



THE AGA KHAN UNIVERSITY



Working Towards Millennium Development Goals  
Research & Advocacy Fund

# FINAL REPORT

Literature Review (including Systematic Review) Of Published And  
Unpublished Literature On The Impact Of Platforms Of Service Provision  
In Conflict Areas On Maternal And Newborn Health And Their  
Applicability In Pakistan

## **Funded By**

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## **Implemented By**

Aga Khan University (AKU) Karachi, Pakistan

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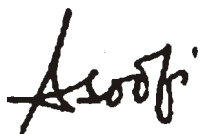
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## Declaration

"I have read the report titled 'Literature Review (Including Systematic Review) of Published and Unpublished Literature on the Impact of Platforms of Service Provision in Conflict Areas on Maternal and Newborn Health and their Applicability in Pakistan', and acknowledge and agree with the information, data and findings contained."



Prof. Zulfiqar A. Bhutta  
Principal Investigator



Dr Sajid Bashir Soofi  
Co-Principal Investigator



Zohra S. Lassi  
Co-Investigator

## Study Team

### **Principal Investigator**

**Prof Zulfiqar A. Bhutta**

Founding Director, Centre of Excellence in Women and Child Health,

Aga Khan University, Karachi, Pakistan

Co-Director, Centre for Global Child Health, Hospital for Sick Children, Toronto, Canada

### **Co-Principal Investigator**

**Dr. Sajid Bashir Soofi**

Associate Professor, Division of Women & Child Health,

Aga Khan University, Pakistan

### **Co-Investigator**

**Zohra S. Lassi**

Senior Instructor, Division of Women & Child Health,

Aga Khan University, Pakistan

### **Core Team**

**Dr. Shabina Ariff**

Assistant Professor, Department of Pediatrics & Child Health,

Aga Khan University Pakistan

**Dr. Mohammad Atif Habib**

Senior Instructor Research, Department of Pediatrics & Child Health,

Aga Khan University Pakistan

**Shujaat Hussain Zaidi**

Senior Social Scientist (Research) Department of Pediatrics & Child Health,

Aga Khan University Pakistan

**Imtiaz Hussain Hilbi**

Senior Social Scientist (Research) Department of Pediatrics & Child Health,

Aga Khan University Pakistan

**Dr. Noshad Ali**

Research Supervisor, Department of Pediatrics & Child Health,

Aga Khan University Pakistan

### **Study Supervisor**

**Dr. Wafa Aftab**

Research Supervisor, Division of Women & Child Health,

Aga Khan University, Pakistan

### **Research Officers**

**Rohail Kumar**

**Nabiha B. Musavi**

## List of Acronyms

AMDD	Averting Maternal Death and Disability
ANC	Antenatal Care
ARC	American Refugee Committee
BHU	Basic Health Unit
CHW	Community Health Workers
CMW	Community Midwife
CPR	Contraceptive Prevalence Rate
DRC	The Democratic Republic of Congo
DHO	District Health Officer
DHS	Demographic and Health Information Survey
DHQ	District Head Quarter
EmOC	Emergency Obstetric Care
EmONC	Emergency Obstetric and Newborn Care
EPI	Expanded Programme of Immunisation
FATA	Federally Administered Tribal Areas
HR	Human Resource
IDP	Internally Displaced Person
IDMC	Internal Displacement Monitoring Centre
KP	Khyber Pakhtunkhwa
LHV	Lady Health Visitor
LHW	Lady Health Worker
MNH	Maternal and Newborn Health
INGO	International Non-Government Organisation
NGO	Non-Government Organisation
PLaCES	Protective Learning and Community Emergency Services
RHC	Rural Health Centre
TBA	Traditional Birth Attendants
TFR	Total Fertility Rate
UN	United Nations
WHO	World Health Organization

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## Executive summary

Forced internal displacement of people is a tragedy for those who experience it. It is estimated that 28.8 million people were internally displaced as a result of international and internal armed or political conflicts at the end of 2012. The Internal Displacement Monitoring Centre (IDMC) estimates that a total of 6.5 million people were newly displaced in 2012, which is a rise from 3.5 million people in 2011. Half of these displacements were observed as a result of conflicts in Syria and the Democratic Republic of Congo (DRC). Pakistan, Afghanistan and India had the highest number of reported internally displaced persons (IDPs) in South and South-East Asia. In Pakistan, the number of IDPs was a staggering three million in 2009. This was due to the significant population movement experienced as a result of government operations against non-state armed groups as well as sectarian violence in Khyber Pakhtunkhwa (KP) and Federally Administered Tribal Areas (FATA) in 2008. Recent estimates from 2012 show that the numbers have stabilised in Pakistan with the return of 3.6 million IDPs to their homes in KP and FATA, yet 412,000 new IDPs were registered in the year 2012.

Pakistan's health indicators for women and children are among the worst in the world. An estimated 276 Pakistani women die for every 100,000 live births. Approximately 65% of women in Pakistan deliver their babies at home; only 34% deliver in a facility. The infant mortality rate is 59 per 1,000 live births and under-five mortality rate is 72 deaths per 1,000 live births (UNICEF). Among women ages 20 to 24, 84% of births are spaced less than three years apart, contributing to the high number of maternal and infant deaths. The indicators in KP, FATA and Balochistan are among the poorest in all provinces.

Despite the on-going armed conflict and the health related issues of IDPs in Pakistan, the efforts to stabilise conditions continue. UNICEF has reported that in December 2012, 83,867 children were vaccinated against polio during a supplemental National Immunisation Campaign. In 2012, 127,311 children and 55,566 pregnant and lactating women were screened for acute malnutrition as well. Since December 2012, UNICEF has, however, been unable to completely support maternal and child health services in IDP camps due to funding constraints.

According to a WHO report, armed conflicts can result in a number of effects on health, health service infrastructure and human resources. The conditions in conflict areas are ideal for disease and trauma to proliferate; in such scenarios, women and children in particular are at high risk. Moreover, it is difficult to deliver effective health services in conflict affected areas as organisations, institutions, and resources are adversely affected by conflict and the political instability that surrounds and follows it. The unavailability of healthcare providers (especially female), unavailability of drugs and resources, disease outbreaks and even challenges in maintaining basic hygiene have a high impact on MNH (maternal and newborn health) outcomes. Various models and strategies have been implemented over the years in different parts of the world to improve maternal and newborn health in conflict affected areas. These strategies are based on specific needs of communities and whether they can be accepted by the local population. By evaluating these strategies and health care delivery systems we can identify issues that may have caused hurdles in planning and implementation. We can also identify solutions to these problems and come up with guidelines that can be utilised in the future. For this reason we undertook this review to establish a framework of maternal and newborn healthcare needs that can be applicable to the current situation in Pakistan and conflicts in other parts of the world.

Our literature search revealed very few published and unpublished studies that evaluated the impact of strategies for MNH service delivery in conflict areas. We have included 11 studies that describe such MNH service delivery platforms. These studies are from Afghanistan, Pakistan, Myanmar (Burma), Sudan, Tanzania, Liberia, Guatemala, and Democratic Republic of Congo. We did not come across any randomised control trials or studies comparing intervention with a control arm. A few of the included studies are narratives with no quantitative data, but are included to highlight different models of healthcare used in efforts to uplift MNH. Most of the studies and reports were found in grey literature. Some of the included studies were presented in the Reproductive Health Response in Conflict (RHRC) conference proceeding in 2003 in Belgium. Only abstracts are available for these studies and the details of methodology and results are not clear.

The results of our search show that with utilisation of community services, the greatest impacts were observed in skilled birth attendance and antenatal consultation rates. Results from different studies evaluating such programmes in Eastern Burma and Afghanistan show that skilled birth attendance increased between 12 to 42%, and antenatal consultation rates increased by approximately 33%. Outreach services increased antenatal consultation rates from 55 to 88%. It also increased prenatal and childbirth care by midwives from 71 to 89%. Facility level services show that with labour room services provided for an IDP camp in Balochistan, Pakistan, unregistered deliveries decreased from 17 to 8%, ANC



coverage increased from 55 to 78%, contraceptive prevalence rate increased from 1.4 to 3.5%, and maternal mortality ratio decreased from over 350 to 197 per 100,000 live births.

Consultative meetings and discussions in both Quetta and Peshawar revealed that no systematic models of MNH service delivery, especially tailored for conflict areas, are available. During conflict, even previously available services and infrastructure suffer due to various barriers specific to times of conflict and unrest. A number of barriers that hinder MNH services were discussed. Suggestions for improving MNH services in conflict areas were also given.

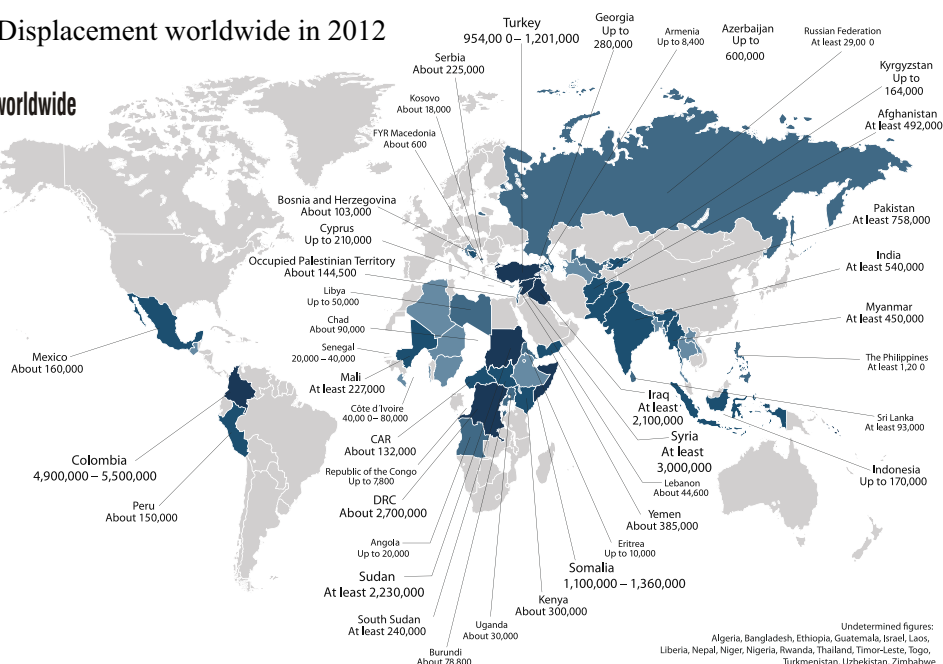
During conflicts and emergency situations, conflict affected populations are totally dependent on humanitarian aid. They find themselves without food, shelter or healthcare and are therefore susceptible to poor health and infectious disease outbreaks. The literature review identified some important steps that can be taken to mitigate the effects of conflict on MNH, which include: improving access to infrastructure and equipment for antenatal care, EmONC and essential newborn care; developing and training healthcare providers on protocol-based case management and behaviour-centred communication for improved maternal and newborn care; and lastly, advocating at different levels for free access of pregnant women and women with children to healthcare services, and for the introduction of the programme model in existing healthcare system. The obligation is enormous; we must provide more and better health services to larger and more diverse groups of conflict affected people. However, for a sustainable programme, it is important to work closely with both the IDP and host community, and collaborating with the government and NGOs.

## 1 Background

Forced internal displacement of people is a tragedy for those who experience it. Whether it ensues as a result of natural disasters, political or armed conflict, or human right violations; the displacement results in a number of devastating outcomes to one's identity, family and livelihood. It is estimated that 28.8 million people were internally displaced as a result of international and internal armed or political conflicts at the end of 2012.<sup>1</sup> Sub-Saharan Africa alone hosts nearly 10.4 million of the internally displaced persons (IDPs). The Internal Displacement Monitoring Centre (IDMC) estimates that a total of 6.5 million people were newly displaced in 2012, which is a rise from the 3.5 million people in 2011.<sup>1</sup> Half of these displacements were observed as a result of conflicts in Syria and Democratic Republic of Congo (DRC). Pakistan, Afghanistan and India had the largest number of reported IDPs in South and South-East Asia. The number of IDPs grew from 2.7 million in 2005 to 4.6 million in 2010, exclusively attributable to a rise in the number of IDPs in Pakistan, Afghanistan, Philippines, Myanmar, India and Indonesia, where most people were displaced by on-going armed conflicts<sup>1</sup>. **Figure 1** shows a world map of the internal displacement situation in 2012. The increasing number of IDPs in the last decade is shown in **figure 2**.

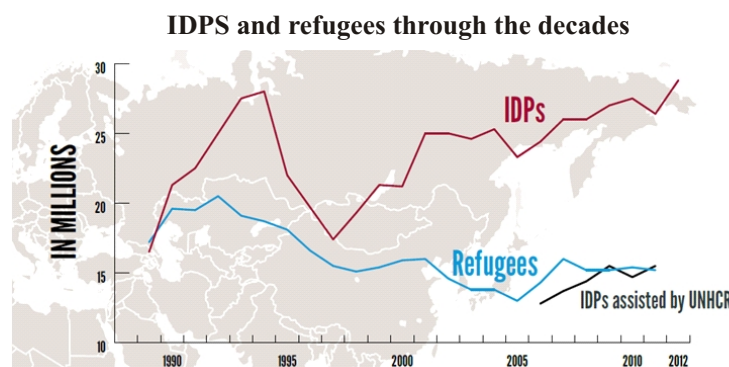
Figure 1 Internal Displacement worldwide in 2012

### Internal Displacement worldwide



Source: Adopted from IDMC global overview report<sup>1</sup>

Figure 2 Historical trends on number of IDPs



Source: Adopted from IDMC global overview report<sup>1</sup>

In Pakistan the number of IDPs was a staggering three million in 2009.<sup>1</sup> This was due to the significant population movement experienced as a result of government operations against non-state armed groups as well as sectarian violence in Khyber Pakhtunkhwa (KP) and Federally Administered Tribal Areas (FATA) in 2008. Estimates from 2012 show that the numbers have stabilised in Pakistan with the return of 3.6 million IDPs to their homes in KP and FATA, yet 412,000 new IDPs were registered in the year 2012.<sup>1</sup> The new IDP movement was due to military operations in the Bara sub-division of FATA's Khyber agency, which led to a huge inflow of IDPs to Peshawar and Nowshera districts of KP in 2012. The Khyber displacement started in January and peaked in mid-March. By October, it was estimated that more than 280,000 Khyber IDPs had been registered.<sup>1</sup> The number of IDPs registered in Pakistan may be far less than the actual numbers. This is because figures from areas such as Balochistan are still unavailable as they were largely off-limits to humanitarian workers and the media. Currently three IDP camps are operational in Jalojai and Togh Sarai in KP and New Durrani in Kurram agency, FATA.<sup>2</sup> However, UNICEF estimates that 89% of displaced are living in host communities. Figure 3 describes the number of IDPs in South and South-east Asia in 2012.<sup>2</sup>

Pakistan's health indicators for women and children are among the worst in the world (**Table 1**). An estimated 276 Pakistani women die for every 100,000 live births.<sup>3</sup> Approximately 65% of women in Pakistan deliver their babies at home; only 34% deliver in a facility.<sup>3</sup> The infant mortality rate is 59 per 1,000 live births and under-five mortality rate is 72 deaths per 1,000 live births (UNICEF). UNICEF has also estimated that only 37% of infants (under 6 months of age) are exclusively breastfed.<sup>3</sup> Total fertility rate (TFR) remains high at 4.1 children born per woman and the modern method contraceptive prevalence rate (CPR) has stagnated at around 27% for the past several years (UNICEF). Among women ages 20 to 24, 84% of births are spaced less than 3 years apart, contributing to the high number of maternal and infant deaths.<sup>3</sup> The indicators in KP, FATA and Balochistan are among the poorest in all provinces. While maternal mortality in Balochistan is record breaking (785 per 100,000 live births), child mortality in FATA at 104 per 1,000 live births is more than the national figure.<sup>4</sup>

Table 1 Maternal and Newborn health indicators in Pakistan

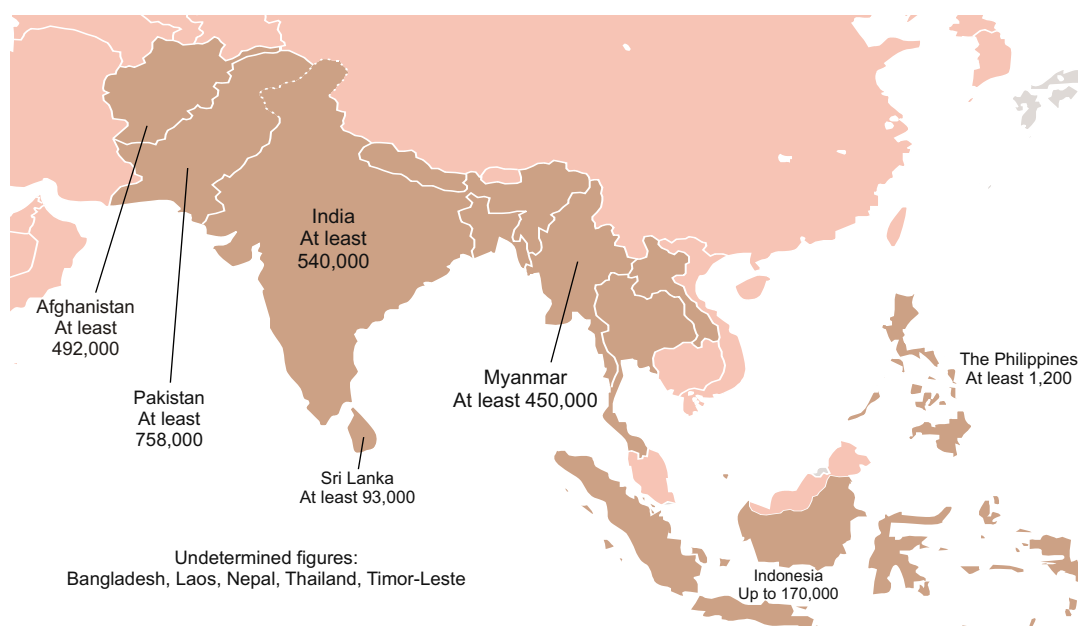
Indicators	Khyber Pakhtunkhwa <sup>1</sup>	FATA <sup>2</sup>	Balochistan <sup>1</sup>	Total <sup>1</sup>
Maternal Mortality (per 100,000)	275	380	785	276
Total Fertility Rate	4.3		4.1	4.1
CPR (%)	24.9		14.4	29.6
Median age of mother at first birth (yr)	21.2		22.3	21.8
Births at home (%)	69.5		81	64.7
Births at facility (%)	29.7		18.2	34.3
Antenatal care provided by skilled provider (%)	51.3		40.7	60.9
Postnatal care provided by skilled provider (%)	19.3		14.7	26.7
Neonate breastfed within an hour of birth (%)	34.8	15.6	41.9	28.8
Neonatal mortality (per 1,000 live birth)	41		30	
Infant mortality (per 1,000 live birth)	63	86	49	59 <sup>3</sup>
Under 5 mortality (per 1,000 live birth)	75	104	59	72 <sup>3</sup>
Exclusive breastfeeding (%)		23.8		37 <sup>3</sup>

<sup>1</sup>PDHS 2006-07; <sup>2</sup>MICS FATA 2009; <sup>3</sup>UNICEF 2011



Despite the on-going armed conflict and the health related issues of IDPs in Pakistan, the efforts to stabilise conditions continue. UNICEF has reported that in December 2012, 83,867 children were vaccinated against polio during a supplemental National Immunisation Campaign. In 2012, 127,311 children and 55,566 pregnant and lactating women screened for acute malnutrition as well.<sup>2</sup> Furthermore, 31,285 children (43% girls) and 8,070 women are accessing 76 Protective Learning and Community Emergency Services (PLaCES) and Child Protection Centres in camps and host communities in KP/FATA.<sup>2</sup> Approximately 9,435 children (50% girls) have also been enrolled in 44 UNICEF education centres.<sup>2</sup> Since December 2012, UNICEF has, however, been unable to completely support maternal and child health services in the IDP camps due to funding constraints. Nutrition services in areas of return have ceased as well due to insufficient funds. Unavailability of nutrition services has life threatening consequences for the most vulnerable children. UNICEF's total needs for the complex emergency are US\$ 37.1 million while they have only received US\$ 16.3 million in support of the affected children and women in KP/FATA, and a further US\$ 9.5 million is in the pipeline.<sup>2</sup>

Figure 3 IDPs in South and South-East Asia in 2012.



Source: Adopted from IDMC global overview report<sup>1</sup>

Generally, conflict and displacement can result in poverty, food insecurity, destruction of health and other vital infrastructure, and the breakdown of family units. Where malnutrition, food insecurity, and poor maternal and child health status already persist as major health problems, army operations further deteriorate the scenario. The United Nations has identified three stages of emergency that occur irrespective of cause: acute emergency, post-emergency, and reconstruction.<sup>5</sup> Armed conflicts have profound consequences for the health of affected populations. These consequences not only include the direct effects of violence, such as mortality and morbidity, but also indirect impacts related to displacement, disruption of healthcare services and elevated risk of disease transmission.<sup>6</sup>

According to a WHO report,<sup>7</sup> armed conflicts can result in a number of effects on health, health service infrastructure and human resources (**Figure 4**). The conditions in conflict areas are ideal for disease and trauma to proliferate and in such scenarios, women and children in particular are at high risk. Moreover, it is difficult to deliver effective health services, as organisations, institutions, and resources are adversely affected by conflict and the political instability that surrounds and follows it. The unavailability of healthcare providers (especially female), unavailability of drugs and resources, disease outbreaks and even challenges in maintaining basic hygiene have a high impact on MNH (maternal and newborn health) outcomes.

Figure 4 Impact of armed conflict on maternal and newborn health related issues

Health in general	Social and human service infrastructure	Human resources
<ul style="list-style-type: none"> <li>• Loss of harvests, animals, seeds, malnutrition, micronutrient deficiencies.</li> <li>• Injuries and fatalities associated with warfare.</li> <li>• Spread of communicable diseases. Reappearance of previously controlled diseases (e.g. malaria).</li> <li>• Massive mental trauma and psychosomatic disorders, stress-related diseases.</li> <li>• Breakdown in programmes of vaccination for women and children.</li> <li>• Resurgence of harmful birth practices with breakdown in health services.</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption in supplies of clean water, adequate food, electricity, heating fuel.</li> <li>• Increased burdens on women as carers. Increased numbers of orphans and unaccompanied children.</li> <li>• Neglect, destruction or looting of hospitals and health centres, medicines, equipment and supplies (health services may be specifically targeted).</li> <li>• Lines of communication and referral disrupted.</li> <li>• Disruption in supply of medicines, delivery kits, contraceptives, condoms, equipment, and spare parts.</li> </ul>	<ul style="list-style-type: none"> <li>• Health workers displaced, injured or killed (may be targeted).</li> <li>• Remaining health workers demoralised, without adequate support, supervision or payment. Training disrupted.</li> <li>• Shortage of midwives, obstetricians, anaesthetists and paediatricians for emergency obstetric and neonatal care.</li> <li>• Difficulty attracting health workers to peripheral/conflict zones.</li> <li>• Increasing reliance on international health staff (who may be evacuated from conflict zones at short notice).</li> </ul>

Source: WHO 2000<sup>7</sup>

Although international and local non-governmental organisations (NGOs) continue to work and deliver health services in security compromised areas in Pakistan,<sup>8</sup> there is a need to develop further understanding of how best to address MNH needs in Pakistan's conflict areas, with sustained and tailored approaches through systematically assessing the literature around the globe. It is well understood that several issues specific to conflict areas can impair and complicate service delivery. These include lack of government capacity, lack of political will or the breakdown of social order. Usually in such circumstances, capacity development is replaced by more urgent needs. Furthermore, in the absence of an effective national policy, service delivery becomes fragmented. The resulting problem of diminished central resources and lack of willingness, coupled with declining control, gives greater prominence to local government solutions and to alternative non-state provision mechanisms. The fundamental problems highlighted in the global literature on healthcare service provision in such areas are: choosing the right delivery methods, selecting the right aid instruments, understanding access constraints, and building accountable governance. Overcoming these challenges can guide future paths in such scenarios.

Various models and strategies have been implemented over the years in different parts of the world to improve maternal and newborn health in conflict affected areas.<sup>1,2,7</sup> These strategies are based on specific needs of the communities and whether they can be accepted by the locals. By evaluating these strategies and healthcare delivery systems we can identify issues that may have caused hurdles in planning and implementation. We can also identify solutions to these problems and come up with guidelines that can be utilised in the future.

For this reason we undertook this review to establish a framework of maternal and newborn healthcare needs that can be applicable to the current situation in Pakistan and conflicts in other parts of the world. In order to evaluate the delivery mechanisms through which aid and healthcare is provided in these regions we have derived an illustrative model for service delivery in conflict areas (**Figure 5**). Our framework suggests that during a conflict the response to crisis in regards to healthcare is initiated by government or NGOs. At times there is a collaborative effort of the two in order to control the situation. The initial efforts are aimed at identifying and recruiting human resources, building infrastructure and collecting funds. This, together with monitoring and evaluation, allows support to be delivered through key delivery mechanisms. These include community participation, utilisation of outreach services and use of facility based services. These delivery mechanisms then allow improving delivery of healthcare services, such as training of LHWs and CHWs who in turn can provide key healthcare services to the community, including vaccination, medications, awareness and guidance and identification of areas of need. We will use this model to organise the different programme and interventions carried out across the globe in a systematic review.

## 2 Objectives

The specific objectives of the systematic review were:

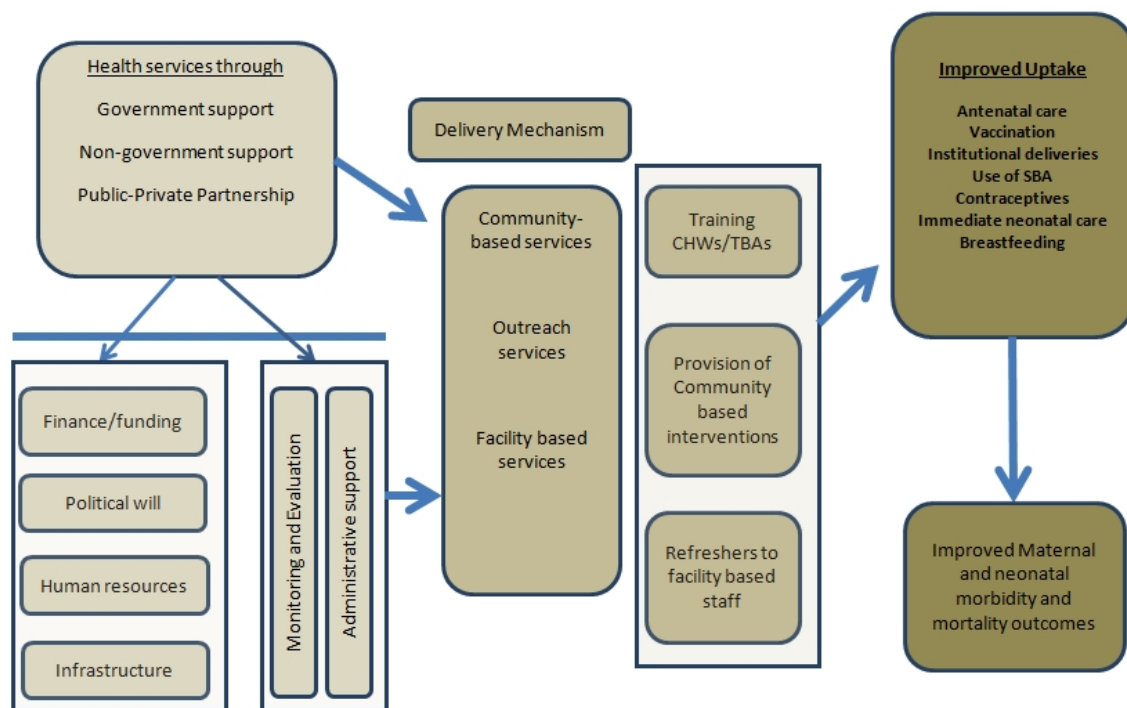
### Phase 1

- To collate and synthesise global and local (Pakistan) information from conflict areas on platforms of health service provision implemented at community and/or facility level to improve MNH within the last ten years
- Identify platforms of health service provision implemented at community and/or facility level and their effectiveness when delivered in conflict areas
- Undertake a qualitative evaluation of factors associated with the successful application of MNH services models in conflict areas of Pakistan

### Phase 2

- With the synthesised preliminary results and interim products, consultation with key stakeholders at provincial and district levels to gather key information on acceptability/adoptability of the effective models in the conflict areas and future policy implications.

Figure 5: Illustrative model of service delivery in conflict areas



### Phase 3

Based on the results from phase 1 and 2 develop an analytical summary of current evidence, and specific recommendations for improving the service delivery of MNH in conflict areas to achieve increased coverage and accelerate progress towards attainment of MDGs.

### 3 Methods

#### Phase 1

##### Search strategy

All available evidence for the impact of platforms of health service delivery in conflict areas was systematically analysed. We only focused on service delivery methods devised and implemented in the last decade in order to limit ourselves to the most recent evidence based data so that recommendations could easily be articulated into the existing health situation.

We only restricted to studies/programmes that provided services to conflict affected population and evaluated the services with some form of control group or with baseline indicators. We evaluated the impact of such interventions on population living within the conflict affected areas and those displaced internally within the country. We have included studies which address IDPs and excluded studies related to refugees. In order to understand the interventions and programmes used for health service delivery in conflict areas, we also included case studies, programme evaluations and descriptive cross sectional analysis where a comparison arm was not used. This allowed us to better understand the different strategies employed to provide MNH services in conflict areas.

The following sources of information were used to search literature for review:

- All available electronic references libraries of indexed medical journals and analytical reviews
- Electronic reference libraries of non-indexed medical Journals
- Non-indexed journals not available in electronic libraries
- Pertinent books, monographs, and theses identified through electronic or hand searching
- Project documents and reports

Given the past experience in undertaking systematic reviews, we had access to a range of information sources on studies related to MNH. These included numerous indexed and non-indexed health and medical databases vital in mapping methods/strategies related to service delivery for improved maternal and newborn health. The following principal sources of electronic reference libraries were searched to access the available data on MNH service delivery in conflict areas: The Cochrane Library, Medline, PubMed, Popline, LILACS, CINAHL, EMBASE, World Bank's JOLIS search engine, CAB Abstracts, British Library for Development Studies BLDS at IDS, the World Health Organization (WHO), regional databases as well as the IDEAS database of unpublished working papers, local government websites, Google and Google Scholar. Detailed examination of cross-references and bibliographies of available data and publications to identify additional sources of information was also performed. In particular, this search also extended to grey literature in non-indexed and non-electronic sources. The bibliographies of books with relevant sections were searched manually to identify relevant reports and publications.

We recognised that much of the information from conflict areas would not be available outside grey literature and programme reports. Therefore, our search strategy also included alternative sources and search engines such as Google, Google Scholar and relevant international bodies and NGOs involved in working in conflict areas. Such agencies included but were not limited to known bodies of information (e.g., UNFPA, UNICEF, SAVE the Children); known communities of practice (e.g., Global Exchange Network); implementing partners; donors (e.g., USAID, DFID, JICA); ministries of health; hospitals and universities (e.g., Cochrane Pregnancy & Childbirth Group at Liverpool Women's Trust, UK).

The following basic illustrative search strategy was adapted for the various databases and search engines: [("maternal and newborn health\*" OR "health service\*" OR "service delivery" OR "health models\*" OR "health worker\*" OR "community health worker\*" OR "lady health worker\*") AND ("conflict area\*" OR "internally displaced people\*" OR "IDP\*" OR "displaced population" OR "fragile area\*")]. Language restrictions were not applied and we included relevant Library of Congress Subject Headings, and MeSH terms.

##### Types of outcomes:

##### *Maternal outcomes*

Maternal complications

Maternal nutrition status, iron deficiency anaemia, anaemia in malaria endemic areas

All cause and cause-specific maternal mortality

### **Neonatal outcomes**

Preterm birth (<37 weeks of gestation)  
 Stillbirths (foetal death after 28 weeks of gestation but before delivery of the baby's head per 1000 total births)  
 Perinatal mortality (foetal death after 28 weeks of gestation but before delivery of the baby's head per 1000 total births and early neonatal mortality up to 7 days of life).  
 Prematurity and intrauterine growth retardation, reported low birth weight (<2500g)  
 Neonatal mortality (number of neonatal deaths from any cause among total live births)  
 Cause-specific neonatal mortality including birth asphyxia, congenital anomalies, infections, low birth weight, preterm birth

### **Service delivery outcomes**

Proportion of women received antenatal care  
 Proportion of women received tetanus toxoid immunisation  
 Proportion of women received iron/folate supplementation  
 Proportion of deliveries with a skilled birth attendant  
 Use of contraceptives before conception/or during postpartum  
 Proportion of newborns breastfed within 1 hour of delivery  
 Proportion of newborns received cord care  
 Proportion of newborns received thermal care

As contextual and programme relevant information, we evaluated available information on delivery platforms (community based services, outreach services or facility based services) for improved MNH health; mode of delivery; involvement of community members; involvement of community health workers, their training, supervision and monitoring; and linkages to the health system, private sector care providers and communities.

**Data extraction:** The project team set up a triage process with standardised criteria for evaluating outputs from the search strategy and primary screening. Following an agreement on the search strategy, the abstracts (and the full sources where abstracts were not available) were screened by two abstractors to identify studies adhering to our objectives. Any disagreements on selection of studies between these two primary abstractors were resolved by the third reviewer. After retrieval of the full texts of all the studies that met the inclusion/exclusion criteria, each study was double data abstracted into a standardised form.

### **Data analysis and risk of bias assessment**

We could not perform the statistical analysis because there were very few studies in each domain. Further to that, studies had different designs and different outcomes.

### **Assessment of methodological quality of included studies**

Available systematic reviews were assessed using the AMSTAR criteria (Assessment of the methodological quality of systematic reviews).<sup>9</sup> On the other hand, randomised and quasi-randomised studies were assessed for risk of bias using the Cochrane criteria.<sup>10</sup> The quality of prospective time series studies/pre-post trials and observational studies (including cohort, case-control and cross-sectional designs) were assessed using the criteria adopted from Leovinsohn

## **Phase 2**

### **Consultative meetings with stakeholders**

In the second phase of this project, the preliminary results of the literature review were shared with various stakeholders of conflict affected areas in Pakistan from Balochistan, FATA and KP in two consultative workshops. The workshops were held in Quetta (April 30, 2013) and Peshawar (May 4, 2013). The applicability and acceptability of various strategies found in the literature review was discussed in the context of conflict affected areas in Pakistan.

The consultative workshops in both Quetta and Peshawar were conducted through a standardised consultation process. The participants were key stakeholders from Balochistan, KP and FATA. These included representatives from public sector,



private sector, and international organisations engaged in dealing with MNH issues and services in conflict affected areas. Representatives from various organisations working in Balochistan participated in the Quetta workshop, while representatives from both KP and FATA participated in the workshop held in Peshawar. Both workshops were well attended by relevant stakeholders. Eighteen participants attended the Quetta workshop out of the 22 invited, while 22 out of the 26 invited KP and FATA stakeholders attended the workshop in Peshawar.

A similar methodology was followed for both workshops while care was taken to allow tailoring according to different local settings and cultural context. The stakeholder discussion was guided by a structured questionnaire through which various aspects of MNH service delivery in conflict areas of Pakistan were assessed. The discussion explored the current level of MNH services in conflict areas; the political, socio-cultural, administrative, financial and infrastructural barriers to MNH services in conflict areas; and the potential of various models for improving access to MNH services in these areas. MNH service delivery issues and possible service delivery mechanisms for the population within conflict areas and among IDPs (both in-camp and off-camp) were discussed.

After the discussion, the next sessions consisted of various group activities to further delve into the service delivery challenges and possible solutions in conflict areas.

In the first group activity, the participants were randomly divided into two groups and both groups were given the task of creating a list of challenges facing MNH service delivery in conflict areas and to suggest possible service delivery modalities to counter them. After the group work, both groups presented the results of their discussion and answered questions about them. In the last activity of the workshop, the participants were asked to create the outline of an MNH service delivery model in accordance with a given worksheet.

The consultative meetings were recorded and transcribed. The qualitative data from the meeting was analysed in terms of categories, themes, and patterns and the findings are given in the results section below.

## 4 Results

### 4.1 Phase 1: Literature Review

Our literature search revealed very few published and unpublished studies that evaluated the impact of strategies for MNH service delivery in conflict areas. We have included 11 studies<sup>2, 13-22</sup> that describe such MNH service delivery platforms. These studies are from Afghanistan,<sup>13, 14</sup> Pakistan,<sup>2, 22</sup> Myanmar (Burma),<sup>19</sup> Sudan,<sup>17</sup> Tanzania,<sup>20</sup> Liberia,<sup>16</sup> Guatemala,<sup>18</sup> and the Democratic Republic of Congo.<sup>15, 21</sup> We did not come across any randomised control trials or studies comparing intervention with a control arm. A few of the included studies were narratives with no quantitative data, but were included to highlight different strategies of healthcare used in effort to improve MNH. As a result, we were not able to perform a quantitative analysis of most of the included studies except for the two pre-post studies described in table 3. Some of the included studies were presented in the Reproductive Health Response in Conflict (RHRC) conference proceedings in 2003 in Belgium.<sup>18, 21, 22</sup> Only abstracts were available for these studies and details of the methodology and results were not clear.

A historical summary of the conflicts surrounding the countries included in this analysis are described in Panel 1. The included studies are described in detail in table 2.

The platforms for health delivery mechanisms in the included studies have been categorised into community based services, outreach services and facility based services as described in our framework (Figure 5).

#### Community based services

Our literature search revealed that community based services have been used as a delivery mechanism in two studies. These studies provide data from programmes and interventions carried out in Afghanistan<sup>14</sup> and Eastern Burma.<sup>19</sup> Training of community health workers (CHWs), conducting awareness workshops and empowering (using strategies such as information, education and communication) community members to tackle issues of MNH were widely used methods.

Our search shows that with utilisation of these services, the greatest impacts were observed in skilled birth attendance and antenatal consultation rates. Results from different studies evaluating such programmes in Eastern Burma<sup>19</sup> and Afghanistan<sup>14</sup> show that skilled birth attendance increased between 12 to 42%.<sup>14, 19</sup> Similarly the antenatal consultation rates increased by approximately 33%.<sup>19</sup>



## Outreach Services

Outreach services have been used as a delivery mechanism in one of the programme evaluations conducted in Goma, DRC.<sup>21</sup> The study evaluated people's knowledge, attitudes and behaviours regarding safe motherhood and family planning after implementation of a safe motherhood programme. The programme involved an outreach service, consisting of trained physicians and LHWs, with activities including raising community awareness, making the health facilities operational, transfer skills to the district health team, changing the health-related behaviour of the population and providing drugs and equipment, overcoming religious and cultural obstacles, and providing motivation to health facilities by focus group discussions and home visits. The study shows that antenatal consultation rate increased from 55 to 88% while the proportion of safe deliveries conducted by the trained staff increased from 37 to 60% since the beginning of the reproductive health programme. Maternal mortality also decreased from 0.22 to 0.15%. A pre-post survey evaluating outreach MNH and reproductive health services to an IDP camp in Guatemala<sup>18</sup> shows that prenatal and childbirth care by midwives increased significantly from 71 to 89%. The mobile unit also trained CHWs in the community and increased awareness regarding healthcare services.

## Panel 1. Historical events that led to conflicts in some of the countries included in our analysis

### Afghanistan<sup>14</sup>

The era of armed conflicts started in Afghanistan with the Soviet army invasion in December 1979 to support the Communist government. Although the Soviets left in 1989, Afghanistan has remained in the grip of violence as a result of various political and religious conflicts. In 2001, a new international conflict developed as a result of war against terrorism. In the 1990s the Mujahidin and the Taliban forces were constantly at war in the struggle for power. After the Taliban took control, the war against terrorism was aimed at driving the Taliban forces out of Afghanistan. This led to another prolonged era of war and conflicts leading to suffering for Afghan people.

The war resulted in considerable destruction of infrastructure. In rural areas, whole villages were destroyed together with their orchards, irrigation systems and fields. A million are said to have died and 700,000 women were widowed by the end of the war. By 1989, there were 3.7 million documented refugees in Pakistan and almost three million in Iran. Huge numbers of people were internally displaced within the country. A large proportion of professionals, including health professionals, and many other educated people left the country.

### The Democratic Republic of Congo<sup>23</sup>

During the Congo wars from 1996 to 1997 and 1998 to 2003, the conflict involved nine countries and more than 40 rebel groups. Today three main categories of armed groups operate in eastern Congo: the Rwandan Hutu FDLR; the Rwanda and Uganda-backed M23; and various local armed "Mai Mai" groups. In addition, the Congolese army has committed many human rights abuses. All of these groups have attempted to seize control of natural resources in order to continue fighting. The conflicts begin after the outpouring of refugees into DRC as a consequence of the 'Rwanda genocide'. These refugees formed a rebellious group and led to the first and second Congo wars when the government of DRC decided to purge all Rwanda elements from the system.

Since the beginning of 2012, ethnic tensions and inequitable access to land have led to renewed violence in the east and north-east of DRC resulting in the displacement of more than 2.2 million people inside the country. In addition, almost 70,000 people have crossed the border into neighbouring Rwanda and Uganda.

At the same time, in the first half of 2012, some 15,000 refugees from the DRC returned home, mainly to Equateur Province. Their reintegration will be supported by UNHCR through community-based projects and targeted assistance to individuals to enhance their livelihoods. More than 400,000 Congolese refugees currently remain outside the DRC. Since the beginning of the conflicts over 5.4 million people have died and Over two million have been displaced.

### Sudan<sup>24</sup>

Since gaining independence from Britain and Egypt in 1956, Sudan has experienced more years of conflict than peace. The first civil war, from 1955 to 1972, was between the Sudanese government and southern rebels who demanded greater autonomy for southern Sudan. The war ended with the 1972 Addis Ababa Agreement, which granted significant regional autonomy to southern Sudan on internal issues. The second civil war erupted in 1983 due to longstanding issues heightened by then President Jaafar Nimeiri's decision to introduce Sharia law. Negotiations between the government and the Sudan People's Liberation Movement/Army (SPLM/A) of southern Sudan took place in 1988 and 1989, but were abandoned when General Omar al-

Bashir took power in the 1989 military coup. Bashir remains president of Sudan today. These internal tensions drove the country's decades-long civil war, which led to South Sudan's secession from Sudan on July 9, 2011. Despite this turn of events, numerous internal conflicts continue in Sudan and South Sudan.

The war has left two and a half million people dead and four million people displaced.

#### Pakistan<sup>25</sup>

Pakistan comprises five broadly distinct regions: Punjab in the north-east, Gilgit-Baltistan and Azad Kashmir in the north, Sindh in the southeast, Balochistan in the south-west, and Khyber Pakhtunkwa (KP) province and the Federally Administered Tribal Areas (FATA) which border Afghanistan in the Pashtun north-west. Since its creation in 1947, Pakistan has experienced alternating periods of civilian and military rule. Pakistan faces enormous challenges on a range of fronts, including security and terrorism, sectarian and ethnic violence, a troubled economy and recurrent natural disasters. Military intervention by the US and NATO in neighbouring Afghanistan since 2001 and Pakistan's alignment with the US against al-Qaida and the Taliban has fomented opposition to the government. Islamist armed groups seek to overthrow tribal governance structures in the north-west and the government has struggled to maintain law and order. Indiscriminate suicide attacks, the use of improvised explosive devices, targeted killings and intimidation by non-state armed groups continue, claiming more than 360 civilians' lives in KP alone in 2012. Military operations against non-state armed groups, most notably Tehrik-e-Taliban Pakistan, have escalated since 2007.

An estimated five million people have been displaced by conflict, sectarian violence and wide-spread human rights abuses in the north-west as a whole since 2004. Today, Pakistan faces a renewed displacement crisis fuelled by massive new forced population movements in FATA, the current focus of conflict in the region. More than 415,000 people were newly displaced in 2012 alone.

#### Guatemala<sup>26</sup>

Guatemala is a mainly mountainous country in Central America. When Spanish explorers conquered this region in the 16th century, the Mayans became slaves in their own homeland. They are still the underprivileged majority of Guatemala's population. Civil war existed in Guatemala since the early 1960s due to inequalities existing in the economic and political life. In the 1970s, the Maya began participating in protests against the repressive government, demanding greater equality and inclusion of the Mayan language and culture; ultimately resulting in a guerrilla movement. In 1980, the Guatemalan army instituted "Operation Sophia," which aimed at ending insurgent guerrilla warfare by destroying the civilian base in which they hid. This programme specifically targeted the Mayan population, who were believed to be supporting the guerrilla movement.

Over the next three years, the army destroyed 626 villages, killed or "disappeared" more than 200,000 people and displaced an additional 1.5 million, while more than 150,000 were driven to seek refuge in Mexico. The violence faced by the Mayan people peaked between 1978 and 1986.

After 36 years, the Guatemalan armed conflict ended in 1996 when the government signed a peace accord (the Oslo Accords) with the insurgent group, the Guatemalan National Revolutionary Unity.

#### Myanmar (Burma)<sup>27</sup>

Myanmar (aka Burma) has been in a state of constant civil war since independence in 1948. Myanmar is one of the most ethnically-diverse countries in the world with key non-Burma ethnic groups demanding equality with the Burmans in the three public realms, specifically the protection of ethnic culture, language, and religion, the devolution of tangible executive, legislative, and judicial power to the ethnic states within a true federal union, and a democratic form of government. With their demands unmet, the ethnic groups turned to armed insurgency. The civil war and the perceived threat of secession by ethnic states from Myanmar led in 1962 to a military coup. Since then, the military has dominated the affairs of the country seeing itself as the sole force capable of holding the country together.

The major non-Burman ethnic groups are the Arakanese, Chin, Kachin, Shan, Karenni, Karen, and Mon, all of which have their own states in which they are the dominant ethnic group. All these states have ethnic insurgent activities of varying intensities against the Myanmar military (aka Tatmadaw). The Tatmadaw has been employing a counterinsurgency strategy which attempts to deny the ethnic insurgents access to food, funding, information, and recruits. Also the Myanmar regime policies have led to the impoverishment of and human rights abuses toward the ethnic peoples leading hundreds of thousands of them to seek safety in adjacent countries Thailand, China, India, and Bangladesh, through resettlement in other countries, and as internally displaced persons in the jungle inside Myanmar.

### **Facility based services**

The strategies employed at facility level were the basis of a few studies. These strategies include upgrading infrastructure, provision of drugs and supplies, etc. These studies are from Sudan,<sup>17</sup> Tanzania,<sup>20</sup> Pakistan,<sup>22</sup> Liberia,<sup>16</sup> and DRC.<sup>15</sup> The study from Sudan is a descriptive study that highlights the setting up of an emergency obstetric and newborn care (EmONC) centre and the issues and hurdles relating to its functioning.<sup>17</sup> The study from DRC highlights how nine EmONC centres evaluated as providing inadequate healthcare were brought to attention of Ministry of health.<sup>15</sup> These centres were then supplied with resources and equipment. This shows the importance of monitoring and evaluation and how it can help uplift infrastructure of facility based services as delivery mechanisms. A report from Liberia describes how American Refugee Committee (ARC) in 2001 procured and supplied obstetric equipment and drugs, recruited and trained national staff and upgraded three hospitals to provide comprehensive obstetric care, and six health centres to provide basic emergency obstetric care.<sup>16</sup> In addition, ARC employed a Nigerian surgeon to work at the remote Grand Gedeh County Hospital, and trained surgical technicians. The surgeon performed an average of three Caesarean sections per month, saving the lives of women who otherwise would certainly have died. Local project costs were less than \$1,000 per month. This programme was shut down due to increased conflicts in 2004 before the impact could be evaluated.

The EmONC centres setup in Pakistan and Tanzania were evaluated and showed significant impacts on MNH. The labour room services provided for an IDP camp in Balochistan, Pakistan showed a decrease in unregistered deliveries from 17 to 8%, increased ANC coverage from 55 to 78%, increased contraceptive prevalence rate from 1.4 to 3.5%, and decreased maternal mortality ratio from over 350 to 197 per 100,000 live births.<sup>22</sup> The study from Tanzania describes the results of a 2-year pilot programme implementing prevention of mother to child HIV transmission by counselling, training health workers, encouraging HIV testing and use of Nevirapine.<sup>20</sup> This was conducted in four antenatal clinics and two hospitals. 92.3% of the pregnant women who received counselling at these centres agreed to go through HIV screening. Furthermore, 93% of the women who tested positive for HIV agreed on Nevirapine. All of the infants of HIV positive mothers delivered in the two hospitals were given Nevirapine soon after birth.

### **Combination of community-based and outreach services**

It would be noteworthy to describe efforts of the following programmes carried out in recent years. Although these programmes have not been evaluated, they do draw attention to simple interventions that could possibly impact MNH in a significant manner at IDP campsites.

UNICEF has been providing healthcare services in many conflict hit areas around the world. The delivery mechanisms for healthcare services are manifold. They provide education and training for the community to manage issues relating to hygiene, sanitation and nutrition. They have also build up facilities and centres for managing issues related to nutrition and MNH. One of the examples is the efforts of UNICEF for the three IDP camps in Pakistan; Jalozei and ToghSarai in KP and New Durrani in Kurram agency, FATA.<sup>2</sup> In 2012, 127,311 children and 55,566 pregnant and lactating women were screened for acute malnutrition. Furthermore one million people (including returnees) have benefitted from UNICEF-supported WASH items including hygiene kits, plastic buckets, and jerry cans at all three camps. 90,094 people (55% female) at the three camps had access to 6,011 latrines, 2,889 washrooms, 1,551 washing pads and 407 solid waste collection points.<sup>2</sup> This improves the overall health status of the women living at the camps and thus indirectly improves prenatal and natal outcomes. Similarly UNICEF is working in Afghanistan to provide 108,000 pregnant women with safe delivery and newborn care kits.<sup>13</sup>

**Table 2: Characteristics of included studies**

Author	Country	Study Design	Delivery Mechanism	Description of methods/intervention	Results	Quality assessment	Notes
Aitken 2009 <sup>8</sup>	Afghanistan	Case Study	Community based services: Training of CHWs as part of the Basic Package of Health Services. This was sponsored by NGOs, UNAID and World Bank.	Basic Package of Health Services consists of various aspects including facility and community based approaches. In this case study only CHWs training has been discussed. Specifics on programme implementation or methodology used to collect data have not been mentioned in the report. The differences in skilled birth attendance and antenatal care three years after the introduction of CHWs in community are given.	Skilled birth attendance rose from 7% to 19%. Antenatal care use increased from 8% to 32%	N.A	This is a case study of situation of Afghanistan between 2003 and 2006 and how health parameters have changed with time. The focus of the paper describes the efforts of different organisations and their funding. Little information is available about the interventions used.
Miranda 2003 <sup>9</sup>	Guatemala	Pre-Post Surveys	Outreach service: Safe motherhood was advocated through a mobile healthcare unit in 23 rural frontier communities. The mobile team was responsible for training of community health workers, community education and the provision of maternal health services. The programme was carried out by Marie Stopes Mexico	Evaluation of the services provided by mobile unit was conducted using pre and post KAP surveys in 12 selected communities using a representative sample. Interviews were conducted with 388 indigenous men and women of reproductive age in the baseline survey in June 2001 and with 398 in the post-intervention survey in June 2003. Further details of the methodology are not available.	Prenatal and childbirth care by midwives increased significantly from 71% to 89% (p= 0.00)	Please refer to table 3	This paper was presented in the Reproductive Health Response in Conflict (RHRC) conference proceeding in 2003. Only the abstract is available and details on the methodology and results are not clear. Marie Stopes Mexico is an NGO focusing care towards reproductive and maternal health.
Mullany 2010 <sup>10</sup>	Myanmar	Pre-Post Surveys	Community based services: CHWs, TBAs and maternal health workers were trained for eight months and allowed to work in the community for two years.	Two-stage cluster-sampling surveys among married women of reproductive age (15–45 y) conducted before and after programme implementation enabled evaluation of changes in coverage of essential antenatal care interventions, attendance at birth by those trained to manage complications, postnatal care, and family planning services.	Skilled birth attendance increased from 5.1% to 48.7% (PRR = 9.55 [95% CI 7.2112.64])	Please refer to table3	N.S
Wabulakombe 2003 <sup>11</sup>	DRC	Unclear	Outreach services: A safe motherhood and family planning (FP) programme to reduce maternal and infant mortality was conducted after a survey to identify the healthcare needs of the community. Sponsored by Merlin charity.	Details of the methodology and analysis are not provided. Programme activities included: Raising community awareness, making the health facilities operational, transferring skills to the district health team, changing the health-related behaviour of the population, providing drugs and equipment to health facilities	Antenatal consultation rate increased from 55% to 88%. The proportion of safe deliveries conducted by the trained staff increased from 37% to 60%. Maternal mortality decreased from 0.22% to 0.15%	N.A	This paper was presented in the Reproductive Health Response in Conflict (RHRC) conference proceeding in 2003. Only the abstract is available and details on the methodology and results are not clear.
Casey 2009 <sup>15</sup>	DRC	Case study	Facility based services: Evaluation of nine EmONC centres	Nine EmONC centres evaluated as providing inadequate healthcare were brought to attention of Ministry of Health. These centres were then supplied with resources and equipment.	No analysis was performed	N.A	N.S
Rutta 2008 <sup>20</sup>	Tanzania	Descriptive cross sectional	Facility based services: Through a healthcare centre, community sensitisation to HIV, trainings of healthcare workers, voluntary counselling and HIV testing (VCT), infant feeding, counselling, and administration of Nevirapine were advocated.	Two year data from four antenatal clinics and two hospital's delivery registers was used for descriptive analysis. Main outcome measures include: HIV testing acceptance rates, percentage of women receiving post-test counselling, Nevirapine uptake, and HIV prevalence among pregnant women and their infants.	92.3% of the pregnant women who received counselling at these centres agreed to go through HIV screening. 93% of the women tested positive for HIV agreed on Nevirapine. All of the infants of HIV positive mothers delivered were given Nevirapine soon after birth.	N.A	N.S
McNab (publication year not clear) <sup>17</sup>	Sudan	Case study	Facility based services: the setting up of an EmONC centre which allowed free of cost RH and Maternal health services. This was sponsored by the Ministry of Health Sudan and the American Refugee Committee (ARC).	The report describes how the EmONC centre was setup and how it could be of benefit to the community. No analysis or data collection was performed.	No analysis was performed	N.A	N.S
Zahid 2003 <sup>22</sup>	Pakistan	Case study	Facility based services: a labour room was enhanced to offer RH and MNH services to a refugee and IDP camp	The methodology and analysis are not described in detail	A decrease in unregistered deliveries from 17% to 8%, increased ANC coverage from 55% to 78%.	N.A	This paper was presented in the Reproductive Health Response in Conflict (RHRC) conference proceeding in 2003. Only the abstract is available and details on the methodology and results are not clear.
McGinn 2004	Liberia	Case study	Facility based services: American Refugee Committee procured and supplied obstetric equipment and drugs, recruited and trained national staff and upgraded three hospitals to provide comprehensive obstetric care, and six health centres to provide basic emergency obstetric care. In addition, ARC employed a Nigerian surgeon to work at the remote Grand Gedeh County Hospital, and trained surgical technicians.	Very short narrative of the implementation of this programme is given. ARC set out to strengthen family planning and improve emergency obstetric care in Montserrado, Grand Gedeh and Sinoe Counties.	No analysis was performed	N.A	This programme was shut down due to increased conflicts in 2004 before the impact could be evaluated.

Table 3 Quality assessment of studies included with a pre-post study design based on criteria by Loevinsohn 1990<sup>11</sup>

<b>Quality assessment criteria for pre-post studies without control arm</b>				
<b>Study features*</b>	<b>Assessment</b>	<b>Miranda<sup>18</sup></b>	<b>Mullany<sup>19</sup></b>	
Study based on explicit theory	Yes/ No / Unclear	Yes	Yes	
Adequate description of how educational strategy adapted to local conditions	Yes/ No / Unclear	Unclear	Yes	
Example given of materials or educational process	Yes/ No / Unclear	Unclear	Yes	
Adequate description of resources required to carry out interventions	Yes/ No / Unclear	Unclear	Yes	
Measure outcome before and after intervention	Yes/ No / Unclear	Unclear	Yes	
Measurement method same before and after	Yes/ No / Unclear	Unclear	Unclear	
Period between education and outcome more than one year	Yes/ No / Unclear	Yes	No	
Author claimed positive results for interventions	Yes/ No / Unclear	Yes	Unclear	
Paper included discussion of possible biases and caveats (or limitations)	Yes/ No / Unclear	Unclear	Unclear	
Paper included <i>P</i> values or confidence interval	Yes/ No / Unclear	Yes	No	
Analysis employed some form of modelling such as regression	Yes/ No / Unclear	Unclear	Unclear	
Exposure to intervention monitored	Yes/ No / Unclear	Yes	Yes	

\*Adopted from Leovinsohn 1990

## 4.2 Phase 2: Consultative Meetings

Discussions in both Quetta and Peshawar revealed that no systematic models of MNH service delivery, especially tailored for conflict areas, are available. During conflict even previously available services and infrastructure suffer due to various barriers specific to times of conflict and unrest. A number of barriers that hinder MNH services were discussed. Suggestions for improving MNH services in conflict areas were also given. The following main themes emerge from the discussions.

### 1. Effects of conflict on MNH service delivery

Conflict has had a profound impact on the provision of MNH services in conflict affected areas in Pakistan. Even those services, which were previously being provided, are not available now because of damage to infrastructure, insecurity, problems of transportation and access and health staff leaving conflict areas, etc.

### 2. Barriers to MNH services provision in conflict areas

#### i. Security risk

Security issues were most frequently cited as reasons for inability to provide and access MNH services in conflict areas. Security concerns hinder mobility for both health care providers and people who need services. Because of a higher perception of threat to their own and their family's well-being, many health care providers leave the area for safer places. In some areas, health care providers have been targeted or abducted leading to an exodus of other health care providers.

In some areas, frequent curfews, sometimes for days at a time, create a significant barrier to reaching MNH services. At times, restricted access to various areas, even in urban regions like Quetta, limits access to healthcare, creating difficulties especially for those who need emergency services.

#### ii. Lack of availability of skilled staff

In conflict affected areas, health care providers especially highly trained providers such as general physicians, women medical officers, gynaecologists, etc., move away to safer areas leaving a large gap in skilled healthcare. Availability of female healthcare providers especially women medical officers and gynaecologists is limited outside major cities, even in stable areas. This non-availability is exacerbated in conflict areas because of migration to safer areas.

Community based healthcare providers such as CMWs, LHWs and LHV remain available in some areas. Even where they stay in conflict areas, restricted mobility especially outside their local community and fear of being targeted limit their ability to provide services. It was mentioned that sometimes staff are even afraid to put up signs of health houses. Apart from the security situation, lack of basic life amenities also creates a disincentive for health care providers to stay in these areas.



### iii. Lack of resources

Lack of resources required for providing health services also creates a barrier in conflict affected areas. Limited availability of commodities, supplies, equipment and frequent power shortages hinder service provision.

### iv. Socio-cultural barriers

Access to MNH services in conflict areas is also affected by prevalent cultural norms. In most of the affected areas, conservative cultural norms do not allow women to travel unaccompanied. Therefore, women are dependent on male members of the family to access health services.

According to the participants, there is a lot of opposition to NGO activities in KP and FATA and in Pashtun areas of Balochistan. In some areas, NGO activities are considered anti-Islamic and therefore there is a lot of hostility against them. Under those circumstances, women cannot use services by NGOs even when they are available and accessible.

Services are not utilised if they are not provided in culturally acceptable way. For example, if men are providing services or even if men are present in the area where services are being provided, women would not utilise services. This should be a consideration in conflict areas where female providers might be hard to find but their presence would be necessary for providing care in a culturally appropriate manner.

Most participants felt that these socio-cultural factors must be considered while designing interventions and strategies for MNH services in conflict areas to ensure acceptability and effectiveness.

### v. Lack of political will and commitment

Lack of political will and commitment was considered to be a fundamental issue hindering provision of MNH services by many stakeholders. The lack of official acknowledgment of the serious security situation in Balochistan was specially considered to be a major barrier, since without official recognition non-governmental actors such as International NGOs and UN agencies cannot provide emergency MNH services. In the absence of such recognition, even government departments with a mandate to provide services in emergency situations such as Provincial Disaster Management Authority cannot play their role.

Stakeholders from all conflict affected areas felt that conflict districts were not given any special priority by the provincial health departments. They also felt that in the on-going security situation, MNH was not a high priority in the government's implementation agenda. Most participants thought that health services in general were a low priority for the government in conflict affected areas.

### vi. Transportation and communication

Availability and security of transportation is a considerable problem in conflict areas. In some conflict areas, communication networks including mobile services are either not available or are inconsistently available.

### vii. No defined package of health services for conflict areas

The fact that there is no defined package of services to be provided in a conflict situation was considered a barrier. Some participants were of the opinion that a specialised package of services and special incentives for health workers might improve service delivery in conflict areas.

## **3. Role of non-state actors**

A number of stakeholders in Balochistan, KP and FATA stressed the importance of engaging non-state parties to the conflict in facilitating access to healthcare services. Most of the participants agreed that if the government negotiated with the non-state actors, it would be possible to reach an agreement on humanitarian basis to allow access and protection for health services and health personnel. They quoted examples of similar agreements for health campaigns with Taliban in Afghanistan.

## **4. Service delivery mechanisms**

Community-based, facility-based and mobile services were all considered viable mechanisms of providing MNH services in a conflict zone. According to the participants, varying combinations of these mechanisms would be needed in different



conflict areas according to the prevailing conditions. Their views on the relative usefulness of each of these mechanisms, in various conflict-related situations, are summarised below.

#### i. Community based services

Community based services were seen as favourable in terms of good access, 24/7 availability, cost effectiveness and acceptability, especially if local providers are available. The ability to only provide basic level of services would be a disadvantage. This mechanism could especially be a priority in communities which are isolated because of insecurity in surrounding areas. Most participants thought that a strong component of community based services would be necessary in any model of MNH services in conflict areas.

#### ii. Facility based services

Facility based services offer advantages of skilled, trained healthcare providers in a relatively comfortable environment, with required commodities and equipment. However, access to the facilities could be a major issue in periods of high levels of conflict. Non-availability of 24/7 services at BHUs and RHCs would also be a barrier. Facility based services could play a major role in providing MNH services in areas with low-level conflict, with proper referral and transportation support.

#### iii. Mobile services

Most participants thought that mobile services offered a good combination of ease of access and quality services. The main advantages are that these services can be offered even in extreme conflict zone, close to the communities, even in those places where facilities and infrastructure have been damaged. This was also thought to be a good option for areas where distance to facilities is so great that they are too difficult to get to for most people. Cost was considered to be the major barrier but prioritisation of a few districts could be an effective way of using this resource. The use of mobile services for flood affected areas was considered an effective precedent, which could be replicated in conflict affected areas. The use of aerial services was also considered an option in extreme situations in cases of MNH emergencies.

### **5. Suggested features of an MNH service delivery model in Pakistan's conflict areas**

#### i. Services to be provided

According to most of the participants the model should provide antenatal, natal and postnatal services, including EmOC; nursery for the newborn; immunisation and nutrition services. Some also suggested health education and psychological support services.

#### ii. Service delivery mechanism and methods

Most of the participants said that services should be provided through a combination of existing government health facilities and community based services. The government, acting in partnership with local NGOs, INGOs and UN agencies, was also considered a feasible arrangement. A strong community based services component was particularly emphasised. Most stakeholders supported integrated MNH service delivery.

It was suggested that community based services for MNH should be provided through CMWs and LHWs. These providers should be linked to facility based services through referral including transportation facilities such as by using EDHI ambulances, as is being done in some areas of Balochistan. Referral for comprehensive EmONC should be to DHQ and tertiary care hospitals.

Overall, sustainability of the model and ability to gel with the normal health system after the conflict was stressed.

#### iii. Financing and Funding

Most participants were of the opinion that funding for implementation could be provided through a combination of government and donor financing. Philanthropic support was also identified as a possible source of funding.

It was suggested that apart from regular funding for the area, the government should also allocate special funding for conflict affected areas. To fulfil any additional requirements government should ask for donor funding.

#### iv. HR and infrastructure provision

Combining government and donor resources to fulfil HR and infrastructure requirement was the most favoured option. To meet HR requirements, special incentives for public sector health workers (doctors, paramedics, LHWs and LHVWs) were

suggested. CMWs from the communities should be engaged in service provision. For any remaining MNH staff requirements, hiring could be done in collaboration with INGOs or UN agencies.

#### v. M&E mechanism

Mainly three different mechanisms for monitoring were suggested. 1) Joint monitoring by the involved public sector departments including DHO, LHW coordinator, EPI coordinator, and CMW coordinator. 2) Joint monitoring by public sector and donor/INGOs/UN agencies. 3) Third party monitoring.

Monitoring should be done through a proper system and defined indicators as in DHIS.

#### vi. Administrative modalities and coordination

It was suggested that government should be responsible to oversee the overall administration. Various suggested coordination mechanisms included creating a district health monitoring team, coordination by DHO, or joint administration by government and donors with sharing of plans. Strong coordination between various government departments working on MNH in the conflict affected areas was suggested. It was stressed that various agencies must have clarity about their areas of responsibility. The ambiguities that arose about whether KP or FATA government departments were responsible for people who were displaced from FATA and settled in IDP camps in KP, were cited as an example.

### **6. Facilitation during repatriation of IDPs**

In the context of IDP repatriation to conflict affected areas, it was stressed that it is crucial to provide a certain level and quality of services in post-conflict areas to facilitate repatriation. Sharing their experience, some participants said that if the level of health services in post-conflict areas is of a significantly lower standard than in camps or off-camp areas where the IDPs are living, they prefer not to go back. To facilitate repatriation of conflict affected IDPs in FATA, TBAs in some post-conflict areas were trained before the IDPs returned.

### **4.3 Phase 3: Summary of findings and Recommendations**

Our literature review explored several studies that examined MNH interventions in particular conflict affected areas. A review of these studies and discussion with stakeholders provided us with some lessons for provision of MNH care services in conflict affected areas in Pakistan.

Most of the interventions found were at the community level or utilised already existing health facilities. At the community level, the interventions included mainly training and enhancing services by community health workers, such as midwives, and enhancing awareness about the need for MNH services. These services created significant improvement in the utilisation rates of antenatal care and skilled birth attendance.

The interventions that used already existing facilities centred on up-gradation and increasing availability of EmONC services. This was done by improving the existing facilities in terms of infrastructure, human resources, equipment and availability of medicines. The creation of maternal health and labour set-ups in IDP camps in Pakistan has been successful in improving maternal and neonatal healthcare utilisation and health outcomes in the camp population.<sup>22</sup> Little evidence was found regarding the use of outreach services in conflict affected areas. However, where used, outreach services seem to have improved maternal health indicators by improving knowledge and increasing uptake of existing services in communities as well as increasing provision of equipment and medicines.<sup>21</sup>

The literature review illustrated that there is limited evidence of the kind of MNH service delivery interventions that work within areas of serious on-going conflicts. In fact, one intervention in Liberia was discontinued because it was not possible to carry on due to escalation of conflict.<sup>16</sup> Evidence about effective interventions for those who remain inside conflict affected areas and IDPs not living in IDP camps was scarce.

The available evidence and discussion with stakeholders showed that service delivery mechanisms being used in conflict affected areas are not much different from those in stable areas, with the exception of special setups in IDP camps. The critical point is to choose the best combination of mechanisms according to the conditions in a particular area of conflict, the condition of local health infrastructure, the terrain, and acceptability in the local population. Thus the relative mix of service delivery mechanisms would differ in conflict affected areas compared to stable areas. For instance, service delivery mechanism could be temporarily shifted to community based provision or mobile services if regular facilities have been

damaged or are too difficult to access. The type of mechanisms used would have to be tailored according to prevailing conditions and reviewed as circumstances change. Operational modalities of service provision would also differ in areas undergoing conflict compared to stable areas. Description of such modalities was scanty in literature but they were explored in Pakistan's context in the consultative meetings. The lessons gleaned from the discussions and the literature reviews are presented in the recommendations below in the context of MNH care in conflict affected areas in Pakistan.

## 5 Conclusion

During conflicts and emergency situations, conflict affected populations often find themselves without food, shelter or health care and are therefore susceptible to poor health and infectious disease outbreaks. Women and children are particularly vulnerable to these health effects. Different modalities are required to fulfil MNH healthcare needs of the population within conflict zones or for those who have been displaced due to conflict. In Pakistan's context, government and other stakeholders need to synchronise their efforts to ensure provision of HR, funding, infrastructure, equipment and supplies for MNH services in these areas. Achieving that would help in limiting maternal and neonatal morbidity and mortality in the country's conflict affected areas.

## Recommendations

1. Provincial strategies for provision of MNH services in conflict affected areas should be developed with the collaboration of involved actors. A lead role should be played by provincial health departments, MNCH (Maternal Neonatal and Child Health) programmes and provincial disaster management authorities. Active involvement and consultation with local and international NGOs working in the area, UN agencies and community representatives has to be ensured for consensual strategies ensuring smooth implementation.
2. The roles of various government agencies and their geographical areas of responsibility in times of conflict must be clearly delineated. This is especially important with regard to service provision to IDPs when they move from one province/territory to another such as when displaced people from FATA move to KP. In such situations, responsibilities of the relevant provincial governments and the federal government must be clearly defined and implemented to avoid loopholes in service delivery arising from ambiguity about the respective roles of various agencies.
3. Policies must be put in place to ensure that the provision of MNH services is isolated from the political dimensions of the conflict as much as possible, especially when the state is an active party in the conflict. This could be ensured by making legal stipulations for imposing a health emergency in the area on humanitarian grounds, with the primary authority for declaring the emergency resting with the Health Department. This would allow international agencies such as UN agencies to rapidly deploy their resources minimising MNH morbidity and mortality.
4. Negotiations should be held with non-state actors in conflict zones to allow safe passage of health workers, women, children and relevant supplies on humanitarian grounds, for better maternal and neonatal outcomes. This is important in areas where state is involved in the conflict and its access to some non-state actor strongholds is compromised.
5. In areas that are currently going through conflict, additional regular budgetary support must be available for fulfilling healthcare needs of population affected by conflict. For filling any budgetary gaps, monetary or in-kind support from non-governmental sources and philanthropic organisations could be sought.
6. While preparing packages of service delivery, both contextual analysis of the region and a mapping of current service realities are essential. The contextual analysis will aid in understanding the fragility of the current features and accordingly devising realistic indicators for both short and long term service delivery.
7. Where large numbers of health care providers are leaving because of the security situation, special incentive packages should be provided to retain skilled health workers in the area. Training and some level of task shifting to local community health workers could be used to cover the remaining gaps; the modalities of such task shifting should be defined beforehand so that they can be quickly activated. Collaboration with international organisations working in conflict affected areas should be done to ensure the presence of their personnel where they are most needed.

8. Given that conflict reduces ability and willingness to travel, it may be possible to improve maternal health by strengthening local health care services. For example, training community health workers could improve EmONC provision at home when other formal services are unavailable. Providing services closer to home through mobile health staff, in times of acute need, could also reduce the need to travel in inhospitable conditions.
9. Conflict affected areas require greater flexibility in the provision of antenatal care and other maternal health services. Temporarily decentralising health services, which allows institutions to tailor services to local conditions,<sup>6</sup> such as empowering local health personnel with more authority for decision making, could achieve this flexibility.
10. Continuous monitoring of the state of services in conflict affected areas is needed through either third party or combined monitoring by government and other stakeholders, based on relevant District Health Information System indicators.
11. Rapid evaluation and reconstruction of health infrastructure must be done as the conflict ends, so that repatriation of IDPs can be facilitated without interruptions to their MNH care needs.

Thus properly designed and implemented policies, whether initiated by government agencies or NGOs, can mitigate the

### Research gaps

Several knowledge gaps can be identified in currently available literatures that need further evaluation in future. First, there is a paucity of experimental design studies. Therefore, further high quality experimental designs are required that report outcomes measured at similar scales to be pooled together. Secondly, there is a remarkable dearth of information on contextual characteristics of the implementation strategies. Further to it, studies failed to report barriers and lessons learned during implementation of such programmes which play an important role in improving and replicating activities in other conflict areas.

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