period based on the method mix from the end line assessment. These come to the total cost per women served by the Marvi intervention of USD 3.23 and USD 1.35 per CYP.

Table 9 Cost Effectiveness Calculations

Indicator	Value (range)
Total Program Budget	1,750,000
Time Spent for FP Services*	15%
Total Cost of FP+	262,500
Estimated Women Served with FP	81,363 (81,168 – 81,558))
Cost of FP per women served (USD)	3.226 (3.219 - 3.234)
Total CYP served[a]	194,742 (194,275 - 195,209)
Cost of FP per CYP (USD)	1.348 (1.345 – 1.351)

* From time allocation described above

+ Total budget x proportion of time allocated to FP

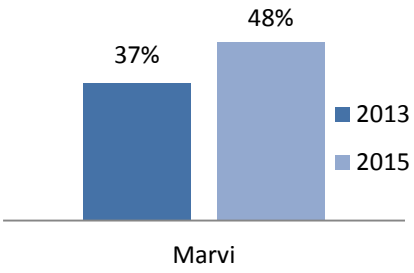
[a] End line results were extrapolated to estimate the total number of FP users in 2013 and then reverse extrapolated to estimate the rate of rise in FP users for each year since the baseline, using Microsoft Excel®

FOLLOWUP STUDY: CHANGES IN REPRODUCTIVE HEALTH PRACTICES IN THE PAST YEAR

REPRODUCTIVE HEALTH PRACTICES OF THE MARVIS

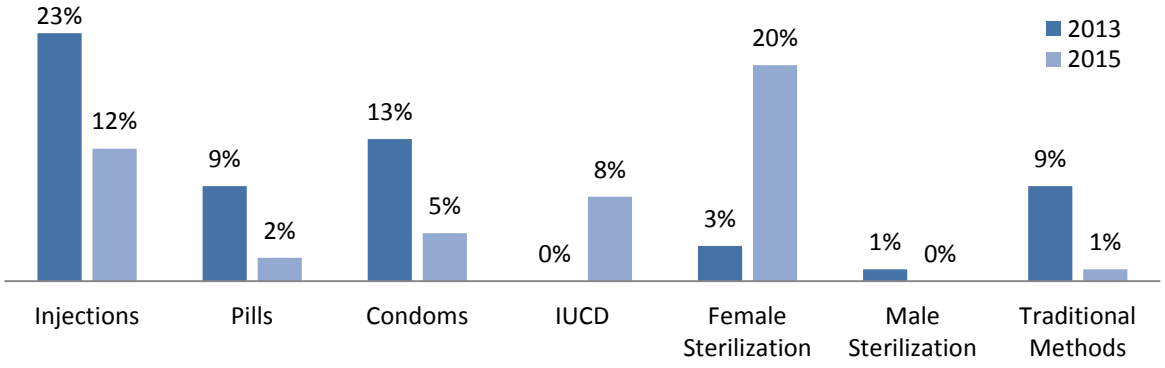
Among the Marvi workers, contraceptive prevalence rate has increased by 11% (from 37% to 48%) as compared to the last year –suggesting that FP practices are being increasingly internalized and as was seen earlier, the Marvis continue to practice what they counsel.

Figure 104 Contraceptive Prevalence Rate Among Marvis



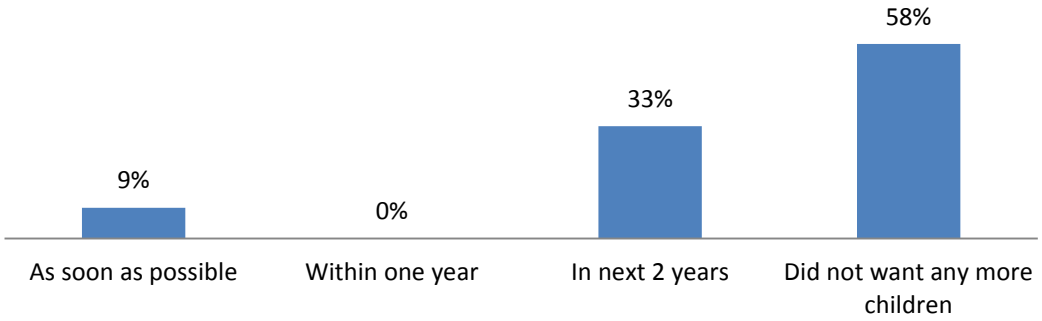
Not only has the CPR increased among the Marvis (and community women, below), there is a shift away from short term FP methods such as pills, condoms and injections to increased uptake of long term FP methods such as IUCD and female sterilization. The reasons for this shift are unclear. It is possible that Marvis who have been using and counseling about FP methods for nearly 7 years now, are starting to recognize that longer term methods are safer and since many of the Marvis have already completed families (on average Marvis have had 5 pregnancies and 2.2 boys and 2.2 girls), they don't need to risk further pregnancies by using short term methods; hence they shifted to longer acting and permanent methods.

Figure 105 Method Mix



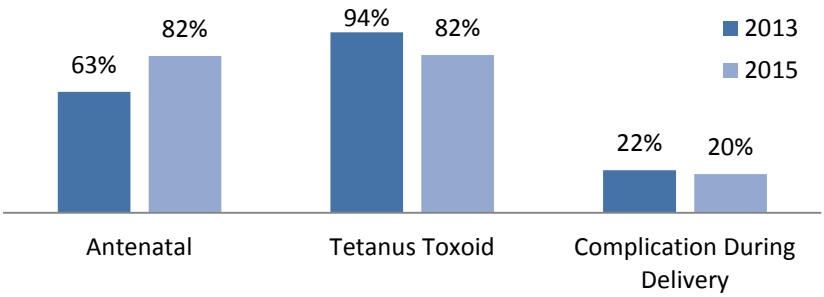
It appears that overall, even though Marvis have brought family planning to the communities in a remarkable manner; their own practices remain more mixed. Although they are using more FP than they did 2 years ago and their method mix leans more towards longer term methods, at least some of the Marvis are still missing out on the opportunity to use FP and having unwanted pregnancies. Around 58% of the Marvis reported that their last pregnancies had been unwanted at all and an additional 33% would have preferred delaying this pregnancy.

Figure 106 When Did They Want Another Child



As with the rather mixed pattern of FP use, the uptake of reproductive health practices by Marvis also varies considerably. For instance, while more Marvis are using FP and have adopted antenatal care, specific elements – perhaps those that are more expensive or require travel to a government facilities, for e.g. a tetanus injection – actually decreased.

Figure 107 Comparisons of Marvis' Reproductive Health Practices

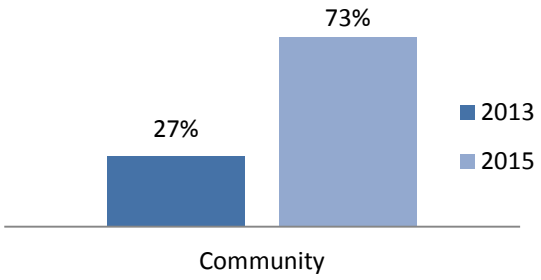


REPRODUCTIVE HEALTH INDICATORS OF THE CONTROL COMMUNITY WOMEN

Community women were included in the sample to provide economic controls. The women were direct neighbors of the Marvis and were interviewed to study the effect of secular trends of the economy on Marvis' business model and economic status. These women are therefore NOT representative of the communities at large in terms of their reproductive behaviors, in that they would be the first to be approached for any health message or services that the Marvis had to sell.

This is reflected in the CPR of these community women which increased rather dramatically to 77%. It is worthwhile to remember that these women are not representative of their communities. They were recruited to provide a social control for Marvis on account of being neighbors of the Marvis being interviewed and are therefore the most likely to be influenced by the Marvi. This higher CPR among community women is also another indication that Marvis have continued their work in past year while HANDS support was being reduced. However, among women who became pregnant during the past year, only 17% have actually wanted to become pregnant at that time, suggesting that at least for some women, the unmet need for FP remains high.

Figure 108 Contraceptive Prevalence Rate among Community Women



Delivery and Post Delivery Care for Community women

Fully 97% of the women, who reported becoming pregnant during the past year, visited a healthcare provider for a checkup. For 80% of these, that healthcare provider was a Marvi, 11% visited a doctor, or a Dai or TBA (9%). Nearly all women were satisfied by the provider they had visited and would use them again in the future.

Consistent with the end line study of 2013, 54% of the women reported having their deliveries outside their home; with the most being delivered by a private nurse or doctor (31%). The decision to have this delivery there was by the woman either alone or in consultation with her husband approximately 80% of the time.

Figure 109 Place of Delivery

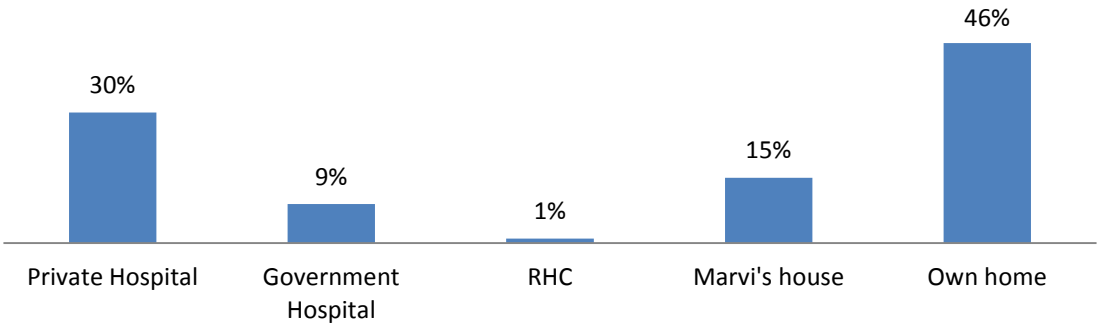


Figure 110 Who Performed the Delivery

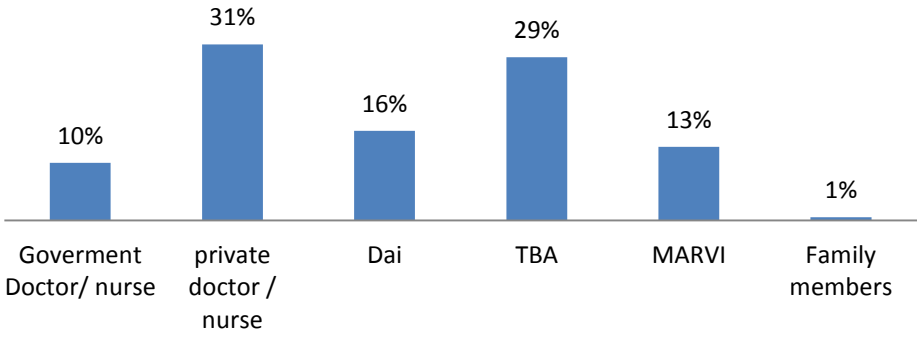
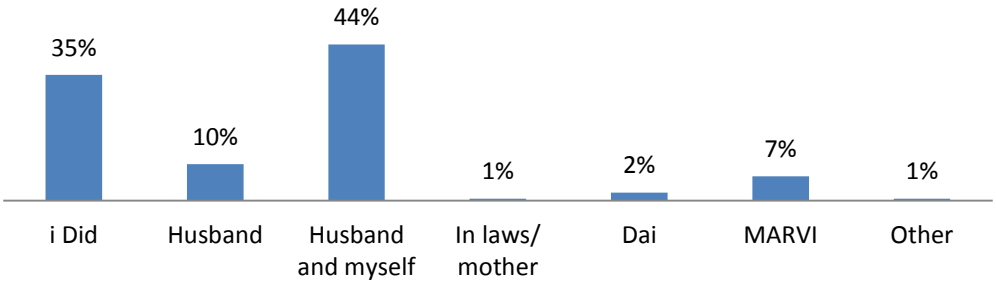
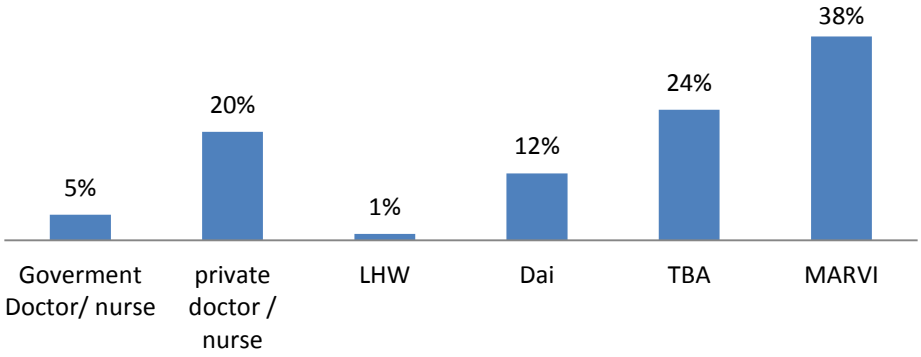


Figure 111 Decision About Place of Delivery



Nearly all women (97%) had a post-delivery visit with a healthcare provider; most common of who was a Marvi (38%), followed by a Dai/TBA (36%) and then a private nurse or doctor (20%). Nearly all were satisfied with the provider they had seen.

Figure 112 Type of Healthcare Provider who Examined



The **key inference** from reproductive health practices of Marvis' neighbor community women is that Marvis remain active. They may have trailed off some of their activities (below), but for most part they are working as Marvis, counseling and serving their communities.

FOLLOWUP STUDY: ECONOMIC STATUS

CHANGES IN ASSETS AND INCOME OVER THE PAST ONE YEAR

Financial Status – Income

Household income of a Marvi household is forty seven hundred rupees more than the average monthly household income of their neighbors. The overall income of a Marvi household increased by 13% since the end line survey, while that of the average community fell by 8%; however, these changes are not statistically significant. More importantly the overall income of the Marvi workers (their total income from Marvi and non-Marvi work) fell by 72% (p: 0.03). This includes a drop in their Marvi work related income by 20% (statistically non-significant), that roughly corresponds to the amount of PKR 500 reduction of their stipend from HANDS; and a much larger drop of around PKR 1650 in non-Marvi work related income.

Although it's difficult to know precisely why these changes came about, some explanations may be considered. It is possible that HANDS' stipend allowed Marvis to devote their time to other activities (including counseling etc. as is discussed below plus some other income generating activities). With impending loss of stipend, Marvis shifted some of their time to selling more supplies; as is seen by the fact that the increase in sales of health supplies partially offsets the loss in stipend. However, the time required to do this may have prevented them from participating in other income generating activities. As was noted in the end line assessment, Marvis do their Marvi work in addition to their usual household and community responsibilities and have a very busy schedule.

The other implication of this finding has to do with the empowerment of the Marvis. It was noted in the end line assessment that Marvis ability to generate additional income allowed them to participate in many of the household decisions where other community women had not been allowed, for e.g. in major financial decisions of the household or even sitting on the village "panchayat" (village council). It remains to be seen, if reduction in Marvis ability to generate an income would lead to scaling back in their autonomy within their households and perhaps in the community.

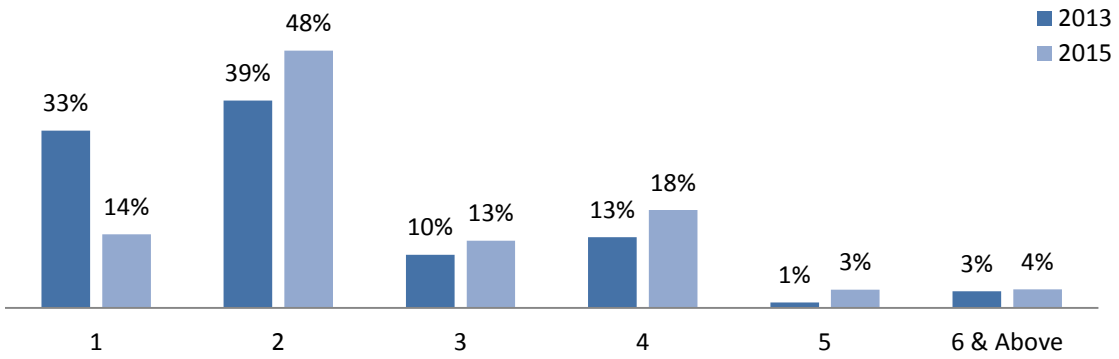
Table 10: Comparative Analysis of Marvi Financial Status

Income Variables	Marvi 2013	Marvi 2015	Change in PKR	Percentage Change*	P value
Community	10,175	9,452	-723	-7%	0.22
Marvis					
Monthly household income	12,362	14,208	+1,846	+15%	0.14
Marvi's monthly Income from ALL Jobs	4,724	2,747	-1,977	-42%	0.03
Monthly income generated from Marvi work	1,905	1,581	-324	-17%	0.15
Monthly income generated from non-Marvi work	2,819	1,166	-1,653	-59%	0.004
*Changes are not adjusted for inflation					

Number of Earning Members

87% of the Marvi households have more than one earning member as compared to 67% of the Marvi households last year. Earning members in Marvi households have increased rather significantly.

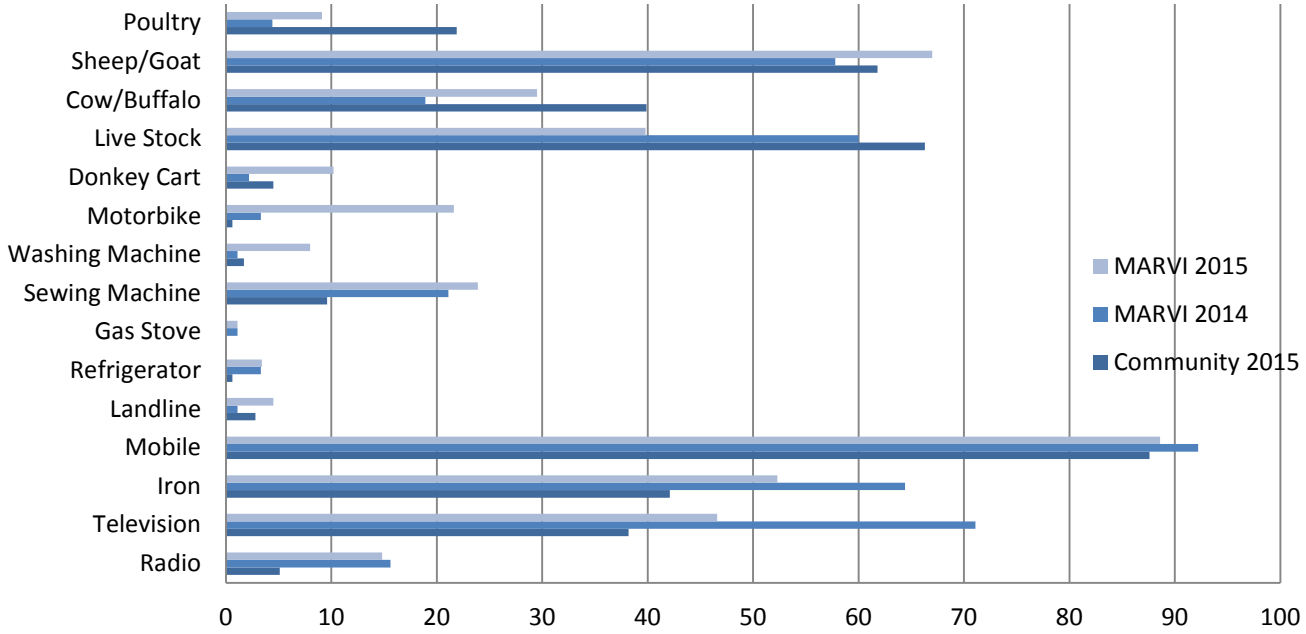
Figure 113 Number of Earning Members in Marvi Households



Household Characteristics – Assets

Compared to the last year, the Marvis seem to have more agricultural assets such as poultry, goats, cows or other livestock; but fewer consumption items such as household electronics (radio, television, iron, mobile etc.). This may explain why Marvis' household incomes were rising (i.e. perhaps due to increase in productive agricultural assets) while their incomes as Marvi workers were declining.

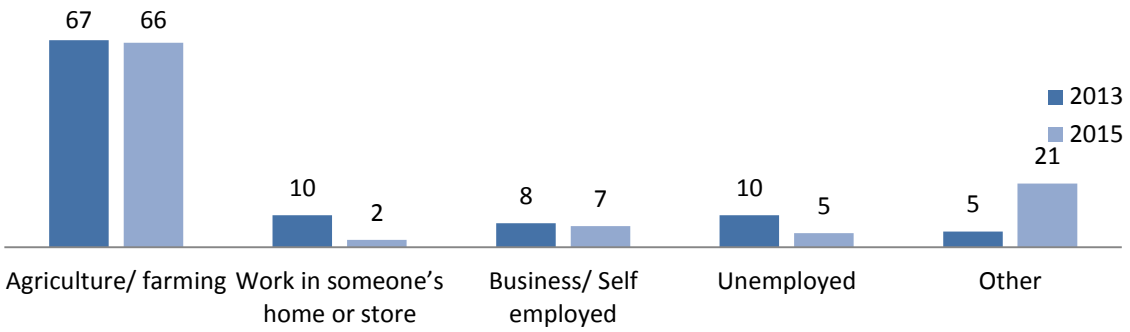
Figure 114: Changes in Household Assets



CHANGES IN BUSINESS PRACTICES AFTER REDUCED SUPPORT FROM HANDS

There's a 10% decrease in the Marvi Workers as some Marvis have left their work. Around 44 out of 80 Marvis (55%) are doing additional work. Most commonly this is in agriculture; however, they may work in someone else's home or store or be self-employed.

Figure 115 Percentage Comparison of Jobs Other than Marvi Work



Overall, the services provided by Marvis have shrunk significantly. Except for the FP supplies –mainly the sale of condoms, that have increased by 45% - Marvis have provided fewer health awareness sessions, referrals, antenatal/post-natal checkups and children vaccinations in comparison with last year. These changes correspond to a drop in household visits to 107 households per quarter from 300 households that Marvis visited in 2013.

Figure 116 Percentage Comparison of Services Provided

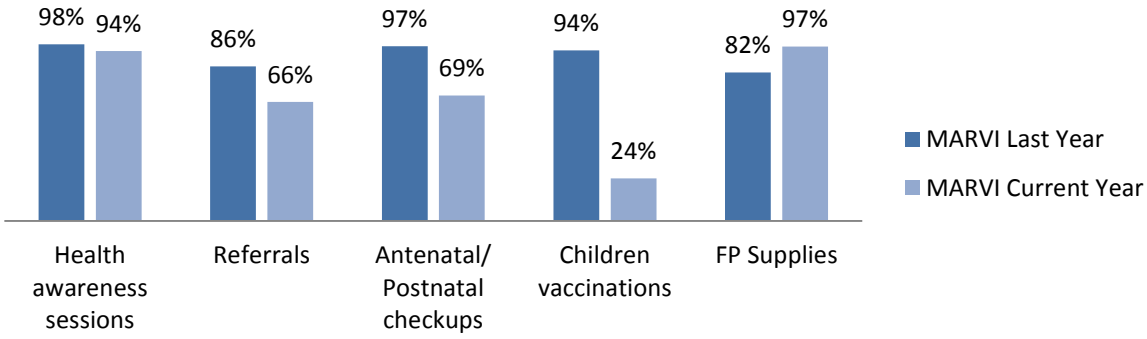


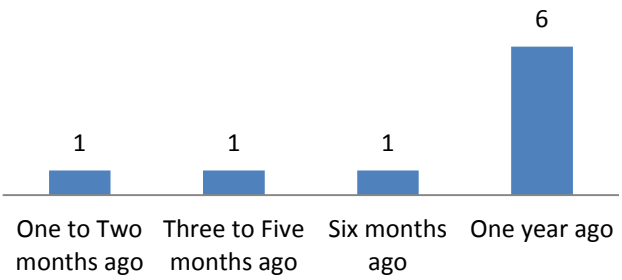
Table 11 Change in Business Practices

Indicators	Marvi Last Year	Marvi Current Year	Percentage Decrease
Number of HH supplied with FP in last 3 months	300	107	64%
Number of Clients Served for:			
Health awareness sessions	14	4	73%
Conducting Deliveries	10	1	87%
Referrals	9	4	56%
Antenatal Postnatal checkups	87	10	88%
FP Supplies	25	6	77%
Children vaccinated	52	1	98%
Average number of units sold per month			
Delivery kits	6	3	55%
Sanitary pads	11	4	59%
Contraceptive pills	65	5	93%
Condoms	9	12	-45%

Injections	18	1	97%
Preventives	9	6	31%
Antibiotics	16	3	83%
Deworming medicines	2	1	35%
Paracetamol	10	5	51%
Choloroquine	8	4	53%
Number of times of supplies shortage in last three months	1	1	4%

Out of the ninety Marvis, RADS was able to conduct survey with 89 Marvis, as we were informed that one Marvi has committed suicide. From the remaining eighty nine Marvis, nine have dropped out. Among these, six left a year ago while the rest of three Marvis have left in the past six months.

Figure 117 Time of Drop-Out by Marvis



Most of those who dropped out quoted that there were no profits in the business, however one of them was over-worked, 2 Marvis felt dissatisfied and 2 were asked to leave the Marvi work by their husbands and family.

Figure 118 Reasons for Dropping Out from Marvi Work

DISCUSSION: UNDERSTANDING THE MARVI INTERVENTION

The Social Fabric of Umerkot

Umerkot District has much more **religious diversity** than the rest of Pakistan. While the majority of Pakistan is nearly completely Muslim, almost half (41%) of all residents from Umerkot are Hindus. There are also at least 16 different castes among Muslims and Hindus. While people accept those belonging to other religions and castes, they almost never socially mix with them. In fact, entire villages are constituted around similar castes or extended families. Nuclear families live in 1-2 room houses adjacent to their siblings' families and share common compounds and community spaces. Women spend much of their day working and have little access to entertainment, media, mobile phones, or other sources of outside information.

Overall, most residents of Umerkot fall in the lower income strata and Umerkot is among the poorest districts in Pakistan[14]. The type of **work** for men varies greatly across Umerkot, ranging from nearly indentured labor or farming to wage labor in cities to self-employment; all yielding low incomes due to lack of education and limited access to markets. Women mostly do household and non-remunerated chores and contribute to the household income by making crafts, rillis etc. Given the uncertainty of unpredictable employment and an economy based on arid agriculture, most households engage in more than one form of income generation[15].

Rampant poverty means that only higher incomes households have **savings**, which are short term and often spent on events or celebrations or for paying back expenditures incurred during emergencies. Since communities survive with mutual cooperation, these events are the means to keep community together and cooperation among them active[16-18]. Thus, expenditure on these events is, in a way, an investment on a form of social insurance. Another form of social insurance is the figure of the **local feudal** who is completely interwoven into the fabric of the communities. He both extracts – i.e. by demanding free or nearly free labor from the residents –and is also the social safety net of last resort in case of emergencies.

Nearly all residents aspire to **educate** their children as a means to escape poverty. For this, they are often obliged to turn to the public sector. Most schools are for boys and up to primary (grade 5) level, although some villagers also send girls to them. We found no operational secondary or higher-level schools in our study areas. The high level of absenteeism among teachers and poor standards of education means that most students drop out after 3-4 years, which is consistent with regional experience in other poor communities[10]. However, since parents themselves are uneducated, they have little idea of what to expect from schools or from the education system itself – only a firm belief that educating their children will lead to lives better than their own. Unfortunately, this belief is not being translated into higher school enrollment or better quality of education available to these communities.

For the most part, **government hospitals and even private doctors** are in the cities. LHWs, which are supposed to serve remote rural communities, have a limited role since they have not carried health commodities in nearly 5 years. Thus, Marvis are mostly the only healthcare provider for most

communities. The combination of these social factors means that there is continuing poverty, few opportunities for employment, and limited access to education or healthcare. This is the context in which the Marvi intervention was conceived and has flourished.

Reproductive Health Impact of the Marvi Intervention

Although the intervention covered many areas of reproductive health, the **primary focus was mainly on enhancing uptake of family planning**. By the end line, contraceptive prevalence rate (CPR) among the community women rose by three-fold – from 9% at baseline to 27% at the end line. These figures come much closer to the national level of35%; and amongst Marvi workers themselves the CPR was 37%, higher than the national average.

CPR is the highest where Marvis serve (intervention) and least where LHWs serve (control). Since >90% of the women from any location – served by either a Marvi or an LHW - remembered being counseled about FP and high levels of awareness about FP methods, the **key difference was the availability of contraceptives** supplied by the Marvis. By supplying contraceptives at the doorstep, Marvis have helped make FP more convenient and cheaper. Indeed, contraceptives are cheaper in Marvi covered areas than in LHW areas.

The most common methods among Marvis were IUD (27%) and injections (23%). However, they clearly promote short-term methods (pills, injections and condoms that they sell) to their clients rather than refer them for IUDs (for which they are not incentivized). Thus, the Marvis' business model shows how profit and incentives influence Marvis' practices. In order to increase the uptake of longer-term methods in the communities, future programming must include incentives for Marvis to refer clients for IUDs.

Importantly, CPR was similar among Muslim and Hindu women and was not affected by whether the woman was served by a Marvi of the same or different religion as her. This suggests that **religion does not impact FP use or FP service delivery**. In-depth interviews depicted that Marvis and their clients were clearly aware of their religious differences; however, these differences did not deter women from seeking services being provided. Despite the fact that some clients would rather not share meals with a Marvi of a different religion (or a lower caste), they would still trust her to provide quality services. On the other hand, none of the Marvis seemingly discriminate based on religion. A major distinction among the Marvis' approach was that when working with Hindu families, **Hindu Marvis were more open to approaching and counseling younger couples with FP messages** while Muslim Marvis were more reluctant and almost never approached young Muslim couples. This is a critical area where future programming can make a difference by helping the Muslim Marvis address their own biases.

A **multiple regression analysis** showed that a woman's likelihood of using family planning increased with the woman having **primary level education**, belonging to a **social organization**, if she had a **previous planned pregnancy**, if she **lived far from or was unaware of a nearby health facility,** and being **served by a Marvi**. These results are not surprising given the fact that an educated woman living in a socially mobilized household with messages that had particular emphasis on

promoting health and FP who had previously planned her pregnancies, is more likely to use FP. However, what is surprising is that women who live further from or are unaware of a nearby health facility were more likely to use FP. Perhaps, health facilities are far and few in Umerkot and many of these women are served by a Marvi (or an LHW). In the same vein, FP use was twice as likely in women served by Marvis than those served by LHWs. This evidence suggests that in effect, Marvis along with their on hand supplies are the alternative to a fixed health facility in these areas.

Abortion is an extreme example where FP choices go wrong. 26% of the women reported having an abortion at least once in their lives. Of these women, only 3% had received post abortion FP.

Around 76% of women reported having at least one **antenatal care** visit, which is largely unchanged from 71% at the baseline. Most visits happened in areas served by Marvis, either alone or with LHWs. The key change in ANC was in the quality of services provided, mainly the proportion of women who received a tetanus vaccine or an iron supplement. A blood pressure check actually decreased from 100% to 75% of all women – most declines occurring in Marvi areas. HANDS had provided blood pressure apparatuses to Marvis during the first phase, but it is unclear whether the Marvis trained during the second phase also received these. Additionally, if the apparatus broke, it was not repaired or replaced. In qualitative interviews, not many Marvis seemed to practice BP measurements. Awareness of danger signs of pregnancy remained largely unchanged from baseline, but was found to be the highest in Marvi areas.

Actual **complications of pregnancy** were most commonly identified in LHW areas and were minor such as headache and edema. A fifth of women were diagnosed with serious problems, such as high blood pressure or anemia, and most of these cases were referred to private doctors or nurses. These diagnoses were equally likely in Marvi or LHW areas, suggesting that Marvis had minimal impact on ANC. This was perhaps because the more critical elements of ANC may have been too complicated for Marvis or possibly they did not see a financial benefit in promoting ANC.

Most **deliveries** are still conducted at home, although facility births have increased from 30% at baseline to 46% at the end line. The increase was in both LHW and Marvi-served areas. Most skilled births were with private doctors or nurses. Complications during delivery, such as prolonged labor, vaginal bleeding, and fever were reported by a quarter of the women, while more difficult to diagnose problems, such as abnormal position of the fetus or placental problems, were identified by fewer than 10%. However, when they were identified, nearly half of the women said that they were prompted by a Marvi to seek treatment. **Post-natal care** was reported by 73% of the women. Marvis provided 46% of this care, followed by private providers (27%). In this, Marvis have taken over from the TBA who had provided 74% of PNC at the baseline.

The Social Capital Built by the Marvi Intervention

There are 19 NGOs operating in Umerkot and at least some have promoted community organizations. Around half (45%) of the households are members of these organizations. Community members feel that social mobilization benefits their livelihood (50%), will help them during future emergencies (20%), and increases social cohesion (29%). Membership is extremely high in Marvi areas and Marvis

themselves promote such membership as they feel that social mobilization facilitates their business. We found that women from CBO-member households were more aware of health and FP information. They were also more likely to plan their pregnancies (61% vs. 47%) and to use contraception (31% vs. 22%), compared to their non-member counterparts. In essence, social mobilization builds on traditional bonds in the community and provides a platform for Marvis (and LHW) to reach the communities with their messages.

Empowerment has increased markedly for Marvi workers. Their role in major financial decisions within their own households has increased from 30% before becoming a Marvi, to 38% at the end line. In regards to the Marvis exclusively making major household financial decisions, the figure has risen from 6% to 29%. Marvis' influence and control over health decisions for their families has increased even more from 29% to 47%. This new-found autonomy and empowerment of the Marvis has come at the expense of their in-laws, whereas the role of their husbands has remained mostly unchanged.

The intervention has affected the empowerment of women in the community more modestly. Since community women also received many of the messages on autonomy, empowerment, and health that the Marvis received, the only key factor that explains higher autonomy for Marvis, but not for other community women, is the Marvis' income generation. This is consistent with findings from other studies from the region[19] where increasing incomes, but little else, has accounted for women's increased autonomy in making household decisions.

Being a Marvi

Although Marvi workers were selected from communities that did not have sufficiently educated women who could become an LHW, they are nonetheless slightly more educated than their peers – 57% of Marvis are literate as opposed to just 21% of their clients. In all other ways they are similar to other community women in that they spend their days doing their household chores and supplement their family income with handicraft. However, upon becoming a Marvi, they have learnt to do all of this "time efficiently" and find2-3 hours in their day to do Marvi work.

The magnitude of the financial improvement and what it means for the Marvi household is very stark. The overall income of the Marvi household has increased by 2.5-fold with the Marvi contributing around a third of this income. Not only do they earn income from Marvi work, they feel empowered to take on additional work, leading to a near five-fold increase in her personal income. Much of this added income buys additional food, education for her children, and recreation for her household, which in turn consolidates her position in the community. This has implications for sustainability. In interviews, many Marvis were confident that they would continue working even after the current support concludes because they feel empowered and respected by helping others and also feel that they can financially sustain their Marvi work.

The **business model of Marvis is one of entrepreneurship**. While many Marvis look at their work as an opportunity to do social good, they are also well aware that this work enhances their prestige in the community and provides them with an income. They parley this prestige to sell healthcare services, FP, and other health supplies (such as ORS, basic medicines, iodized salt etc.) and

also general commodities such as groceries, make up supplies, cigarettes (sold mainly to men), chewing tobacco, and gutka (sold mainly to women) etc. from the store that they operate. Their entrepreneurship is exemplified by the fact that Marvis readily go beyond their assigned areas to sell commodities and services to women in LHW or unassigned areas. While in their assigned areas they target predominantly more affluent women, however, when they go to non-assigned areas they target women from poorer households. This is likely due to the fact that affluent women from these areas are already being served from other sources and Marvis create their own market by serving poor women who are not being served by others. This healthy competition between Marvis and other healthcare providers ultimately benefits the communities in that even the poor women have access to some sort of healthcare provider.

Marvis have diverse income sources, similar to that observed for the rest of the population of Umerkot and is consistent with published literature for the South Asia region[15]. **The income of Marvis comes from diverse sources**: 25% from the stipend they receive from HANDS,15% from selling health supplies, and around 60% from other work they do and the general merchandize that they sell. Some Marvis also work for other NGOs during polio campaigns for additional income. In this, the whole household works as a "business unit". The Marvi is the "front office" dealing with the clients, while her husband and family promote her services in the village, manage accounts and records, and procure supplies, particularly those that do not come from HANDS.

We found that the most motivated Marvis were also the most entrepreneurial, seeking to maximize the benefits to the community as well as to themselves. They also felt that they could continue to work even after the current support concludes since they have the reputation and diverse income sources to support themselves. This has implications for sustainability.

Social Mobilization and its Impact

While the overall implementation on the social mobilization aspect of the intervention was limited, we saw some salient gains. Communities that were mobilized have higher health seeking behaviors and better health indicators. Given the limited experience, it is difficult to discern if social mobilization led to these better outcomes or if both social mobilization and better outcomes were the result of some other factor. However, given the association between these outcomes and the fact that the Marvis and other health providers felt that social mobilization provides inroads to communities, it would useful to continue exploring the role of social mobilization – and different models of social mobilization - in other health programs.

Sustainability of the Intervention after Current Support Concludes

Communities feel that their access to healthcare has increased due to the Marvis who provide many of much needed healthcare services at the doorstep and often cheaply. Marvi workers are also trusted to provide quality advice and have helped to improve health awareness. Some of the services provided, such as family planning, had not been consistently available in these communities previously. CPR in the district as a whole has increased 3-fold in 5 years and skilled birth attendance has increased 1.5-fold. People are more aware and seek more timely care for pregnancy and labor complications.

Interestingly, although much of the increased access has been economical (i.e. cheaper than what was previously available), it has not been free. The villagers repeatedly described conducting an informal cost benefit analysis of their available options before buying care from Marvis. This means that if Marvis continue to provide quality services at reasonable costs, there is a **demand** – defined as a need plus the ability to pay for this need – for their services in Umerkot and **people are willing to pay for services that they deem necessary**.

Marvis feel that their stature has increased and they have a niche in the life of Umerkot. They have personally benefitted from Marvi work and have internalized many of the teachings. They also recognize that through establishing, training, and equipping the Marvis, HANDS has played and continues to play many vital roles in their continued work. Most Marvis feel that if HANDS were to leave, at a minimum there should be some mechanisms to provide Marvis with supplies at economical rates and with consistency. However, more realistically, there will be a need to periodically train and re-train Marvi workers and to induct new workers when older ones either retire or move away.

For their part, while some enterprising Marvis have established other sources of income or referral networks that will allow them sufficient income, others feel less empowered, if HANDS were to leave. They have indicated that they feel they will revert to a mere advisory role akin to what they see LHW doing while recognizing that this will fade away eventually. Overall, it is likely that at least some Marvis will be able to continue their work even after HANDS leaves. In order to ensure sustainability, it may be useful to identify and allow the less motivated Marvis to stop working. This may be considered for future projects and locations. However it would be useful to do so while the NGO still has sufficient operations in the area to train other women to replace those Marvis who have quit.

In informal discussions, HANDS management has been considering a number of options that include extended funding, forming a company of local employees (including some husbands of Marvis') that can provide support to Marvis on a for-profit basis, and giving Marvis a grant to establish their own local business. Each of these options has its merits. One feels that many of the components of the MARVI system are in place and functioning relatively well. Marvis have their niche in their communities and to some extent are financially viable; at the very least they make more money than they used to prior to becoming a Marvi. Local personnel of HANDS that supports the Marvis is also there and will be present even when HANDS leaves. However, a few key components will be missing from this mix after HANDS's departure. The presence of HANDS as an organization and its overseeing functions will be absent. The most essential of these functions are commodity procurement and supply to Marvis and training of Marvis. If a private entity such as a private company – ideally formed by local employees of HANDS – were to provide these functions, the system may actually work.

Findings of the Follow up Study

The Marvi intervention was evaluated in 2014-15 and was found to have made a very large impact on reproductive behaviors and access to reproductive services of women and communities in Umerkot.**Error! Bookmark not defined.** The current study was commissioned to 1) assess what would happen to Marvis once

HANDS' support – either the stipend or the logistics – starts to withdraw; and 2) if this model were to be replicated, how would it compare with other options and models in terms of costs.

Previous assessment had shown that the Marvis had indeed internalized the family planning message they were conveying to their communities and were following their own advice. In the previous assessment, the CPR among the Marvis was 37% compared to 27% among their communities. In the current assessment, this rose further to 48% with a marked shift to longer term methods. The most popular method among the Marvis today is female sterilization, perhaps reflecting the fact that they realize that they have completed families. However, while around half of the Marvis are using FP, the remaining are not. In fact 58% reported that their previous pregnancy was completely unwanted and another 33% would have wanted to have delayed it. Also of concern is the fact that although more Marvis (82% vs. 63%) availed antenatal services, fewer received a tetanus toxoid during these visits, raising the question about how well they understand the right content, importance and need for preventive services for pregnant women.

We included Marvis' neighbors as economic controls. These women are the most likely to be approached by the Marvi for her services. This is borne out by survey results where, fully 73% of these women are using FP and 97% had a postnatal care visit – usually with a Marvi. In interpreting these results, it is important to recognize that these results are not indicative of community behaviors. However, they do show a glimpse of the potential effectiveness of a model that is based on private incentives and motivation.

The assessment of the income and changes in business practices of the Marvis is very illuminating. Overall the income of the Marvi households increased slightly – as did those of the community households – however, neither of these changes is statistically significant. What is more remarkable is the change in Marvis' personal income. Marvis' income fell by 42%. Much of this drop is due to loss on non-Marvi income which decreased by 59%; while Marvi work related income fell by 17%. It is interesting that the drop in Marvi income of PKR 324 is slightly less than the decrease in Marvis' stipend from HANDS – which had reduced from PKR 1200 a month to PKR 700 at the time of this survey – suggesting that Marvis had stepped up their health commodity sales to make up for the lost stipend income. It is possible that the additional time required for this work takes away from other income generating work that Marvis do (including working for other NGOs etc.). If this is true, these findings suggest that Marvis may not be ready or sustainable without external (HANDS or otherwise) support.

It is also instructive to understand how Marvis have used their additional income. More so than their community counterparts, Marvis have acquired agricultural productive assets, sometimes at the cost of other household luxuries. In part this is consistent with the previous finding that the Marvis understood and prepared for the loss from their stipend income.

The final part of this analysis was to estimate the costs of FP from this intervention. We used a managerial accounting method to account for the total cost of the project and then used Marvis' time allocation between their different tasks to allocate the proportion of the project funds that are going towards family planning. This was then divided by the total number of women estimated to have been served by the Marvis with FP services. Using this approach which we have used previously to estimate costs of FP by the public sector[25]- we estimated that Marvis provide FP at the cost of USD 3.23 per woman per year or USD 1.35 per CYP. At these costs, the Marvi intervention is among the most cost effective in the world. By comparison, FP costs USD 17 per CYP in the public sector and between USD 5-12 for private sector models in Pakistan. In Asia these costs are around USD 18[26] and up to USD 28 in Africa. [27]

RECOMMENDATIONS

Sustaining the Marvi Model in Umerkot: Demand Issues

Marvis have created demand – defined as a perceived need coupled with the willingness to pay – for healthcare, FP and skilled birthing services in their communities. Awareness for FP increased and couples bought and used FP services to the extent that CPR rose by 3-foldfrom 9% to 27%in 5 years. Since clients pay for these services, there is a higher likelihood that if services continue to be available, these communities will continue to buy and use them. Because they are willing to pay, providers will be compensated, thus, creating a higher likelihood for sustainability in the absence of current funding.

Marvis were able to convert some latent unmet need into gains in CPR. Marvis and HANDS describe meeting no significant resistance to FP anywhere in Umerkot. One way to think about this would be that Marvis met the needs of those who were either ready to start using FP or would have been easy to convince, i.e. the "early adapters"[20;21]. Experience suggests that once this segment of the population is reached, the next group of users, the "late adapters", and will be considerably more difficult to recruit. Finally, there will be some community members who will not be convinced about using FP under any circumstances. The question then, for any implementer is to what extent have their efforts covered all of the early adapters in the community? Knowing when all of the early adapters have become saturated is critical since the types of activities needed to recruit late adapters are considerably different from those needed to meet the needs of early adapters. Recommendations to address these demand issues are as follows:

1. While it may be safe to assume that there is some level of demand for FP in all communities – perhaps reflected or is correlated to the unmet need – it would be useful to conduct research to understand and measure the extent of this demand.
2. Demand creation activities are often accompanied with measures to cater to the needs of early adapters and those who become convinced of the need to use FP. However, the messages and strategies needed to convince early and late adapters will likely be different. Implementers will likely benefit from research to understand these differences and to identify these groups.
3. HANDS must work with Marvis, particularly Muslim Marvis, to include younger couples in creating demand for spacing births during early marriage years.
4. In messaging and counselling, it would be useful to ensure that messages clearly distinguish between spacing and limiting. There is considerable acceptance of the former but not for the latter.

Sustaining the Marvi Model in Umerkot: Supply Issues

Marvis have become entrepreneurs. They create demand and market their health services and commodities. They also build on their community relationships to sell general commodities and occasionally even "moonlight" for other NGOs to generate income. These activities mean that Marvis have an incentive to continue their work.

Marvis received training and then benefitted from subsidized commodities and regular supplies from HANDS. It follows then, that at the very least, although they can procure general supplies on their own, they will require a mechanism to procure medical supplies on a regular basis. Ideally they must also receive periodic refresher trainings to keep up their skills. Recommendations to address these supply issues are as follows:

5. A group or a company that can supply regular medical and FP commodities to Marvis that they can sell can make good business sense. There are 327 Marvis that cover 60% of Umerkot or a population or around 600,000. Medical and FP commodities for even a quarter of these may turn out to be a good business model. Ideally, such a company can draw upon the current experience of working in the MARVI Intervention, i.e. by hiring workers from the current intervention. The company would buy FP supplies and medicines at wholesale prices and transport and supply them to Marvi workers directly. If this works, it would be the best of all possible options since it has the potential of being fully independent of outside funding and, therefore, completely self-sustaining.
6. Ideally, Marvi workers should receive periodic refresher trainings to keep up their skills. However, this would likely require additional and continued outside support and funding. This may be in the form of HANDS continuing their operations or by another NGO stepping in to provide these training services.
7. One possibility for support for such an initiative may be that HANDS advocates to and convinces the Sindh Government to take up Marvis' as a new cadre of health workers. However, given the difficulties faced by LHW such as salaries delayed by months, no supplies for the past 5 years, etc., it is highly unlikely that this could happen.
8. Another option would be to link Marvis with a commercial organization providing subsidised family planning supplies like PSI and DKT.
9. Another alternative may be for HANDS to convince the Sindh Government to provide grant funding for continued Marvi intervention, much as the Federal Government funded the People Primary Care Health Initiative (PPHI) with a block grant[22]. This has the advantage of having HANDS be in charge of implementation and financial sustainability as opposed to the Sindh Government as it has lately only made small, not drastic improvements to its health budget despite the availability of considerable funds and the fact that the LHW Program – in many ways a flagship program of the Health Department – remains mired in inefficiencies and mismanagement.
10. One may feel that simply giving Marvis a small grant (i.e. PKR 10-20,000) may be inadequate. For one, Marvis are already well established in that their services are recognized and those maintaining shops to sell supplies to the communities for additional income have already established their businesses. There are limited further opportunities for Marvis to expand their business under the current circumstances and, therefore, an additional one-time grant may not be extremely beneficial. It may, however, be useful to secure a grant for some current HANDS Umerkot employees to form the supply company as suggested above.

11. In future Marvi interventions, it may be useful to consider having the withdrawal of support by HANDS occur earlier in the project cycle. Clearly some Marvis will quit when this happens while other are more motivated and entrepreneurial to continue. HANDS would like to still be in a position to train additional community women to replace those Marvis who have quit.

12. **Social mobilization**: While social mobilization did not empower community women directly, it was associated with much better health and FP indicators. Marvis found it easier to work with households that had been mobilized and mobilized households found better synergies within their communities. However, for social mobilization to be more successful, its benefits need to be broadened. The initial design of the intervention included microfinance. Other aspects could be local cooperatives (Bengal Reminisces) that either develop communities on a "self-help" basis (for farming, better irrigation, house building, water, sewerage, schools, policing, etc.) or for collective bargaining to buy and sell their products in city markets, etc., and, therefore, obviating middlemen.

Empowerment – Mainly for the Marvis

The intervention led to considerable empowerment of Marvis so that their participation in household financial and health decisions increased and they became opinion leaders in their communities. The latter is particularly remarkable considering that they are in a society that normally does not allow such a space to younger women. At home, their husbands listen to them and actively support their business since they contribute to the household income. By contrast, such empowerment was not seen for community women at large. Thus, empowerment as a goal worked for the Marvis, but not for community women. A key difference was the ability of Marvis to earn an income and to provide services that the community appreciated. Recommendations to address this gap in empowerment are as follows:

13. In future projects that seek to empower women, a combination of economic empowerment along with skills that raise the stature of the women as a provider of useful services such as teachers, healthcare providers, and outreach workers could be taken into consideration and promoted.

14. A model for consideration could also be for Marvi workers to enlist local women as her helpers in arranging community meetings in which the women not only discuss FP and RH, but other important women's issues and find ways of accessing locally available funds and resources to address these problems (i.e. availability of teachers and facilitation at girls' schools, microcredit loans for small enterprises and livelihood options, etc.).

Scaling up beyond Umerkot: HANDS has already expanded beyond Umerkot into 2-3 other districts in Sindh. There is no evidence suggesting that the Marvi model cannot be replicated in any other location, provided that a few key principles are understood. For example, the mobility of the Marvis was a key determinant of their success. Umerkot may have benefited from having a large Hindu population that is somewhat less restrictive of women's movement outside their homes and the fact that these permissive norms are also reflected in Muslim communities. HANDS will have to have a better understanding of women's mobility issues when replicating this project in other communities. Recommendations to successfully scale up this intervention are as follows:

15. In replicating the findings from this intervention, it may be warranted to explore some formative research if minimally educated Muslim women from other districts can be mobilized outside of their homes and what messages would help to reduce the barriers to their mobility.
16. In replicating the intervention in other communities, it may be necessary to break stereotypes and restrictions on women's mobility in the community by demonstrating with local role models that it is possible, safe, and, therefore, permissible for women to move freely within their own local communities.
17. Strengthening Aspects of the Business Model – MARVI is primarily a business model. Its success is rooted in the fact that the Marvis generated a profit, which they had to work for and was neither tied down to a specific limit (unlike salaries or stipends), nor was it guaranteed (beyond a small stipend). The stipend and subsidy may have helped establish the model early on, but the expansion of the Marvis' income sources and amounts suggests that once the Marvis were confident in their abilities, additional stipends probably did little to further sustainability. It follows then, that any scale up of the model will likely require placing the onus of their profits on the Marvis themselves.
18. In seeking to recruit new Marvis in Umerkot or elsewhere, it is worth remembering that the most motivated Marvis are also those women who were the most entrepreneurial. This includes the ability to not just run their business well but also to be able find opportunities to solve problems. HANDS (or any other NGO seeking to replicate this experience) may want to include in their interview process questions about the ability to solve problems, to be socially astute, be friendly and be someone who wishes and seeks to do well for her community.
19. **Enhanced Record Keeping**: A review of the HANDS project documents showed that many of these records were paper-based. While the head office in Karachi maintains electronic records of finances and some supplies, the bulk of day-to-day field records, such as the HPA's record of Marvi interactions and Marvis' daily activities, are recorded on paper. This means that thousands of paper records are generated annually that do not lend themselves easily to the analysis of project activities.

    Once collected on paper, it is too cumbersome to transfer these records to an electronic format. An analysis of the daily patterns of Marvi activities, the kind of supplies they sell based on location and the time of year, and the activities and commodities that are best received by the community would all be extremely useful in order to understand and improve implementation. An analysis of such data would greatly help to identify gaps for future interventions and it could help to bring down costs, improve efficiencies, and better utilize scare resources[23;24]. Our suggestion would be that given the relative ease and lower cost of primary data collection using tablets and smartphones, HANDS should consider switching to electronic record-keeping at the field level and simplify the extent to which each level is collecting its data.

Recommendations from the Follow up Study

The original evaluation had shown that the Marvi intervention had been very successful in promoting access of poor women in Umerkot to reproductive health services. It had done so through a subsidized for profit model. This assessment shows that the model continues to function well despite reduction in stipends; however, there are certain changes in how Marvis operate. Based on these findings, the following is recommended:

20. The Marvi model may be replicated in other parts of Pakistan. In doing so, it would be more cost effective than any other alternative available.
21. As noted in the end line assessment, the strength of the intervention comes from both the work of the Marvis as well as the support provided by HANDS management – particularly the management in the district. Any replication of the model must also replicate the close working relationship between Marvis and the management.
22. MARVI is a "for profit" model where the motivation of Marvi workers is in the profit/income they will generate. This means that a salaried Marvi worker may not be as motivated as the ones in Umerkot
23. The loss of stipend had an inordinate effect on how Marvis perceived their income. Around 7% left and the rest reallocated their time to make up for their lost stipend, without realizing that this was taking away from even more productive "other" work. Additionally, at least on the face of it, Marvis may have already reached "saturation" in terms of the supplies they can sell as shown by the fact they could only raise their Marvi income by PKR 150 a month by selling more supplies.
24. HANDS must address the changes in income and their consequence, along with strategies to recoup the lost income with Marvis as part of their exit strategy.
25. Marvis may not be able to continue their work unless HANDS provides some support. At the very least, this would mean support with supplies and refresher training. The experience with the decrease in stipends suggests that perhaps some token stipend may be necessary to keep them motivated.
26. Given the high cost benefits of the model, such a stipend would be cost effective.

REFERENCES

(1) National Institute of Population Studies P, Measure DHS. Pakistan Demographic and Health Survey 2006-7. 2008.

(2) National Institute of Population Studies Pakistan, Measure DHS. Pakistan Demographic and Health Survey 2012-13. 2013.

(3) Hogan MC, Foreman KJ, Naghavi M et al. Maternal mortality for 181 countries, 1980-2008: a systematic analysis of progress towards Millennium Development Goal 5. Lancet 2010;375:1609-1623.

(4) Stover J, Ross J. How increased contraceptive use has reduced maternal mortality. Matern Child Health J 2010;14:687-695.

(5) Goldie SJ, Sweet S, Carvalho N, Natchu UC, Hu D. Alternative strategies to reduce maternal mortality in India: a cost-effectiveness analysis. PLoS Med 2010;7:e1000264.

(6) Hu D, Bertozzi SM, Gakidou E, Sweet S, Goldie SJ. The costs, benefits, and cost-effectiveness of interventions to reduce maternal morbidity and mortality in Mexico. PLoS ONE 2007;2:e750.

(7) Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. Lancet 2006;368:1284-1299.

(8) Federal Bureau of Statistics of Pakistan. Pakistan Social and Living Standards Measurement Survey (PSLM) 2010-11. 2011.

(9) The Oxford Policy Management Group. The Third Party Evaluation of the Lady Health Worker Program. 2009.

(10) Banerjee AV, Duflo E. The Economic Lives of the Poor. J Econ Perspect 2007;21:141-167.

(11) Khan AA, Khan A, Javed W et al. Family planning in Pakistan: applying what we have learned. J Pak Med Assoc 2013;63:S3-10.

(12) Khan AA, Abbas K, Hamza HB, Bilal A, Khan A. From contraceptive prevalence to family planning service users: implications for policy and programmes. J Pak Med Assoc 2013;63:S11-S15.

(13) Research and Development Solutions. Policy Brief Series No. 43: Changes in the Contraceptive Prevalence: Comparison of PDHS 2006-7 with 2012-13. Khan AA, Khan A, editors. 43. 2014. Islamabad, Pakistan, Research and Development Solutions. Research and Development Solutions Policy Brief Series.

(14) Jamal H. Districts' Indices of Multiple Deprivations for Pakistan 2011. 82. 2007. Karachi, Social Policy Development Centre (SPDC).

(15) Banerjee AV, Duflo E. The Economic Lives of the Poor. J Econ Perspect 2007;21:141-167.

(16) Ostrom E, Burger J, Field CB, Norgaard RB, Policansky D. Revisiting the commons: local lessons, global challenges. Science 1999;284:278-282.

(17) Dietz T, Ostrom E, Stern PC. The struggle to govern the commons. Science 2003;302:1907-1912.

(18) Vollan B, Ostrom E. Social science. Cooperation and the commons. Science 2010;330:923-924.

(19) Jejeebhoy SJ, Sathar ZA. Women's autonomy in India and Pakistan: The influence of religion and region. Population and Development Review 2001;27:687-712.

(20) Everett MR. Diffusion of Innovations. Glencoe, Free Press, 1964.

(21) Jooma R, Khan AA. Contraception, synergies and options. J Pak Med Assoc 2009;59:S39-S40.

(22) Ravindran TK. Privatisation in reproductive health services in Pakistan: three case studies. Reprod Health Matters 2010;18:13-24.

(23) Khan AA, Khan A. Performance and coverage of HIV interventions for injection drug users: Insights from triangulation of programme, field and surveillance data from Pakistan. Int J Drug Policy 2011;22:219-225.

(24) Azmat SK, Ahmed S, Hameed W et al. Performance and measurement of a community-based distribution model of family planning services in Pakistan. J Pak Med Assoc 2013;63:S40-S45.

(25) Abbas K, Khan AA, Khan A. Costs and utilization of public sector family planning services in Pakistan. J Pak Med Assoc 2013;63:S33-S39.

(26) Levine R, Kabger A, Birdsall N, Matheny G, Wright M, Bayer A. Contraception. In: Jamison DT, Breman JG, Measham AR et al., eds. Disease Control Priorities in Developing Countries. 2 ed. Washington, DC.: World Bank; 2006.

(27) Vlassoff M, Singh S, Darroch JE, Carbone E, Bernstein S. Assessing Costs and Benefits Of Sexual and Reproductive Health Interventions. Occasional Report #11. 2004. New York, The Alan Guttmacher Institute.