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Enhancing Performance of Health Systems

End of Project Report

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Health Systems Strengthening II Bridge Project
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Health Systems Strengthening II (HSS II) Bridge

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HSS II BRIDGE END OF PROJECT REPORT

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MESSAGE FROM THE CHIEF OF PARTY

After a decade of investments, dedicated work and commitment to strengthening Jordan's health care delivery system and services, the United States Agency for International Development (USAID) launched the Abt-led HSS II Bridge project to capitalize on the gains and momentum of predecessor health system strengthening projects. These investments have increased service delivery performance while focusing on aspects of system strengthening that help accelerate the uptake of successful practices and establish a culture of continuous performance improvement.

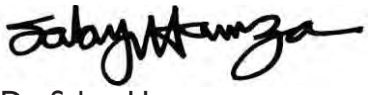
During its one-year implementation, HSS II Bridge assisted public health sector entities to further strengthen the health system in Jordan and increase the uptake of quality high priority health care services focusing on maternal, newborn and family planning services. This report identifies the HSS II Bridge project's key achievements including implementation of the innovative Family Planning Service Delivery Improvement Collaborative approach in health centers. Employment of this approach resulted in 49 percent increase in couple years of protection from the baseline in participating health centers. The project also developed two models: the Preconception Care model to ensure continuity of safe motherhood and family planning services and the Jordan Maternal Mortality Surveillance and Response System model, which when implemented, will help Jordan achieve its national goals by eliminating preventable maternal deaths. Another key achievement was the scale up of the use of Continuous Positive Airway Pressure in public sectors hospitals as a low cost technology to improve care to newborns suffering from respiratory problems. This scale up increased neonatal survival up to 89 percent. In addition, the project expanded the use of the Workload Indicator for Staffing Needs as a tool to help the Ministry of Health allocate and manage human resources for health.

Given its short implementation timeframe, HSS II Bridge managed to deliver measurable results that I believe will help guide future health care development programs for Jordan. This report also illustrates the major challenges and lessons learned to help decision makers further improve health systems and services in Jordan.

The strong partnership with government counterparts at all levels of the health care system was the cornerstone of our success. The unwavering support from our vital partners at the Ministry of Health, the Royal Medical Services, the Higher Population Council, and Jordanian communities during implementation of our joint programs, in addition to the great collaboration with fellow USAID implementing partners has all contributed to the realization of our mutual goal of improving health status for all.

None of these impressive achievements could have been accomplished without USAID's excellent guidance and commitment to support the resilience of Jordan’s health care system to respond to both existing needs of the Jordanian population, as well as emergent health needs of refugees and underprivileged groups.

Finally, I would like to thank the Jordanian people for entrusting the project to further improve the health outcomes of their families and communities.



Dr. Sabry Hamza
HSS II Bridge Chief of Party

LIST OF ABBREVIATIONS

ACNM	American College of Nurse-Midwives	**LMIS**	Logistics Management Information System
AMTSL	Active Management of Third Stage of Labor	**M&E**	Monitoring and Evaluation
ASFR	Age specific Fertility Rate	**MCH**	Maternal and Child Health
BMI	Body Mass Index	**MDR**	Maternal Death Review
BP	Blood Pressure	**$MgSO_4$**	Magnesium Sulfate
C/S	Cesarean Section	**MMR**	Maternal Mortality Ratio
CBC	Complete Blood Count	**MMSR**	Maternal Mortality Surveillance and Response
CBO	Community Based Organization	**MOH**	Ministry of Health
CHC	Community Health Committee	**MOI**	Ministry of Interior
CI	Confidential Inquiry	**MOPIC**	Ministry of Planning and International Cooperation
CIS	Civic Initiative Support	**MWRA**	Married Women of Reproductive Age
CME	Continuous Medical Education	**NAG**	National Advisory Group
CNE	Continuous Nursing Education	**NB CPAP**	Nasal Bubble Continuous Positive Airway Pressure
CPAP	Continuous Positive Airway Pressure	**NCD**	Non-Communicable Diseases
CSPD	Civil Status and Passport Department	**NGO**	Non-Governmental Organization
CYP	Couple Years of Protection	**NICU**	Neonatal Intensive Care Unit
DAG	Directorate Advisory Group	**NTD**	Neural Tube Defects
DHS	Demographic Health Survey	**OB/GYN**	Obstetrics and Gynecology
DNF	Death Notification Form	**PC**	Preconception Care
DOS	Department of Statistics	**PHC**	Primary Health Care
DSS	Decision Support System	**PIH**	Pregnancy Induced Hypertension
EMPHNET	Eastern Mediterranean Public Health Network	**PIRS**	Performance Indicator Reference Sheets
EOC	Essential Obstetric Care	**RMS**	Royal Medical Services
FASD	Fetal Alcohol Spectrum Disorders	**SDIC**	Service Delivery Improvement Collaborative
FMD	Forensic Medicine Department	**SHOPS**	Strengthening Health Outcomes through the Private Sector
FP	Family Planning	**SIDS**	Sudden Infant Death Syndrome
GOJ	Government of Jordan	**SMC**	Safe Motherhood Committee
HC	Health Center	**SWOT**	Strengths, Weaknesses, Opportunities and Threats
HCAC	Health Care Accreditation Council	**TDY**	Temporary Duty Yonder
HD	Health Directorate	**TFR**	Total Fertility Rate
HMIS	Health Management Information System	**TM**	Traditional Method
HPC	Higher Population Council	**TOT**	Training of Trainers
HRH	Human Resources for Health	**TWG**	Technical working Group
HSS	Health Systems Strengthening	**UN**	United Nations
IT	Information Technology	**UNFPA**	United Nations Population Fund
IUD	Intrauterine Device	**UNICEF**	United Nations Children's Fund
JAFPP	Jordan Association for Family Planning and Protection	**UNRWA**	United Nations Relief and Works Agency for Palestine Refugees in the Near East
J-CAP	Jordan Communication, Advocacy, and Policy	**USAID**	United States Agency for International Development
JMMSRS	Jordan Maternal Mortality Surveillance and Response System	**WCHD**	Woman and Child Health Directorate
JNC	Jordanian Nursing Council	**WHO**	World Health Organization
LAM	Lactational Amenorrhea Method	**WISN**	Workload Indicator for Staffing Needs
LARC	Long Acting Reversible Method	**WRA**	Women of Reproductive Age

I. INTRODUCTION

The Health Systems Strengthening II Bridge project (HSS II Bridge) built on previous United States Agency for International Development (USAID) investments to strengthen health systems and improve the quality of health care delivery in Jordan's public sector. HSS II Bridge used continuous quality improvement principles to strengthen the delivery of family planning (FP), obstetric, and neonatal care services; support the information technology infrastructure at the Ministry of Health (MOH); engage community groups; and develop a pre-conception care model that exceeded the project's goals and contributed to the improved health of the Jordanian population.

The HSS II Bridge team worked hand-in-hand with Jordan's MOH; the Higher Population Council (HPC); USAID's Strengthening Health Outcomes through the Private Sector (SHOPS) Activity in Jordan; the Jordan Communication, Advocacy, and Policy (J-CAP) Activity; the Royal Medical Services (RMS); and other counterparts across the Kingdom to advance work on maternal mortality surveillance, improve access to voluntary FP services, and introduce tools to increase the effectiveness of obstetric and neonatal care in hospitals. HSS II Bridge achieved measurable improvements in the delivery of essential healthcare services in Jordan while strengthening the capacity of the Government of Jordan (GOJ) and counterparts to sustain these gains following the Project's closure. The project's partnership with the MOH supported USAID and the GOJ's goals of improving the health of the Jordanian population through the provision of essential services in the public sector.

This report begins by detailing the achievements made under all four of the HSS II Bridge project's objectives and deliverables (Section II). In Sections III and IV, the report highlights achieved results beyond the project's stated deliverables, challenges encountered, and lessons learned along the way. The report ends with a list of annexes, including financial reports; an overview of project indicators, guidelines, and checklists developed by HSS II Bridge; and other relevant project documentation.

II. ACHIEVEMENTS UNDER PROJECT OBJECTIVES

OBJECTIVE 1: EXPAND ACCESS TO EQUITABLE AND SUSTAINABLE FACILITY BASED FAMILY PLANNING (FP) SERVICES

Deliverable 1. Selected MOH hospitals and primary health care centers adopted the FP Service Delivery Improvement Collaborative (FP SDIC) approach to improve FP service delivery and use with special emphasis on urban poor areas

BACKGROUND

Thirty-five years ago, Jordan had one of the highest population growth rates in the world. Since 1980, stakeholders have achieved considerable progress in reducing fertility with sustained support from USAID. However, during the years 2002-2012, the modern contraceptive prevalence rate among married women in Jordan plateaued.

While USAID-funded projects achieved essential infrastructure and technical capacity improvements to increase the quality of and access to FP services, some challenges remained. Multiple factors contributed to the stalled progress, including high turnover of trained staff, lack of a client-centered approach, sub-optimal aggregation and use of data for decision making, and demotivated administrative and technical staff. Recognizing these gaps, the MOH worked with the HSS II Bridge team to develop a new collaborative approach engaging the health directorate (HD) and facility level in decision-making and quality improvement.

TECHNICAL APPROACH

The project team designed this new approach - the FP SDIC - as a dynamic, data-driven process to achieve change through a structured learning process, shared experiences, coaching, and performance-based monitoring. The FP SDIC, shown in Figure 1, brings together teams from different health facilities and their community health committees (CHCs) to make improvements in their FP performance. HSS II Bridge and the MOH focused on changing the behavior of service providers by involving them not only in delivering services, but also in developing and carrying out improvement plans within their own facilities and teams.

To improve the uptake of quality FP services and carefully monitor progress toward achieving results, HSS II Bridge designed the FP SDIC around four pillars that affect different aspects of the delivery and uptake of FP services: supply, systems, quality, and access. The design included operational indicators for each pillar to guide the FP SDIC interventions.

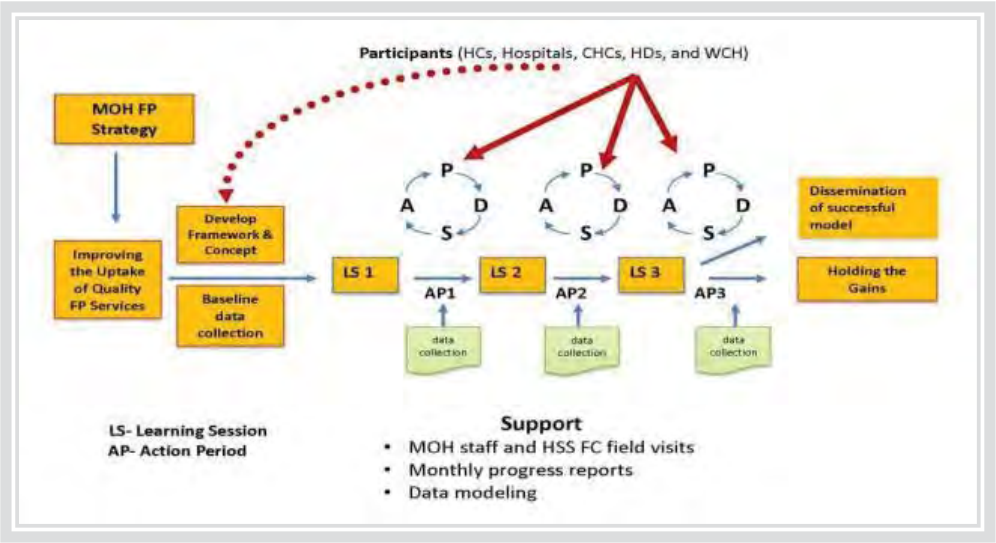


Figure 1: The Family Planning Service Delivery Improvement Collaborative Cycle

Twenty-four Health Centers (HC) from seven HDs and six hospitals participated in the first FP SDIC. Each HC team included maternal and child health (MCH) service providers (midwives and physicians) in addition to community members. Hospital teams included midwives and obstetric/gynecological (Ob/Gyn) physicians from in-patient and outpatient units. MOH teams and their community counterparts attended learning sessions to identify and analyze their challenges relative to the four pillars, design "change packages" to address those challenges, and then monitor and evaluate progress through data review.

The project team led the facility teams through three learning sessions followed by three action periods during which the teams implemented changes they identified during the sessions. During implementation of the change-packages, HSS II Bridge technical field coordinators provided technical support to the facility teams and the HD MCH supervisors.

In the first learning session, facility teams reviewed their baseline data and conducted root cause analysis to identify facility-level challenges in FP service delivery. Facility teams addressed their challenges by gaining an understanding of contributing factors and how to measure outcomes. Teams then developed change packages accordingly. CHCs also developed their own change packages to help the HC teams achieve their goals. In the second and third learning sessions, facility teams reviewed their progress, shared experiences, modified their approaches to address previously identified challenges, and defined new gaps to address.

Photo 1: Health center personnel define gaps and barriers for the provision of FP services using the "root cause analysis" technique

To determine the best way to encourage improvements in hospital-based FP services, the six hospital teams participated in the FP SDIC in two different ways. Two of the hospitals, Al Bashir in Amman and Prince Faisal in Zarka, participated in the same learning sessions as the HC teams from their catchment areas to increase the mutual understanding between the different levels and create a stronger continuum of care. The other four hospitals - Jordan University Hospital, Princess Bade'a in Irbid, Mafraq Obstetric and Children's Hospital, and Karak Hospital - participated in a separate set of learning sessions to evaluate whether collaboration among hospital teams with similar challenges would spur improved performance.

The MOH Women and Child Health Directorate (WCHD), governorate HD staff, and HC directors were actively involved in all stages to achieve rapid breakthroughs in FP service delivery, covering access, supply, and quality of FP services. Regular review of FP data by MOH HD and central program managers helped build ownership for this initiative and led to proactive supervision of progress.

Photo 2: Amman Health Director fully engaged in expanding the number of days IUD services are provided at Amman Health centers enrolled in the FP SDIC

RESULTS

1) <u>HCs in the FP SDIC</u>

Only six months after the project introduced the FP SDIC approach, 24 of the busiest MOH HCs demonstrated increased uptake of FP services, as illustrated in the wide range of performance indicators shown in the graphs below. Results indicate that the couple years of contraceptive protection (CYP) participating facilities provided to clients each month more than doubled during the project period (Figure 2).

Increased efficiency, awareness, and quality of services led to a dramatic increase in the referral of new clients within the HC to its MCH clinic for FP services (Figure 3). There was also a significant increase in the uptake of long-acting reversible contraceptives such as intrauterine devices (IUDs) and Implanon (Figure 4).

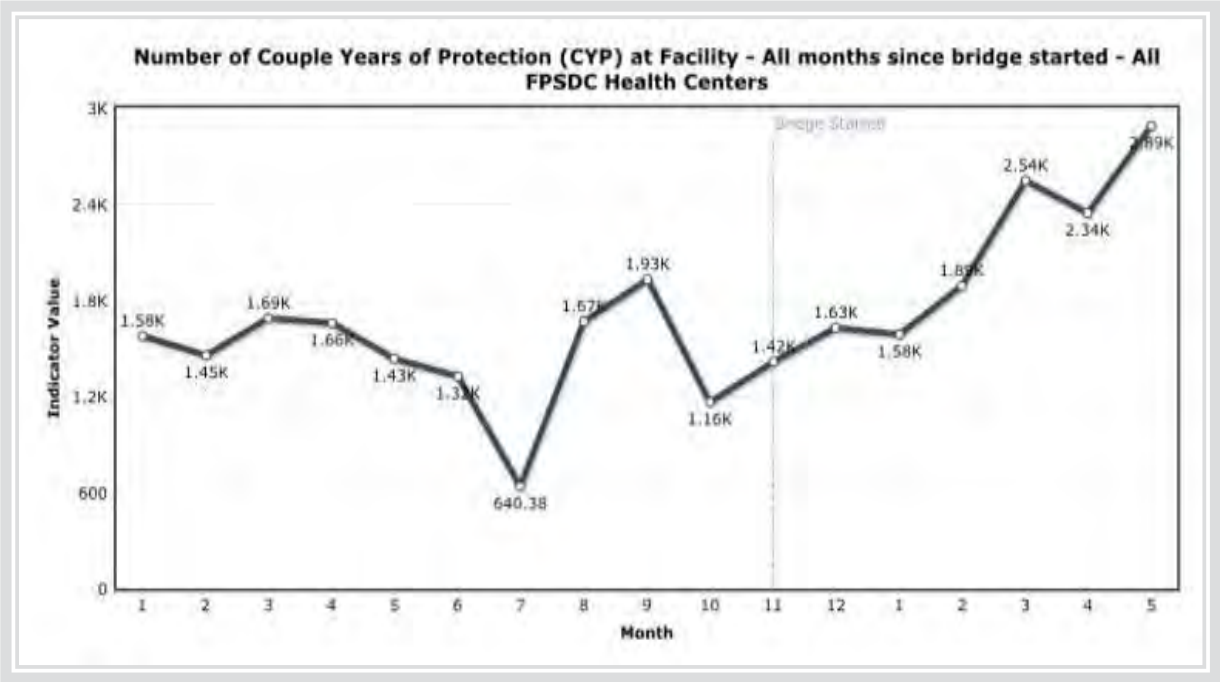


Figure 2: CYP in the 24 FP SDIC participating HCs

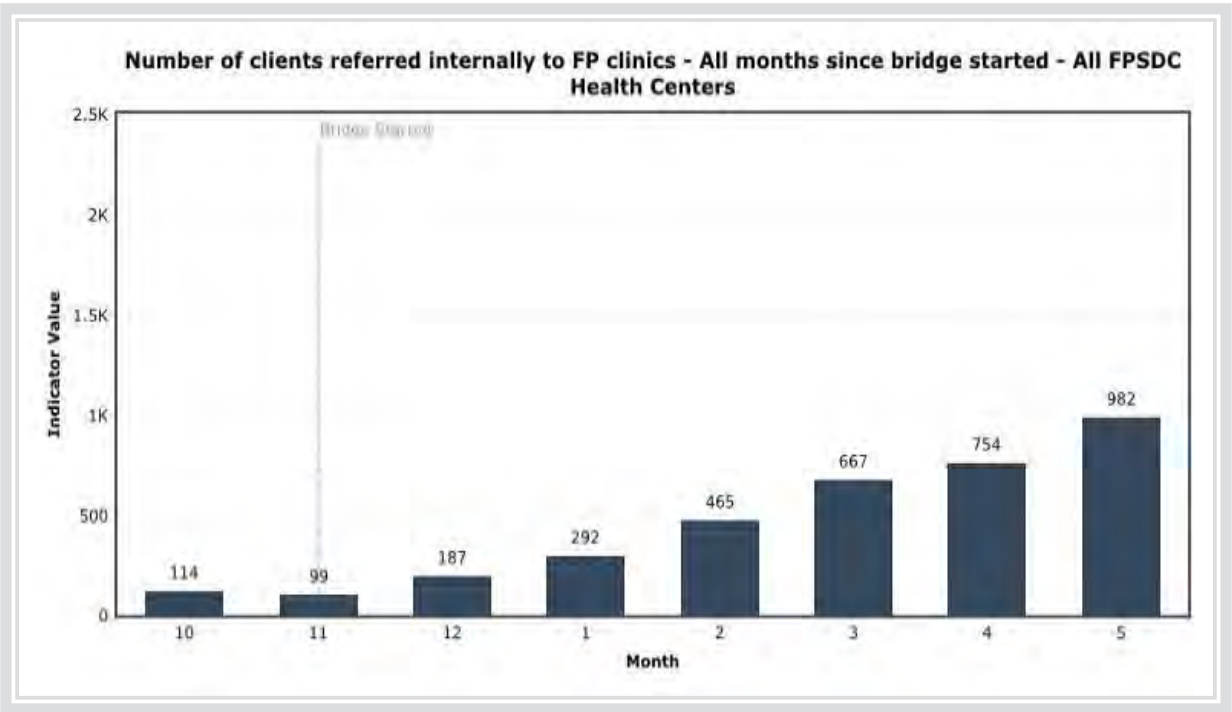


Figure 3: Increase in number of clients referred internally in FP SDIC HCs

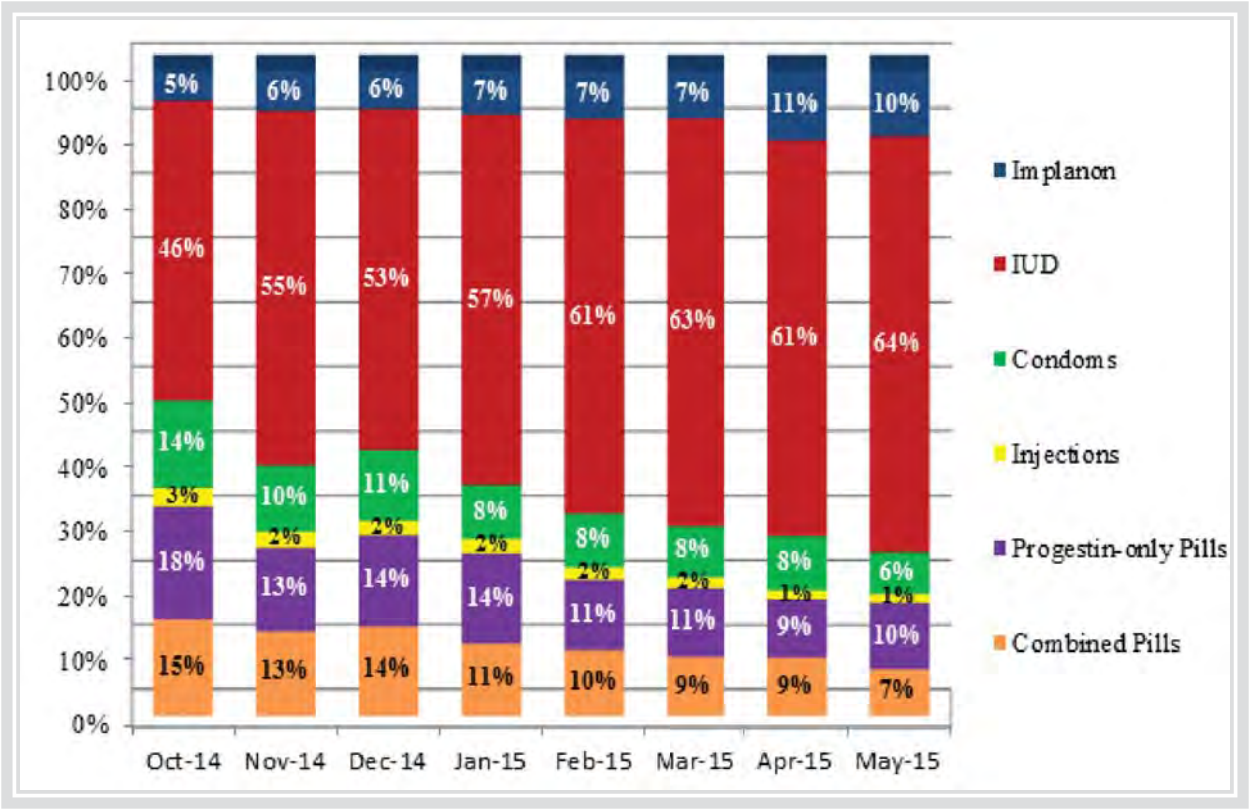


Figure 4: Proportion of CYP generated per FP method indicates increases in long acting reversible contraceptives during the FP SDIC

The combination of intensive data generation and data review, coaching, and regular performance reviews used in the FP SDIC enabled the HC teams to solve some longstanding service delivery problems. Over the six-month intervention period, these teams not only generated impressive gains in the access and quality of services, but also exhibited teamwork and initiative in addressing challenges that had impeded their performance. Comments from facility teams (see text box below) indicated satisfaction from and encouragement for applying their own knowledge and insights to improve their work; the data-driven FP SDIC approach enabled them to witness clearly the results of their efforts. At the HD and central MOH levels, managers praised the use of a common goal to unite the different teams in supporting all aspects of the approach, from design to application to review of results.

Photo 3: A staff member from Baqee Health Center during a data presentation to USAID PFH representatives

2) Hospital FP SDIC

The intervention period for the Hospital FP SDIC was January - June 2015. The six hospital teams participated fully in the learning sessions and worked to improve their performance (Figure 5), but they did not achieve results comparable with those in HCs. Grouping them in learning sessions with the surrounding HC teams or dealing with them as a separate group did not make a discernible difference in the results obtained.

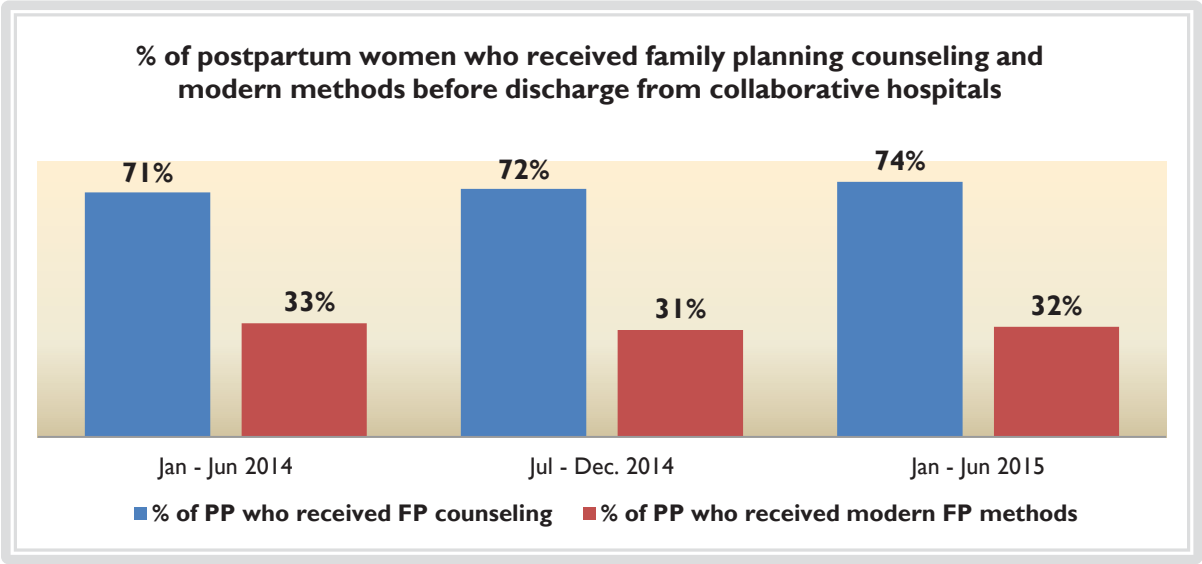


Figure 5: Percentage of postpartum women receiving FP counseling and modern methods before discharge from collaborative hospitals

Several factors made it more difficult for the hospital teams to carry out their change packages and achieve expected improvements than for the HC teams. First, hospital teams faced an inconsistent supervisory system structure between the central MOH Hospital Administration and the individual hospitals. This reduced the opportunities for continuous monitoring and review of progress during the field implementation periods.

Second, the hospital teams that participated in the FP SDIC lacked sufficient autonomy to make substantive changes, given the complexity of the hospital management structure and multiplicity of services they provide.

"Our family planning clients are increasing due to the new initiatives that we started at clinics such as the internal referral, counseling antenatal clients during third trimester, and conducting health educational session to clients in waiting area.

For the first time we learned about CYP as an important indicator and start collecting it and monitoring our progress."

Midwife Aida Jaradat,
Karak Hospital Outpatient Clinic

SUSTAINABILITY AND FUTURE SCALE UP

The FP SDIC approach and the resulting improvements in HC performance greatly impressed the central WCHD and the program managers in HDs. The positive features of the collaborative approach most frequently cited by FP program managers and HDs included the following:

- Engagement of all stakeholders (Central MOH, HDs, facilities, and the CHCs) from the design of the collaborative through implementation, monitoring, and evaluation of performance improved motivation.
- Uniting facility and HD teams around a common goal allowed them to make rapid progress.
- Reliance on the facility teams themselves for proposed changes, rather than using external resources, increased ownership.
- Joint supervision and program reviews among project staff, HD MCH staff, and the WCHD allowed all parties to feel ownership of the approach and to be proactive in addressing challenges.
- Data use by stakeholders from facility, HD, and central levels for progress evaluation encouraged accurate documentation, prompt feedback of results, and continuous improvement in performance.
- The impressive gains in CYP in the HCs illustrated that marked improvements are possible through the FP SDIC approach.

The central MOH WCHD staff participated actively in the design and implementation of all FP SDIC activities. The WCHD worked closely with HSS II Bridge to lead the second and third learning sessions and provide technical training for staff in participating centers covering the clinical and logistic needs of FP counseling, a critical element for the success of the FP SDIC. The WCHD Director expressed her commitment to support this approach as a key element to achieve the objectives of the MOH FP Strategic Plan. While the WCHD has sufficient technical capacity to continue with the FP SDIC, it requires additional organizational and logistical support from the MOH to organize clinical trainings, host learning sessions, and conduct regular performance reviews.

The role of the HDs proved critical in helping the HC teams improve their FP performance. To illustrate their support, the directors of the seven participating HDs committed to include the FP SDIC in their Annual Operational Plans. In addition, several directors used the close out events to announce commitment not only to maintaining performance in this first group of 24 HCs, but also to scaling up the FP SDIC to additional HCs in the future. They also expressed optimism that this approach could be effective in improving performance of other health service areas.

The project also collaborated with HDs and the MOH Directorate of Administrative Affairs to implement the WHO's Workload Indicators of Staffing Needs (WISN) assessment tool among participating HCs. This activity allowed stakeholders to generate quantitative data describing gaps or surpluses in the number of technical staff serving an HC. Based on WISN data, the project empowered decision makers at the HD level to make future staffing decisions.

The HDs will need additional technical, organizational, and logistical support to carry out their role in scaling up to additional HCs and in maintaining the progress the HCs have made.

During the FP SDIC closeout events attended by all participating HCs, HDs, Central MOH and USAID, the HC teams expressed their satisfaction and willingness to continue their own performance improvement efforts. While HC staffers have the technical capacity to evaluate performance gaps and plan for changes, they require additional training in data use, including proper documentation, data flow, data review, quality assurance, and data analysis for decision-making.

CHCs addressed community needs, including those related to FP, through their direct collaborative involvement with the HC and HD staff. MOH staff heard specific needs from the community and addressed them while creating change packages. Since the CHC members witnessed improvements in the provision of services, they valued MOH engagement. The project team recommends that MOH staff, especially at the HC and HD levels, continue welcoming CHC involvement through regular attendance at performance evaluation meetings.

Recommendations and Way Forward

To improve hospital teams' future provision of FP services, the project team recommends that the MOH undergo more substantive changes to create the necessary enabling environment. These changes include the following:

- The hospital leadership will need a clear mandate to assume more responsibility over FP improvements as an essential part of their services.
- Hospital teams will require more support and supervision from the central MOH and/or HD supervisory staff to continuously plan for, implement, and review improvement in FP services through a collaborative approach.
- The MOH Hospital Administration needs to develop and standardize its orientation and training approach for FP services. This will address the challenge of hospital staff shortages and turnover, as they serve a vital function in the training of new nursing, midwifery, and medical staff.

Deliverable 2: Preparatory phases to introduce a new FP method to target traditional users are completed

BACKGROUND

Between 2002 and 2012, the use of modern contraceptive methods in Jordan was stable at 42 percent of married women of reproductive age (MWRA). During the same period, the use of traditional FP methods (mainly withdrawal) slowly, but steadily, increased (Figure 6). The reasons behind this increase in the use of less effective methods are not clear. FP experts in Jordan have speculated that contributing reasons may include a preference for natural methods, a concern that modern methods are harmful to health, and finally a lack of access to methods that are more effective.

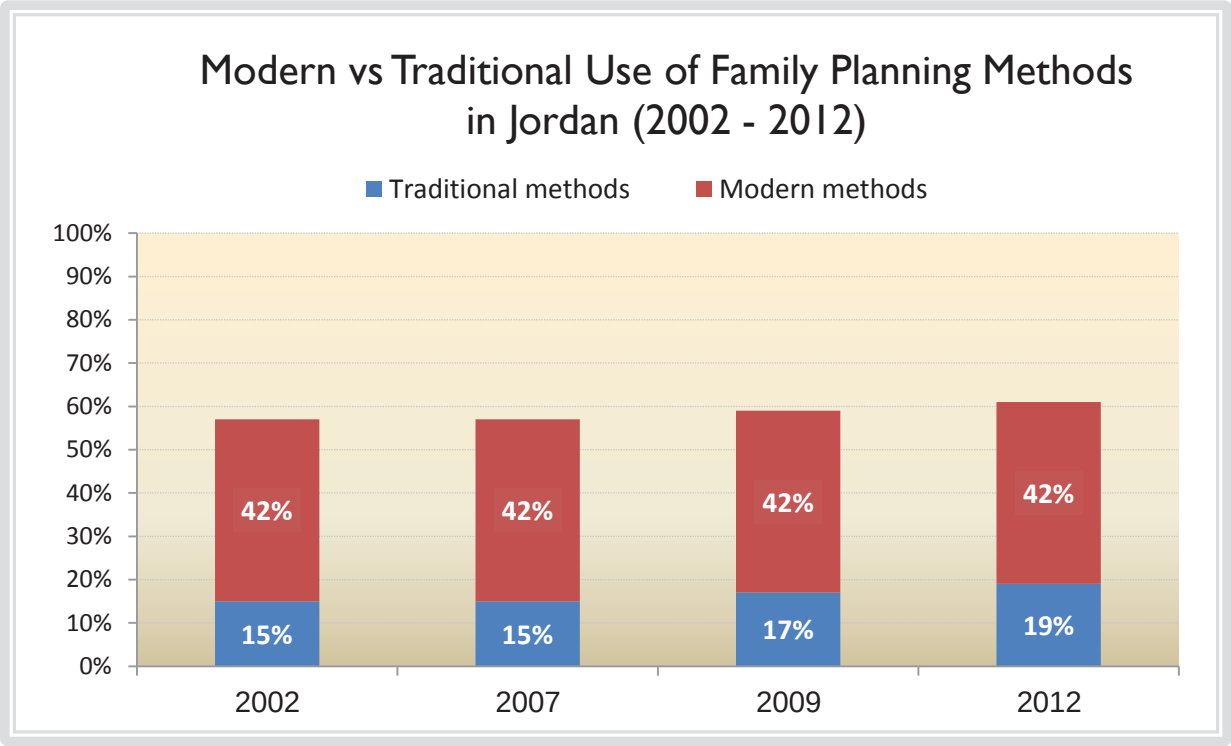


Figure 6: Use of Modern and Traditional Family Planning Methods in Jordan (2002 - 2012)

One of the objectives of HSS II Bridge was to help the MOH design and implement programs to increase access to all available modern contraceptive methods in Jordan and to consider adoption of an additional modern method - the Standard Days Method. The project team discovered that when counseling women on FP, service providers consistently cited concerns about the negative side effects of modern contraceptive use. The 2012 Demographic and Health Survey, conducted by the Jordanian Department of Statistics, also cited the perception of "negative side effects" as a main reason for discontinuation of modern contraceptives. At the same time, use of the calendar or "rhythm" method is widely perceived in Jordan as risky and ineffective, so there was considerable resistance among MOH FP managers and providers to introduce Standard Days Method as a modern, natural FP method.

TECHNICAL APPROACH

Given the resistance of the MOH WCHD to introduce a modern natural method, even on a pilot basis, the project developed an alternative approach. The project team collaborated with the WCHD to address the issue of high traditional method use while ensuring the availability of long acting reversible contraceptives (LARC). The objective was to achieve the following:

- Understand and respond to the FP needs of the many users of traditional FP methods in Jordan (19% of MWRA).
- Engage the community, including CHCs, to identify this group and help respond to their needs.
- Engage staff from selected HCs and their supervisors in a systematic approach to improve their responsiveness to this group.

Using some of the processes developed for the FP SDIC, the project worked with the WCHD to analyze the reasons leading couples to use traditional methods. The project team tested strategies encouraging a shift to modern method use among such couples using the following process:

- Identify five urban and rural HCs with a suspected high use of traditional methods.
- Engage HD/ HC staff and community groups in these centers.
- Assist HC and community groups to identify focus group participants according to selection criteria.
- Conduct focus group discussions and analyze results.
- Determine activities to best meet the needs of traditional method users at each site based on the focus group findings.

The WCHD and HD staff worked with the project to select the five HCs and orient their staff and community groups to this activity. The group selected three HCs from the densely populated neighborhoods of eastern Amman, and one each from rural sites in the Mafraq and Tafileh Governorates. The focus group findings identified the following attributes of traditional method users:

- Dissatisfaction with information and services provided in HCs.
- Difficulty in accessing services within the HC.
- Exaggerated fears concerning the safety of contraceptives among both men and women.
- High awareness among the majority of traditional method users of the increased risk of unplanned pregnancies.
- Weak spousal communication related to deciding family size and FP methods.
- Differences among women and men about ideal family size and factors affecting the use of the methods.

Based on the results of the focus groups, the MCH staff in each center worked with community health groups to develop a set of activities addressing the concerns of couples using traditional methods. A general finding was that the reasons for relying on traditional methods were essentially the same as reasons for non-use of any method among those with unmet need for

FP. Therefore, rather than trying to identify and target users of traditional FP, which proved quite difficult when organizing the focus groups, the participating centers worked to increase access to FP information and services more generally in their communities. The participating HC main actions included the following:

- Strengthened the information about modern methods communicated by providers to alleviate concerns about side effects.
- Increased the number of health education sessions on FP within the HCs.
- Increased internal referral within HCs to identify and respond to unmet need for FP.
- Improved the quality of counseling provided to the clients.
- Introduced couples counseling by appointment for those who desired it.

RESULTS

These activities varied in their effectiveness at persuading users of traditional methods to switch to more effective modern methods. The project collected and analyzed aggregate data from the five HCs. Table 1 illustrates the number of couples and women counseled, women referred to MCH clinics within the HCs and from the community, and clients switching to modern methods.

Table 1: Aggregate Data from Traditional Method (TM) Intervention HCs

Couples Counseling			Internal Referral			Health Education			Community	
Couples counseled	TM users	Switched to modern method	Women referred	TM users	Switched to modern method	Women reached	TM users	Switched to modern method	TM users	Referred to HC
49	38	20 (53%)	208	46	45 (98%)	545	64	57 (89%)	55	5

With increased access to information and services, 53 percent of identified traditional method users who received couples counseling switched to more effective modern methods, and 98 percent of traditional method users who received an internal referral switched to a modern method (Table 1). In addition, women reached through HC health education resulted in 89 percent of traditional method users switching to modern methods.

One of the major difficulties encountered in all five HCs was accurately identifying, documenting, and distinguishing users of traditional methods from non-users of modern FP methods. MOH medical records do not allow for the capture of information regarding traditional method use; however, they do identify new users by documenting their visit and new method selected. Therefore, the participating clinics focused on tracking the numbers of new users of modern FP methods over the period of the intervention. Figure 7 below documents the number of new visits in the HCs participating in this intervention.

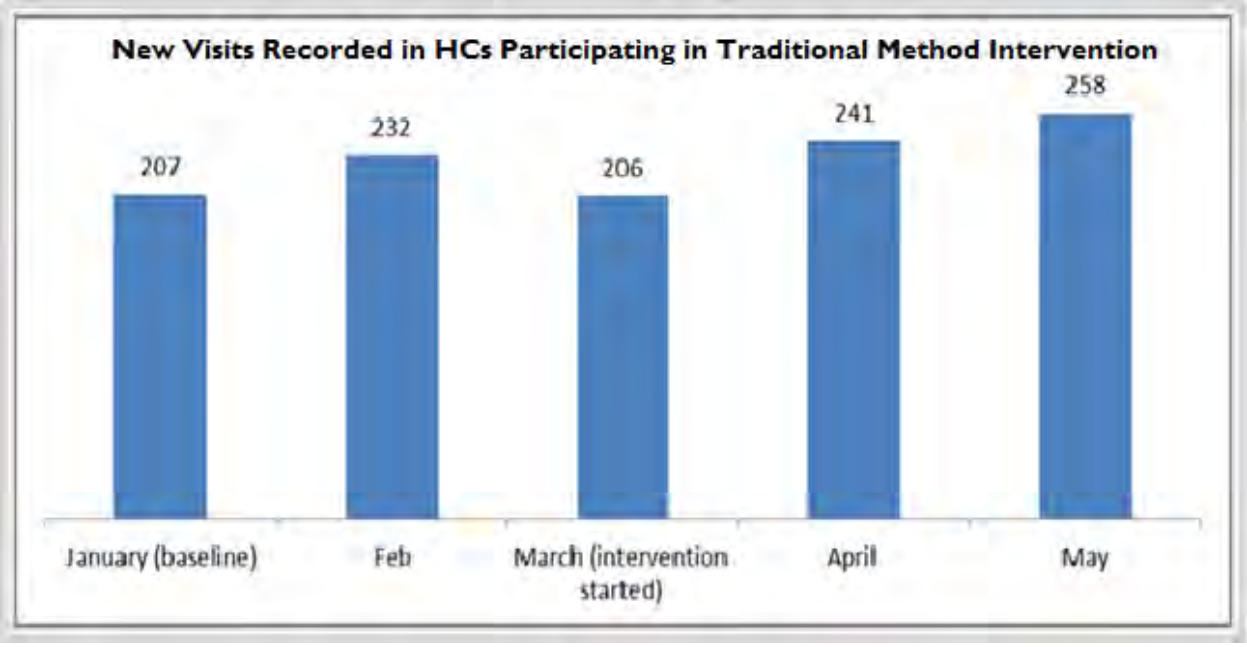


Figure 7: New Client Visits to Traditional Method Intervention HCs

SUSTAINABILITY AND FUTURE SCALE UP

The results of the focus group work show that users of traditional methods had needs and concerns similar to those with unmet need for FP. The HCs developed actions to meet the needs of users of traditional methods in this intervention. The actions were similar to those taken in the FP SDIC, with the additional element of couples counseling. The proportion of identified traditional methods users who switched to more effective modern methods ranged from 53 to 98 percent (Table 1), showing that these interventions did in fact address their concerns.

Therefore, the inclusion of these approaches, including couples counseling, in further iterations of the FP SDIC will be an effective and efficient way to meet the FP needs of users of traditional methods. Participating WCHD and the HD staff agreed that future iterations of the FP SDIC should include both tailored actions to respond to the needs of users of traditional methods and better ways to track them in their standard reports. This would allow MOH facilities to meet the FP needs of all couples, including current users of traditional methods, as part of their overall effort to decrease unmet need and improve access to and quality of FP services.

OBJECTIVE 2: STRENGTHEN THE CAPACITY OF MOH AND RMS HOSPITALS TO CONTINUE IMPLEMENTING BEST PRACTICES FOR MATERNAL AND NEWBORN CARE

Deliverable 1: Documented use of the active management of third stage of labor (AMTSL) for the prevention of postpartum hemorrhage at selected MOH and RMS hospitals

BACKGROUND

Maternal deaths may be the result of both medical and non-medical factors, many of which may be avoidable with better understanding of the contributing systemic and clinical reasons. The five- year, USAID-funded Health Systems Strengthening II project (HSS II) (2009-2014) supported the GOJ with its goal of reducing the incidence of maternal deaths with infrastructure improvements, systems strengthening, and capacity building of service providers. HSS II renovated, expanded, and equipped nine obstetric and neonatal departments in six MOH hospitals, two RMS hospitals, and the Jordan University Hospital to provide infrastructure for safe and advanced maternal care services. In addition, HSS II upgraded the emergency departments in five MOH hospitals.

Coupled with the infrastructure improvements, HSS II provided systems strengthening through operational and technical capacity building of staff at the facility and central levels of the MOH and RMS through 1) the initiation of safe motherhood committees with an interdisciplinary approach to improving maternal care and monitoring progress and 2) standardization of clinical services and integration of evidence-based medicine through the development of clinical guidelines and practical training. For example, HSS II focused on providing magnesium sulfate ($MgSO_4$) to patients with pregnancy-induced-hypertension (PIH), and partograph to prevent prolonged labor, as these are high-risk cases and are the major causes of maternal mortality in Jordan. With support from HSS II, the MOH developed, approved, and introduced a guideline for the management of PIH in MOH and RMS facilities.

Building on the operational and technical achievements of HSS II, HSS II Bridge tackled the next main contributing factor to maternal mortality: post-partum hemorrhage. HSS II Bridge further refined the approach used during HSS II with interventions focusing on 1) institutionalizing the protocol development process among MOH staff at the hospital and central levels and 2) improving documentation and provision of maternal care.

TECHNICAL APPROACH

Institutionalization of Protocol Development

The development of the AMTSL protocol was based on the latest medical evidence and engaged both clinical and administrative stakeholders at the hospital and central MOH levels. This protocol highlights essential steps of maternal care which, if performed during the third stage of labor by the providers, decreases the incidence of post-partum hemorrhage and therefore maternal mortality.

The MOH head of Ob/Gyn discussed the latest available medical literature during protocol-development sessions organized with HSS II Bridge. A team of obstetricians from the six participating hospitals attended these sessions. Since successful protocol implementation requires a collaborative process in the hospital, protocol development included hospital directors, the hospital nursing staff, and quality-unit staff. These hospital staff members, together with the Ob/Gyn specialists, make-up the hospital's Safe Motherhood Committees (SMCs) created during the predecessor project.

To engage the central MOH with the hospital activities, HSS II Bridge designed the protocol-development sessions in coordination with key directorates from the MOH's hospital administration, including the Medical Specialties, Nursing, and Quality Directorates. Therefore, HSS II Bridge helped transfer the knowledge of and capacity for developing and implementing an evidence-based protocol to both the facility and administrative levels of the MOH.

Furthermore, the group of administrators and clinicians produced the AMTSL protocol and obtained its approval through the MOH Hospital Administration in April 2015. The MOH Hospital Administration then disseminated the official, approved protocol, mandating its implementation in all MOH hospitals.

HSS II Bridge produced a poster summarizing the steps of the AMTSL protocol (Figure 8). These posters, exhibited in Ob/Gyn departments, serve as a quick and convenient reference for health care providers and will assist in guiding and orienting new staff to this standard of care.

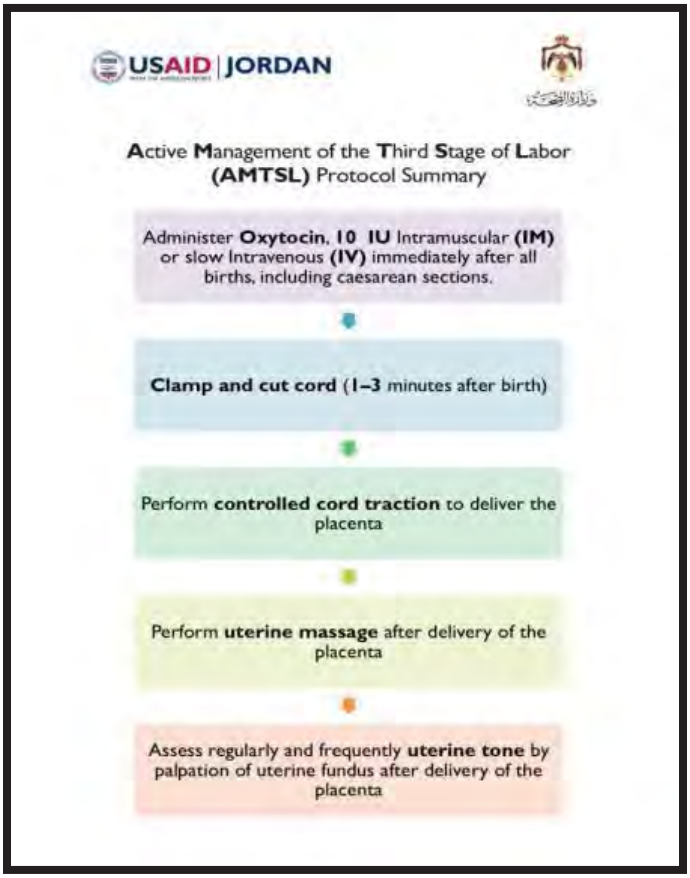


Figure 8: The AMTSL Protocol Summary / Job Aid

Documentation and Clinical Care

Strengthening maternal care through implementation of the AMTSL protocol required improvements in both the documentation practices and technical capacity of hospital staff.

Without strong documentation practices, resulting indicator data do not reflect actual practices effectively. Therefore, monitoring and evaluation of results cannot effectively show providers and administrators their clinical progress and outcomes.

HSS II Bridge continued working with hospital staff to strengthen their documentation practices in accordance with the official MOH medical record introduced during the predecessor project. The use of the new maternal medical record strengthened the overall documentation of care in the Ob/Gyn departments as observed during data collection. The maternal section of the medical record contains a page highlighting the main steps of the AMTSL protocol, serving both to document actual practice and to give guidance to the provider. In this regard, the HSS II Bridge collaborated with the MOH Quality Directorate to introduce additional editing to the medical record, further strengthening the capture of relevant information about AMTSL implementation.

Concurrently, technical field support continued through July, the last month to include field activity in the 11-month project. The HSS II Bridge team continued providing practical, on-the-job clinical training and documentation guidance to staff in the six participating hospitals. During field visits, clinical discussions and direct observation of practice continued with hospital staff and included feedback on, and evaluation of, documentation practices.

The HSS II Bridge team ensured that hospital staff recorded in the medical record all uterotonics administered. The administration of methergine, for example, in addition to the correct administration of oxytocin as per protocol, implies deviation from the protocol. Some hospital staff mistakenly believed that as long as they administered oxytocin in addition to the two other protocol requirements (controlled cord traction and uterine massage), then they would have implemented the protocol correctly. The HSS II Bridge team communicated that administering any additional uterotonic signifies lack of protocol adherence. This situation illustrates an example where appropriate documentation is necessary for improving service provision.

By the end of the third quarter, HSS II Bridge completed the training of medical staff in the six hospitals. The average number of trained midwives and physicians ranged from 15 percent to 64 percent, depending on hospital staff numbers.

Sharing of performance data collected through the first and second quarter has motivated some of the hospital staff to invest more effort to improve their performance. In fact, when the project team shared performance data with the MOH head of Ob/Gyn, he initiated swift follow up directly with the hospitals that demonstrated inadequate performance.

RESULTS

Overall, there was significant progress toward the adoption and implementation of the protocol in a limited time. However, there exists some variation from one hospital to another and variation in the implementation of the three AMTSL criteria. Each hospital is discussed separately in this section, with an evaluation and data-based performance analysis.

Al-Bashir Hospital in Amman

Once the MOH head of Ob/Gyn approved the protocol draft, the head of Ob/Gyn in Al-Bashir issued an internal memo to physicians to implement the protocol--long before the protocol

received official approval from the MOH Hospital Administration. This move eliminated the time required for processing an approval in the central MOH and allowed the team to begin implementation sooner, an administrative advantage compared with other hospitals. Al-Bashir Hospital showed significant improvement in the third quarter. Of all the labor cases, 74 percent were treated with uterotonic drugs as per AMTSL protocol (Figure 9), exceeding the project target of 50 percent. For the second and third protocol criteria, controlled cord traction and uterine massage, 72 percent and 67 percent of labor cases were treated according to protocol.

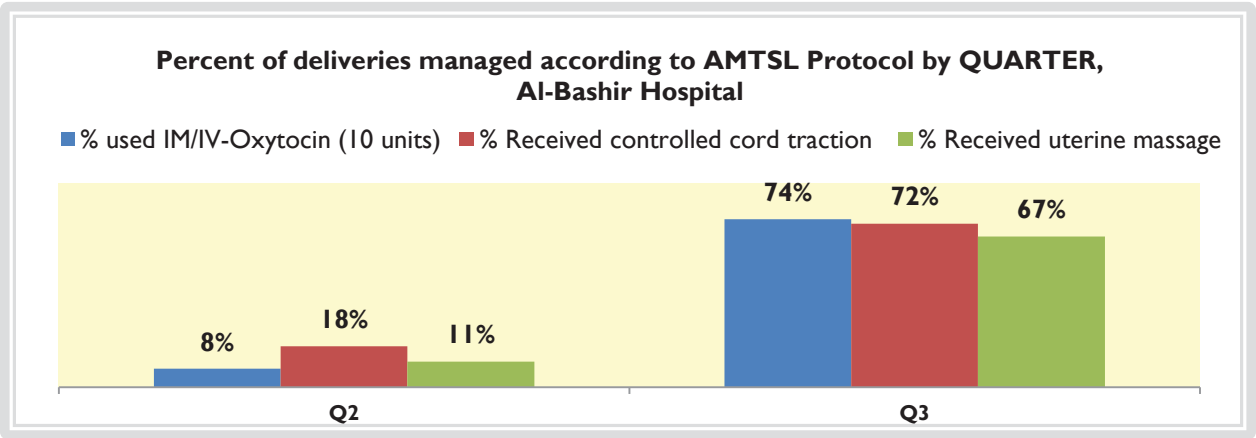


Figure 9: AMTSL Protocol Implementation by Quarter, Al Bashir Hospital

However, data obtained toward the end of July showed a decrease in AMTSL implementation as illustrated in Figure 10. According to labor room nurses, weekly orders of methergine, an alternative uterotonic, for the labor room continued to decrease, suggesting that oxytocin was becoming the drug of choice per protocol. In addition, the hospital staff reported running out of new medical records, which facilitated documentation through user-friendly check boxes, and ordered a new batch from the supply department. These trends suggest that documentation practices improved during the project period, and the resulting data for July more accurately reflected actual practices. As described above, HSS II Bridge recognized the importance of documentation, and these trends indicate a positive change in provider behavior toward documentation.

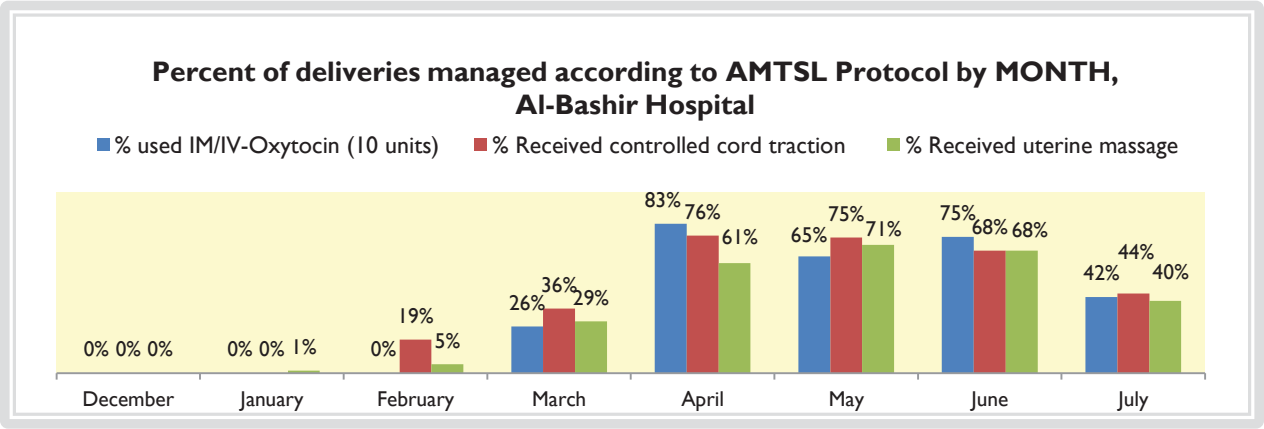


Figure 10: AMTSL Protocol Implementation by Month, Al Bashir Hospital

Al-Mafraq Gynecology/ Pediatrics Hospital (Mafraq)

Although there is improvement in protocol implementation in Mafraq Hospital compared with the baseline, a significant gap remains in the proper use and documentation of oxytocin. Figure 11 illustrates the overall results for the second and third quarters. While the second and third AMTSL protocol criteria have improved dramatically, the administration of oxytocin as the sole uterotonic remains a challenge.

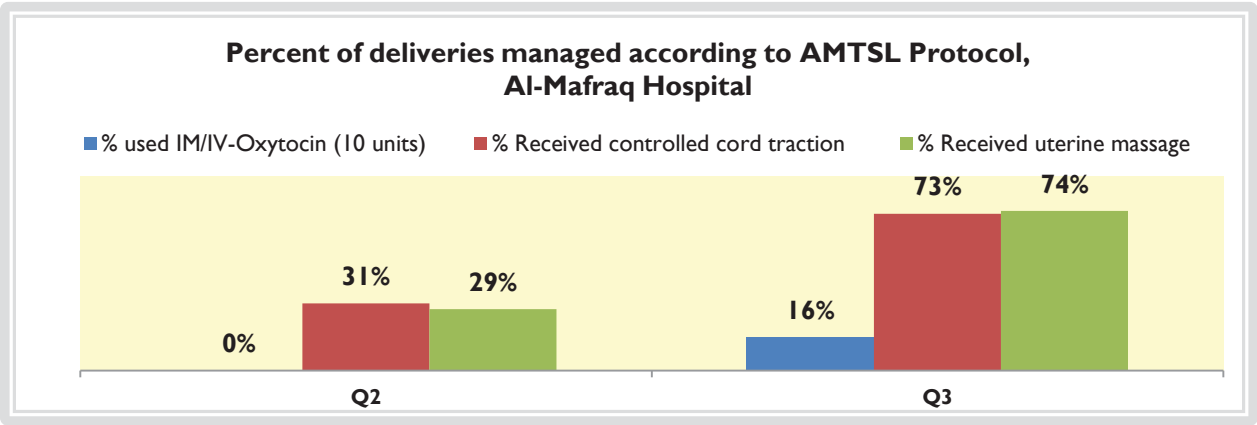


Figure 11: AMTSL Protocol Implementation by Quarter, Mafraq Hospital

Physicians at the hospital continue to use methergine in addition to oxytocin for normal delivery cases and are resisting strict adherence to the protocol citing "fear of post-partum hemorrhage." While physicians are in fact administering oxytocin per protocol, they are supplementing the oxytocin dose with additional doses of methergine. Their outcome data for the first protocol criteria therefore remain low since the protocol requires that no additional uterotonic be administered. On a positive note, the physicians are nevertheless documenting this prescribing practice, and therefore the resulting data are accurate. During field visits, the HSS II Bridge team reiterated to physicians the evidence indicating that no other uterotonic is required in addition to oxytocin, but changing provider behavior was slow as illustrated by the monthly data in figure 12.

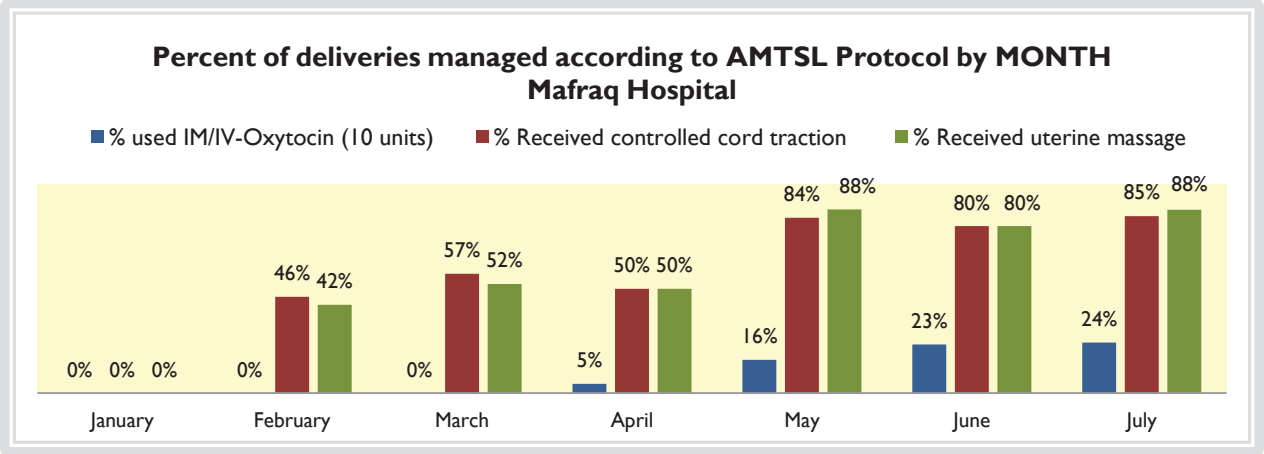


Figure 12: AMTSL Protocol Implementation by Month, Mafraq Hospital

Furthermore, Mafraq Hospital is one of the MOH hospitals currently implementing the Hakeem Project, the electronic documentation system being integrated in MOH hospitals and HCs. This system does not have a dedicated section for AMTSL similar to that found in the official MOH medical record, adding to the challenges already existing in documentation practices. Service providers must enter the information in text format to document implementation of the AMTSL protocol.

Karak Hospital (Karak)

Karak Hospital showed significant improvement in the third quarter with 44 percent of cases receiving uterotonic per AMTSL protocol compared with 21 percent in the second quarter (Figure 13).

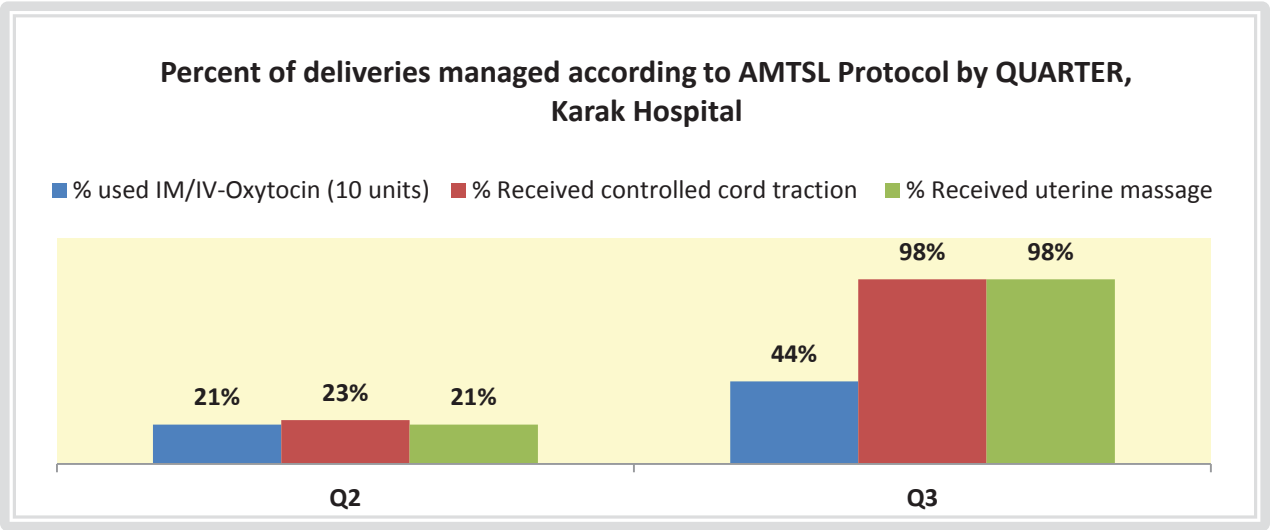


Figure 13: AMTSL Protocol Implementation by Quarter, Karak Hospital

However, data for both June and July indicates significant decline relative to the first criteria of the AMTSL protocol: administration of uterotonic per protocol declined from 52 percent in May to 22 percent, then 15 percent in June and July respectively, as illustrated in Figure 14.

When the Hakeem Project began work with the six hospitals, Karak was not one of the hospitals integrating this system. In June, however, the MOH began Hakeem system integration at Karak Hospital. Similar to other hospitals, physicians in Karak had reservations about using oxytocin alone for fear of having subsequent cases of post-partum hemorrhage.

The introduction of the Hakeem system provided an opportunity for less optimal documentation since a dedicated section for AMTSL is not included, and physicians began duplicating uterotonic orders by including methergine. The second and third protocol criteria, however, did not show significant changes as they are not disputed by any physicians.

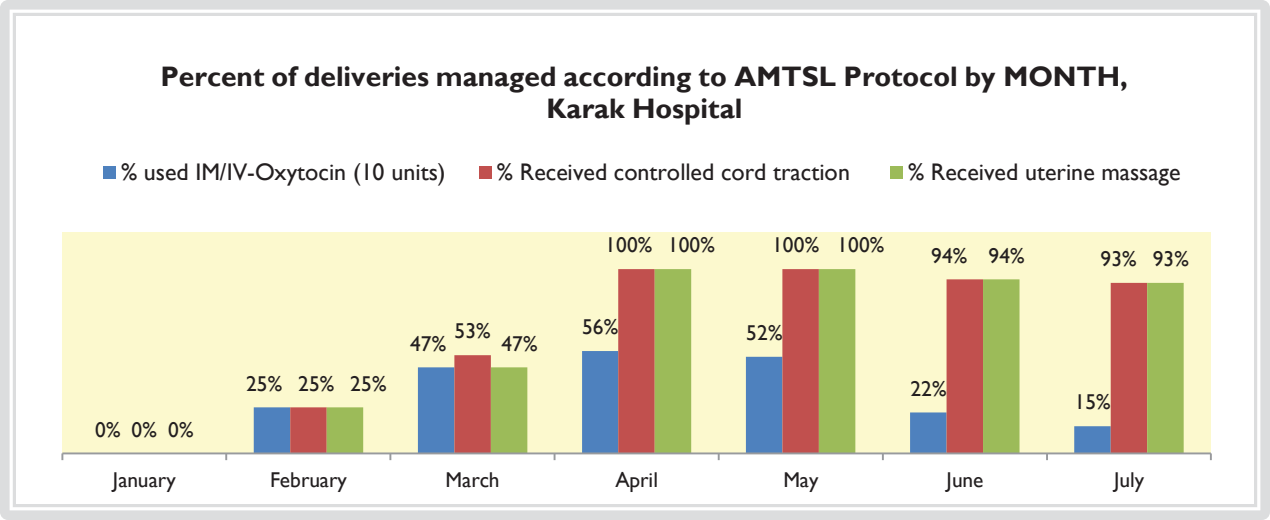


Figure 14: AMTSL Protocol Implementation by Month, Karak Hospital

Al-Hussein Al-Salt Hospital in Balqa

Al-Hussein Al-Salt Hospital achieved overall improvements similar to the other hospitals between the second and third quarters as illustrated in Figure 15: administration of uterotonics according to protocol improved from 9 percent to 29 percent, while the second and third criteria also improved significantly.

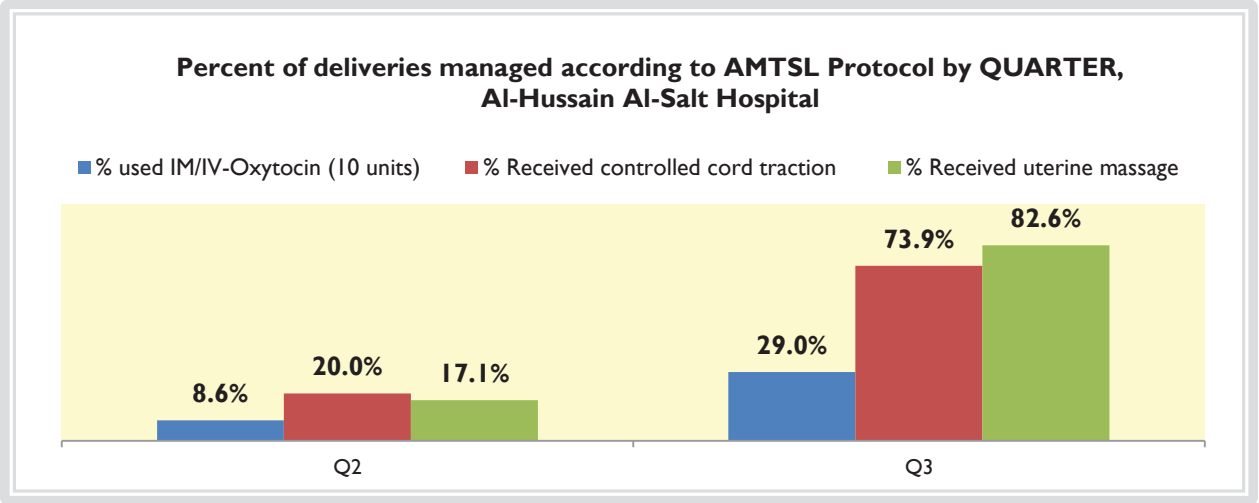


Figure 15: AMTSL Protocol Implementation by Quarter, Al Salt Hospital

Analyzing data on a monthly basis revealed a healthy trend in capacity building and improvement in documentation practices. The drop in adherence to the first protocol criteria during March and April was due to improved documentation, while a subsequent upward trend lasted through July (Figure 16). Hospital staff at Al Hussain Salt had some reservations about implementing the AMTSL protocol prior to official MOH approval. Obtaining the approval in April further encouraged the staff and strengthened their commitment.

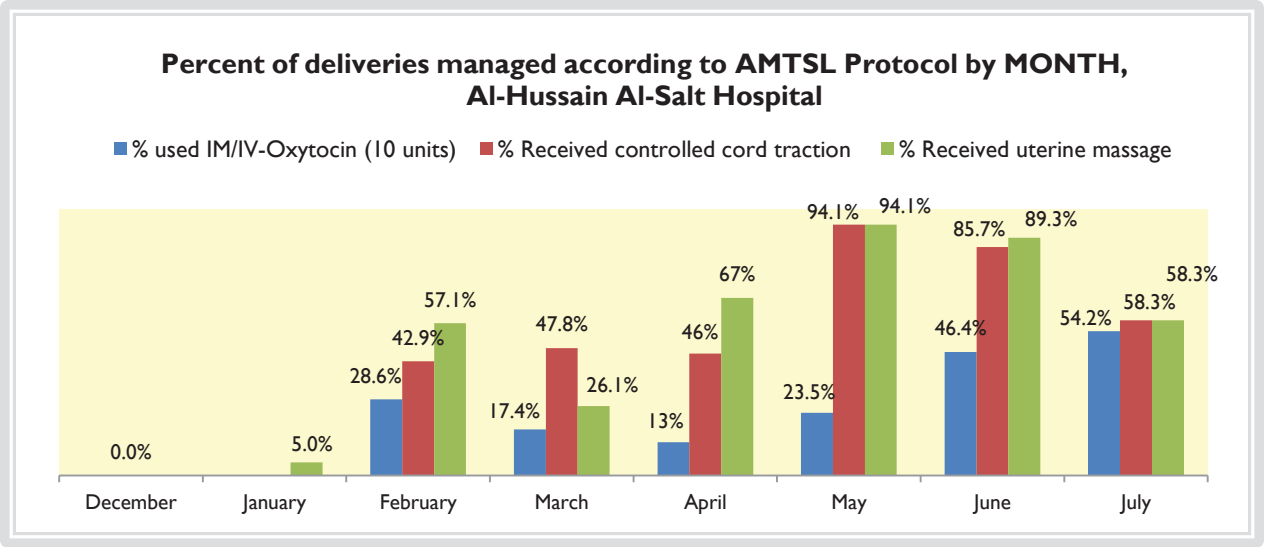


Figure 16: AMTSL Protocol Implementation by Month, Al Hussain Al Salt Hospital

Prince Faisal Hospital in Zarka

Prince Faisal Hospital demonstrated achievements and steady progress similar to that of Al Hussein Al Salt Hospital. Implementation of all three protocol criteria improved significantly in the third quarter, with administration of the uterotonic of choice reaching the project target of 50 percent (Figure 17).

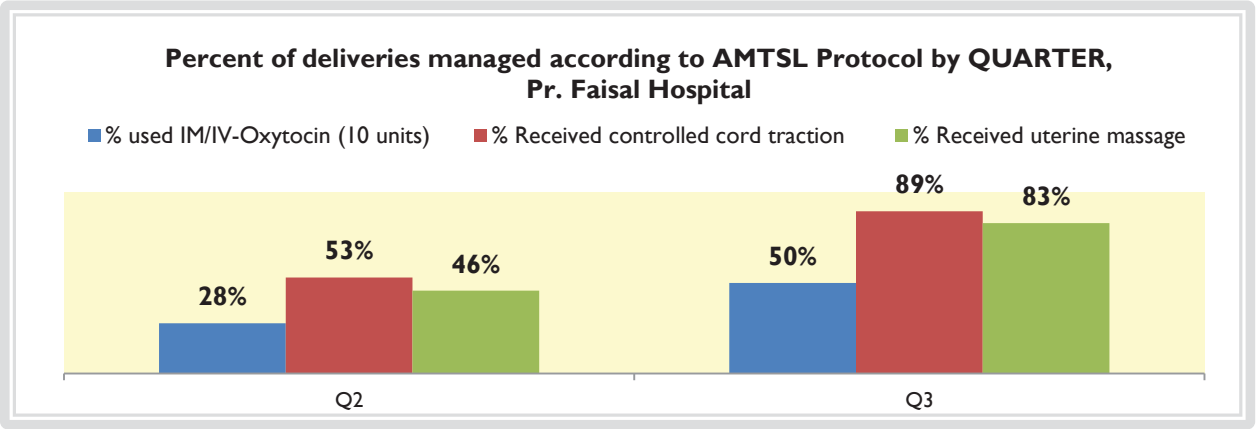


Figure 17: AMTSL Protocol Implementation by Quarter, Pr. Faisal Hospital

Figure 18 illustrates the progressive capacity building and improvements in documentation through the monthly indicator data for Prince Faisal Hospital. The initial decline in adherence to the first protocol criteria during March and April was due to improved documentation practices, as was observed in Al Salt Hospital. The staff at Prince Faisal Hospital adopted the new medical record more willingly than other hospitals and noted the important relationship between accurate documentation and provision of care. Subsequently, the hospital staff was able to improve gradually, peaking at 70 percent implementation of the first protocol criteria in June.

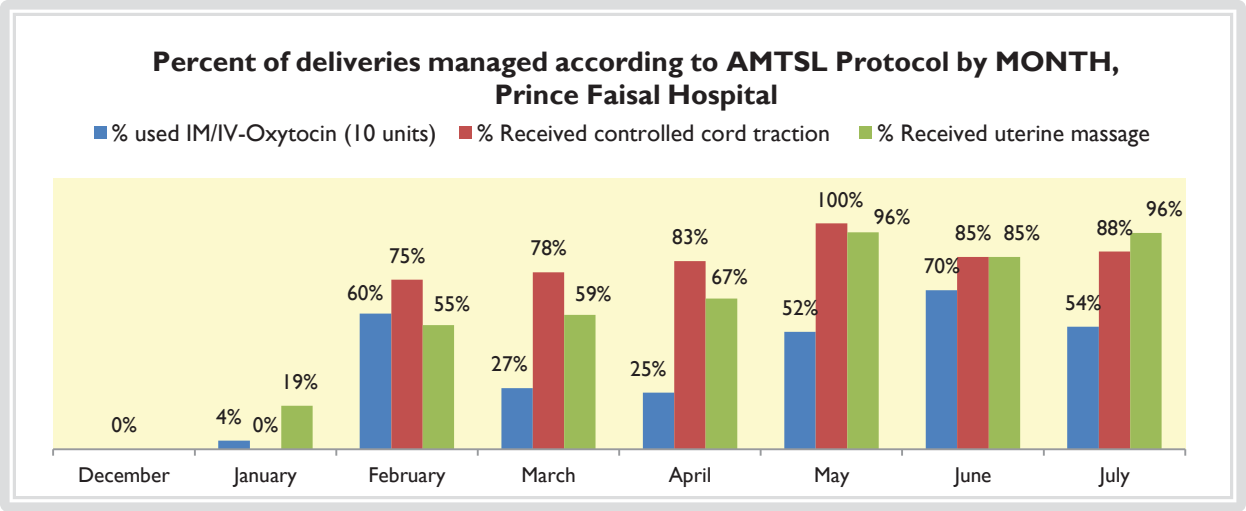


Figure 18: AMTSL Protocol Implementation by Month, Prince Faisal Hospital

Princess Bade'a Hospital in Irbid

Princess Bade'a Hospital was unique in two ways: first, the hospital was already integrating the Hakeem system when the HSS II Bridge intervention began; second, the head of Ob/Gyn was not willing to provide appropriate documentation until the MOH Hospital Administration produced an official approval. This came despite repeated efforts from the MOH head of Ob/Gyn. Many physicians cited fear of being held accountable by the MOH if any negative outcomes occurred with patients. While HSS II Bridge provided support during the early months, the extent of implementation was not measurable as the Hakeem system does not yield such data, and the staff were not willing to document using the MOH paper medical record. However, the HSS II Bridge technical team noted that the hospital staff was largely implementing the protocol, though without appropriate documentation. Similar to other hospitals, Princess Bade'a showed less improvement in the first AMTSL criterion compared with the second and third criteria due to providers' fearing post-partum hemorrhage. Uterotonic prescribed according to protocol increased from 35.5 percent in June to 54 percent in July, while the other two criteria remained at the same level, as shown in Figure 19.

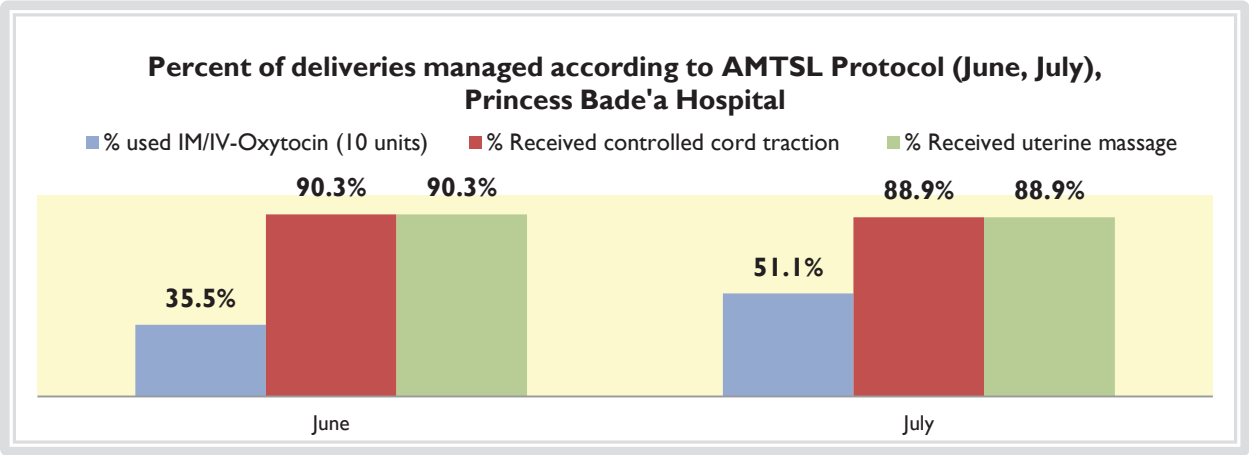


Figure 19: AMTSL Protocol Implementation, Princess Bade'a Hospital

SUSTAINABILITY AND FUTURE SCALE UP

The approach taken during HSS II Bridge focused on 1) institutionalizing the protocol development process among MOH staff at the hospital and central levels and 2) improving documentation and provision of maternal care. While the approach was successful to some extent during the project's 11 months, additional clinical and managerial capacity building is required for staff in the hospitals and those in the MOH's Hospital Administration to optimize implementation and supervision of protocol implementation.

Currently, the MOH Hospital Administration includes 12 directorates, mimicking the ideal organizational chart for a hospital. However, the MOH hospitals are not organized according to the same chart, and internal management and clinical governance become inefficient. During the life of HSS II Bridge, the position of "Director" of the MOH Hospital Administration was vacant. This introduced a challenge to the HSS II Bridge team and hospital counterparts in establishing supervisory mechanisms with the central MOH.

In addition, documentation practices are inconsistent from one hospital to another. Several of the participating hospitals were integrating Hakeem's electronic medical record system. This posed additional challenges to optimal documentation and data analysis. The HSS II Bridge team identified these inconsistencies and discussed them with the Quality Directorate (QD) of the MOH Hospital Administration. Subsequently, the QD formed a committee to oversee and synchronize the process of developing the electronic medical record "pages."

Therefore, to institutionalize the process of protocol development, implementation, and monitoring and evaluation, the MOH will need to strengthen the clinical governance between Directorates of the MOH Hospital Administration and the corresponding hospital departments.

Deliverable 2: Documented use of continuous positive airway pressure (CPAP) system for managing neonates with respiratory problems at MOH and RMS hospitals

BACKGROUND

The HSS II Activity worked with Jordan's public hospitals to introduce the NB-CPAP system, an alternative to invasive ventilation, in neonatal intensive care units (NICU).

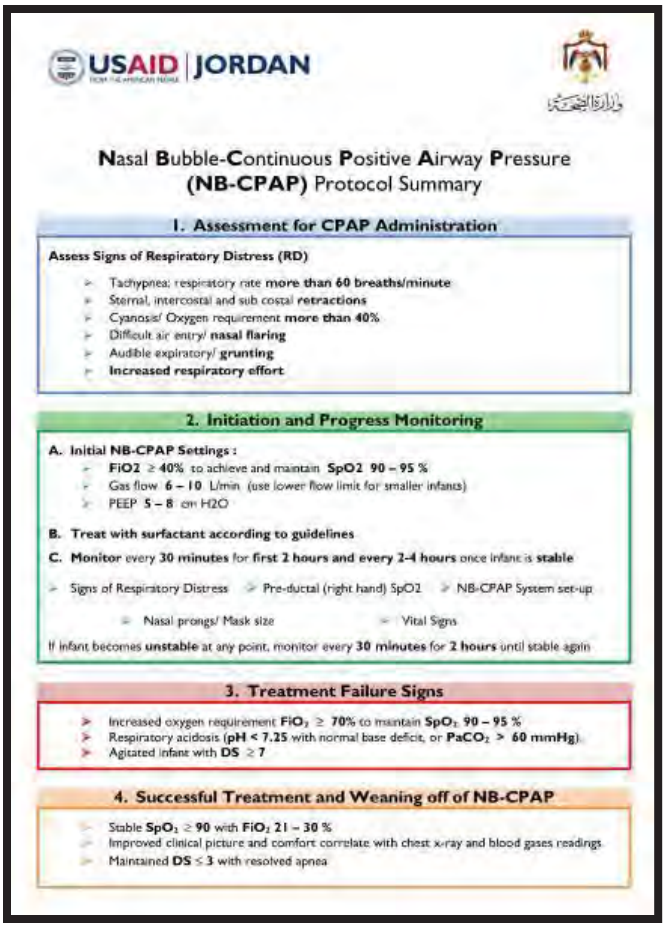
Research indicates that non-invasive ventilation therapy is superior to invasive methods for the majority of infants with respiratory distress syndrome.[1] Convinced by the advantages of NB-CPAP, 30 hospitals adopted it with support from HSS II. During HSS II Bridge, efforts focused on ensuring proper use of this essential system with increased emphasis on documentation and the use of data to evaluate both the extent of implementation and the impact on service outcomes.

TECHNICAL APPROACH

To standardize clinical practices, the HSS II Bridge team worked with counterparts in the MOH neonatal units and with the MOH head of neonatal to develop the NB-CPAP Protocol based on evidence.

The MOH Hospital Administration approved the resulting protocol and disseminated it to hospitals. The finalized protocol includes full and detailed instructions on how to initiate ventilation, maintain NB-CPAP set-up according to appropriate clinical signs, and monitor outcomes for successful weaning-off or for change of treatment.

In addition to the approved protocol, HSS II Bridge produced a poster during the final quarter summarizing the steps of the protocol (Figure 20). These posters, exhibited in NICUs, serve as a quick and convenient reference to experienced health care providers and a guide to orient new staff to this standard of care.


USAID | JORDAN

Nasal Bubble-Continuous Positive Airway Pressure (NB-CPAP) Protocol Summary

1. Assessment for CPAP Administration

Assess Signs of Respiratory Distress (RD)

- Tachypnea; respiratory rate **more than 60 breaths/minute**
- Sternal, intercostal and sub costal **retractions**
- Cyanosis/ Oxygen requirement **more than 40%**
- Difficult air entry/ **nasal flaring**
- Audible expiratory/ **grunting**
- **Increased respiratory effort**

2. Initiation and Progress Monitoring

A. Initial NB-CPAP Settings :

- **FiO2** ≥ **40%** to achieve and maintain **SpO2 90 – 95 %**
- Gas flow **6 – 10** L/min (use lower flow limit for smaller infants)
- PEEP **5 – 8** cm H2O

B. **Treat with surfactant according to guidelines**

C. **Monitor** every **30 minutes** for **first 2 hours and every 2-4 hours** once infant is **stable**

- Signs of Respiratory Distress
- Pre-ductal (right hand) SpO2
- NB-CPAP System set-up
- Nasal prongs/ Mask size
- Vital Signs

If infant becomes **unstable** at any point, monitor every **30 minutes** for **2 hours** until stable again

3. Treatment Failure Signs

- Increased oxygen requirement **FiO_2 ≥ 70%** to maintain **SpO_2 90 – 95 %**
- Respiratory acidosis (**pH < 7.25** with normal base deficit, or **$PaCO_2$ > 60 mmHg**).
- Agitated infant with **DS ≥ 7**

4. Successful Treatment and Weaning off of NB-CPAP

- Stable **SpO_2 ≥ 90** with **FiO_2 21 – 30 %**
- Improved clinical picture and comfort correlate with chest x-ray and blood gases readings
- Maintained **DS ≤ 3** with resolved apnea

Figure 20: The NB-CPAP Protocol Summary / Job Aid

[1] Kamath et al.; Neonatal Mortality from Respiratory Distress Syndrome: Lessons for Low-Resource Countries. Pediatrics. 2011

Along with protocol development, the HSS II Bridge team worked on improving documentation practices and the data flow from NICUs in six hospitals. Accurate documentation and communication of resulting data are crucial for two main reasons. First, indicator data enable health care providers to gauge performance and clinical outcomes of their service delivery to understand where gaps exist and to plan for practical quality improvement changes. Second, managers and procurement specialists can apply usage-data to ensure consistent and sufficient supplies of NB-CPAP consumables for those who need them.

Photo 4: The CPAP group during the Protocol Development Session

Currently, due to limitations in NB-CPAP consumable availability, MOH staffers re-use available sets after sterilization. However, there are no official, standardized sterilization practices or recommendations for sterilization of consumables, and repeated sterilization undermines the integrity of consumables.

The availability of reliable NB-CPAP usage-data is of particular importance for the provision of this non-invasive ventilation method in MOH hospitals. The lack of reliable usage-data contributes to inconsistent supply of consumables. Without usage data, the MOH is unable to properly estimate, and in turn allocate, the needed funds for meeting NB-CPAP demand in its hospitals. Therefore, in spite of hospitals' endorsement of and preference for non-invasive ventilation support, there are significant supply gaps.

Recognizing this challenge, the HSS II Bridge team worked with MOH counterparts to estimate the annual need and cost of NB-CPAP consumables based on NICU admissions in 20 MOH hospitals. The team then produced a brief technical document titled "Estimating MOH Needs for NB-CPAP System and Consumable" in collaboration with MOH specialists. The document, submitted to USAID as an annex in the HSS II Bridge's third quarterly report, listed NB-CPAP consumables with an estimated annual cost using real data from the hospitals. Using these estimates, the MOH can now strengthen its procurement practices and ensure that each hospital receives an appropriate quantity of NB-CPAP consumables to meet its needs. The MOH can build on the achievements to date, which include:

Photo 5: A newborn baby with respiratory distress benefiting from CPAP provided by USAID's HSS II Bridge

- Trained new clinical staff on appropriate use of NB-CPAP system.
- Provided support to strengthen the overall documentation of CPAP practices at the hospitals.
- Provided on-the-job training, which included clinical discussions and analysis of cases placed on the NB-CPAP system.
- Provided orientation for physicians and nurses in the six selected hospitals.

The average number of oriented midwives and physicians on the NB-CPAP protocol ranged from 46 percent to 86 percent in the six hospitals. The following section presents documentation of NB-CPAP system usage in the participating hospitals through documentation of survival rates.

RESULTS

Al-Bashir Hospital in Amman

Similar to other MOH hospitals, Al-Bashir faces a shortage of NB-CPAP consumables. As a result, the hospital uses alternative methods such as CPAP and re-using available consumables after sterilization. The NB-CPAP neonatal survival rates remained the same during the third quarter, with seven neonates placed on the system.

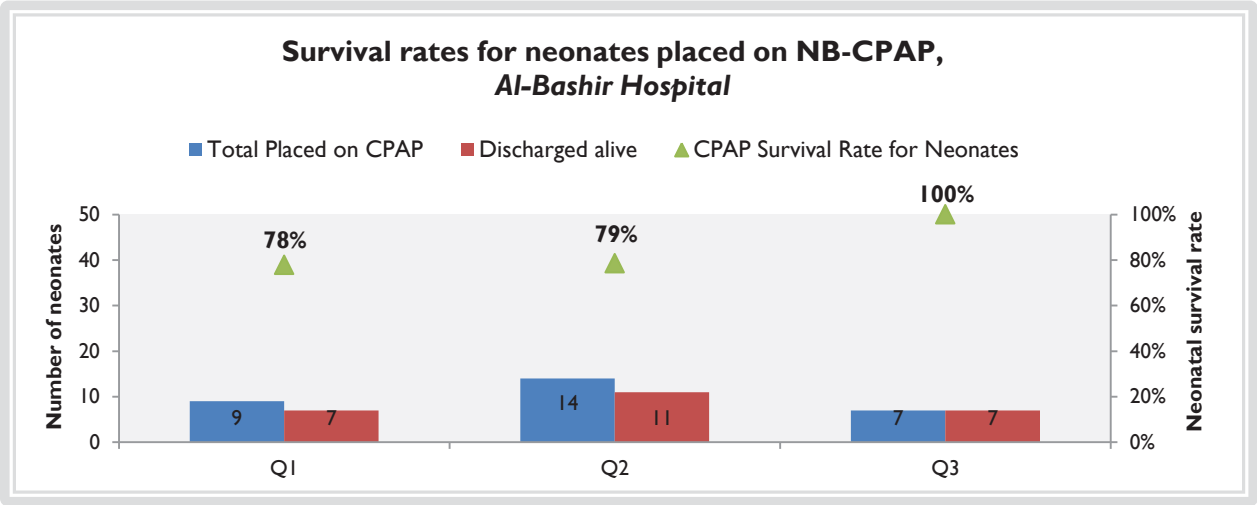


Figure 21: NB-CPAP System Use and Survival Rates, Al Bashir Hospital

Data collection is a particular problem in Al-Bashir Hospital, where a combination of duplicate but incomplete data sources and excessive workload make it difficult to document ventilation support given to infants. HSS II Bridge analyzed the data flow in Al-Bashir Hospital and made recommendations for data completeness. To ensure buy-in, HSS II Bridge worked closely with the Head of Nursing at the hospital, who led a half-day workshop with the NICU nursing staff on the recommended modifications to the data collection system and the importance of adherence to the official MOH medical records.

Al Hussain Al Salt Hospital in Balqa

Al-Hussain continues to be one of the best NB-CPAP system users. Hospital staff sterilizes the NB-CPAP consumables to re-use the existing supply. Despite the increased number of neonates placed on NB-CPAP during the HSS II Bridge period, the hospital was able to maintain high survival rates (Figure 22). In July, all 29 neonates placed on NB-CPAP survived.

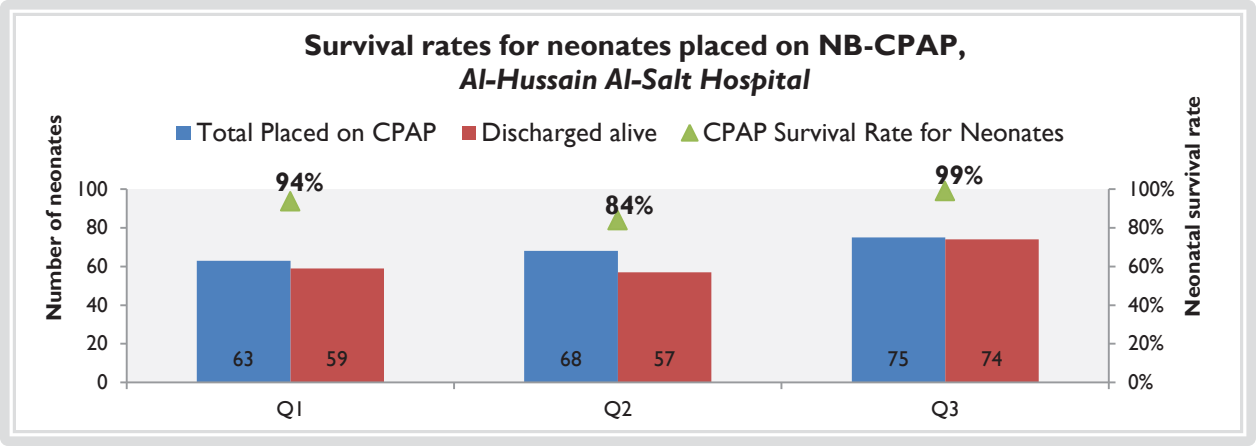


Figure 22: NB-CPAP System Use and Survival Rates, Al Hussain Al Salt Hospital

Princess Bade'a Hospital in Irbid

Princess Bade'a Hospital had a 90 percent survival rate for neonates in the first month of the third quarter. In May and June, the rate dropped to 65 percent and 72 percent respectively, due to complicated cases (Figure 23). Located in the north, the hospital receives patients from among the Syrian refugee camp population. Cases admitted from refugee camps are usually very complicated and arrive with poor prognosis. During August, the hospital underwent an intensive accreditation-survey process, and the HSS II Bridge team was not able to retrieve survival rates for July.

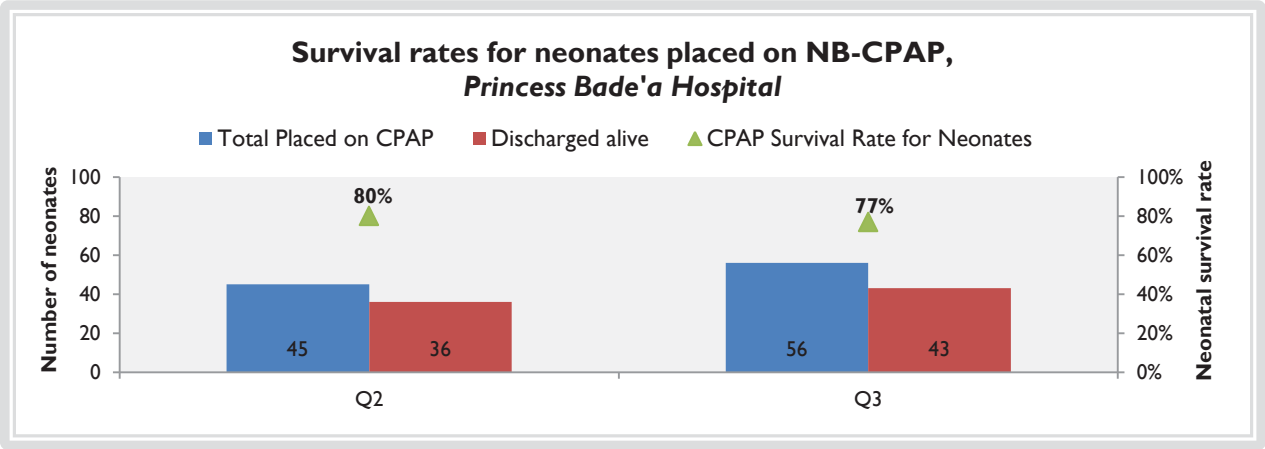


Figure 23: NB-CPAP System Use and Survival Rates, Princess Bade'a Hospital

In Princess Bade'a and Al Hussain Al Salt Hospitals, service providers are committed to providing health support to all newborns regardless of their gestational age or weight. The two hospitals are implementing the system for preterm neonates with weights below 1500gm or less than 32 weeks gestation, widening the caseload covered by the protocol, yet retaining good survival rates. Such neonates were previously less likely to survive after receiving mechanical ventilation.

Karak Hospital in Karak

In Karak Hospital, the NB-CPAP survival rate was maintained at 90 percent and 91 percent during the second and third quarters respectively. Six of the nine neonates placed on NB-CPAP during July survived, bringing the survival rate to 67 percent for that month. During the second quarter, the survival rate for the month of March was only 75 percent, yet the overall rate for that quarter (January – March), was 90 percent. It is important to note that with such a small number of cases, even one case of mortality changes the rate for that month dramatically.

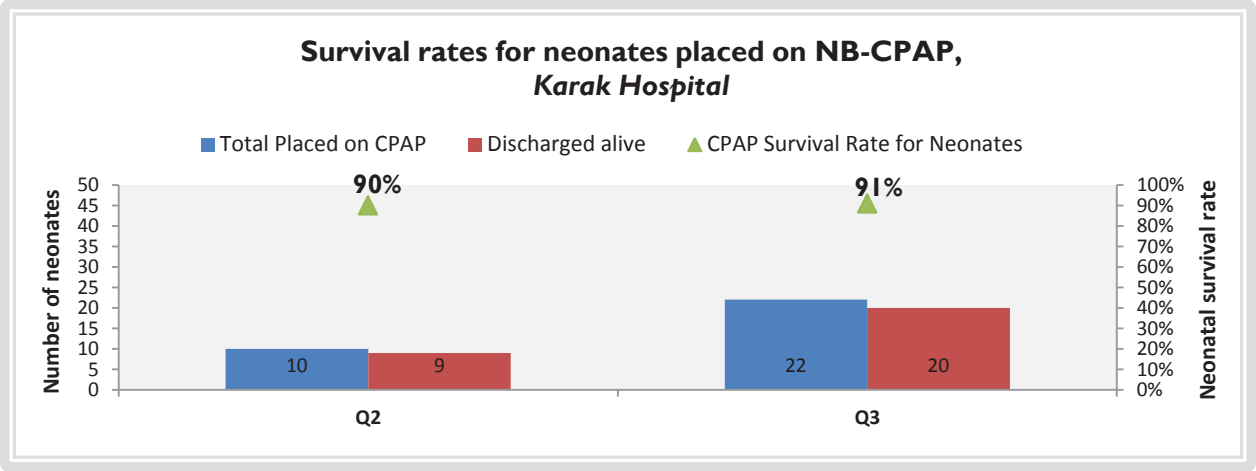


Figure 24: NB-CPAP System Use and Survival Rates, Karak Hospital

Mafraq Hospital in Mafraq

The variation in survival rate noticed in Al-Mafraq Hospital is mainly due to complicated cases admitted from Syrian refugee camps during the second and third quarters (Figure 25). In July, Al-Mafraq retained its survival rate at 100 percent, with all seven cases placed on NB-CPAP surviving.

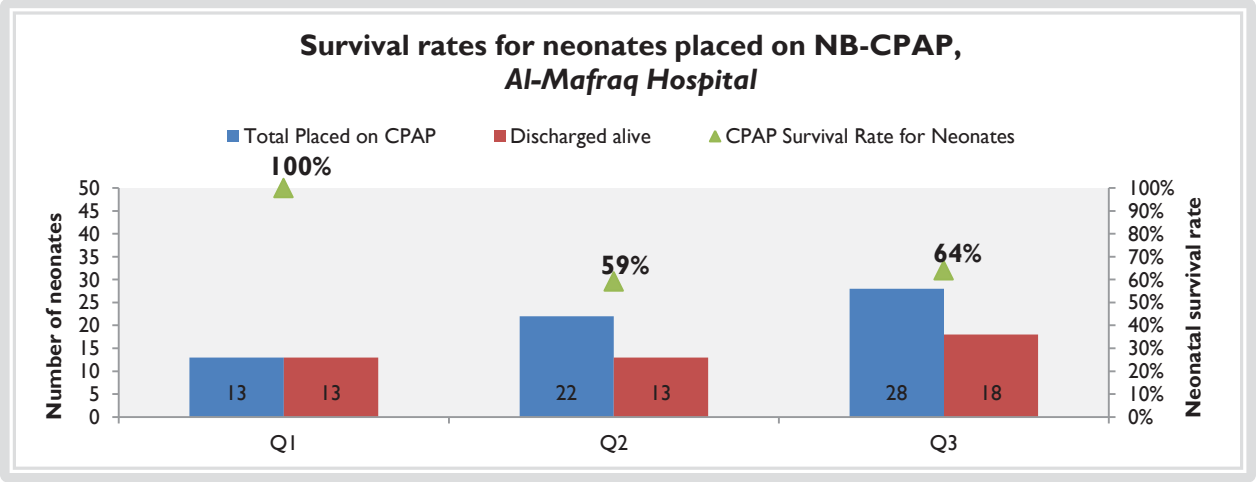


Figure 25: NB-CPAP System Use and Survival Rates, Mafraq Hospital

Prince Faisal Hospital in Zarqa

Prince Faisal Hospital retained 80 percent NB-CPAP survival rate compared with 83 percent in quarter three, as illustrated in Figure 26 below. The number of neonates admitted to the NICU remained, on average, at the same level.

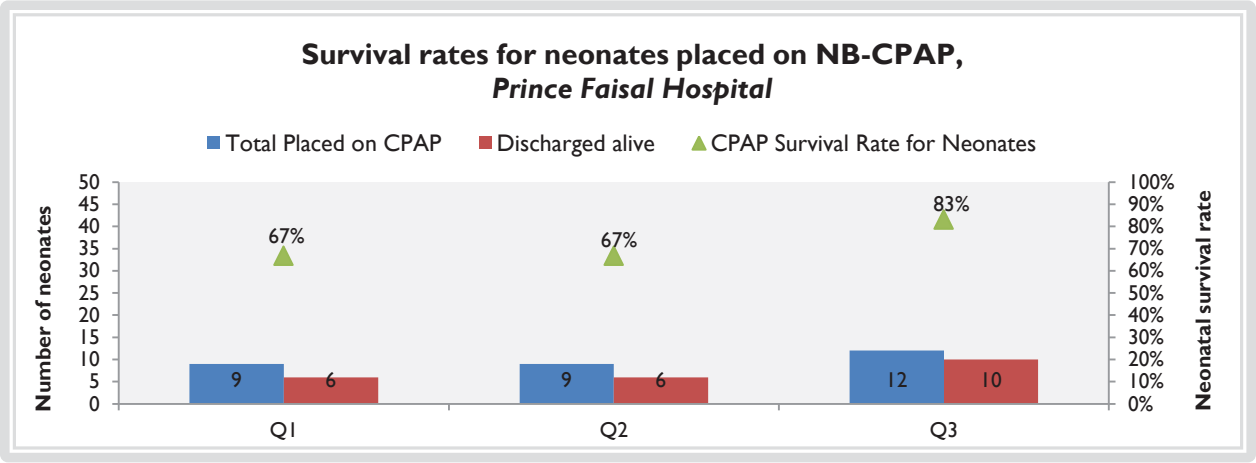


Figure 26: NB-CPAP System Use and Survival Rates, Prince Faisal Hospital

SUSTAINABILITY AND FUTURE SCALE UP

The approach to improve neonatal respiratory care in hospitals followed the same approach as that for AMTSL (previous section), namely to 1) institutionalize the protocol development process among MOH staff at the hospital and central levels and 2) improve documentation and provision of neonatal care according to the NB-CPAP protocol. Clinical and managerial capacity building is needed for staff in the hospitals and in the MOH's Hospital Administration to ensure integration of efforts in protocol implementation and supervision as described in Deliverable 2, Objective 1.

The availability of CPAP consumables, which are required for appropriate administration of CPAP, is a limiting factor for CPAP implementation and for maintaining and improving neonatal survival rates. To address this challenge in a sustainable manner, the HSS II Bridge team worked with MOH specialists and successfully advocated for inclusion of consumables needed for the NB-CPAP system in the annual procurement list of MOH and RMS. This step should secure hospital needs of consumables during the new calendar year. The project team recommends that the MOH Hospital Administration repeat the exercise in subsequent years.

In addition, the HSS II Bridge team directed some of its training and orientation efforts toward medical residents and the continual nursing education committee to amplify the results of transfer of knowledge. Training included the following:

- Orientation of 19 residents in the pediatric units in Princess Bade'a Prince Hussain Al-Salt, and Karak teaching hospital in addition to hospital-assigned physicians and specialists. Since medical residents rotate through different MOH sites, this presents an opportunity to pass on their knowledge.

- Orientation and training of neonatal units' core trainers and members of the hospital continual nursing education (CNE) committee. Their inclusion will ensure further training for new staff and institutionalization of the NB-CPAP protocol. Prince Faisal Hospital nominated an NICU nurse to train other staff on the protocol under the supervision of the unit head nurse and with the cooperation of the quality department.

In coordination with the MOH Hospital Administration, hospitals will be required to continue with these technical and administrative efforts to ensure that the hospitals maintain and build on the successes achieved.

Deliverable 3: Documentation pertinent to introduction of preconception care model developed

BACKGROUND

Prenatal care and skilled delivery are high in Jordan, yet the MOH does not have any policy or programs related to preconception care. The World Health Organization (WHO) promotes preconception care as a best practice that helps countries reduce the negative behaviors and individual and environmental factors that contribute to poor MCH outcomes. Effective preconception care can help reduce unintended pregnancies, complications during pregnancy and delivery, stillbirths, preterm birth and low birth weight, birth defects, neonatal infections, underweight, and stunting, and lower the risk of type-2 diabetes and cardiovascular disease later in life.

TECHNICAL APPROACH

One of the objectives of HSS II Bridge was to help the MOH and its partners develop a model for preconception care that suits Jordan's context and specific needs. The project team helped the MOH and its partners develop clinical guidelines, protocols, and job aids relevant to different levels of implementation. Good preconception care is contingent on appropriate counseling and medical advice or treatment provided to women and their partners as part of routine preventive care and through pre-marital testing in a clinical setting. Since many of the behaviors that affect health before conception and during pregnancy are formed well before conception, another important component is to engage youth in improving their health and their behaviors before planning a family.

Given the breadth of topics and potential intervention points for preconception care, the involvement and agreement of a number of stakeholders are essential. Therefore, HSS II Bridge supported the formation of a multi-stakeholder Preconception Care Technical Working Group (PC TWG) to oversee the design of the model and serve as a platform for agreement on service delivery levels and implementation mechanisms. A consultant from the American College of Nurse Midwives (ACNM), Dr. Patrice White, provided technical assistance for this effort through two visits to Jordan to help build understanding and consensus among stakeholders and provide virtual support to develop and refine the model. Between February and April 2015, stakeholders from different directorates within the MOH, HSS II Bridge, and JCAP participated in three meetings to agree on the overall approach, the components, and the opportunities and settings for delivery of preconception care. In May, HSS II Bridge hosted a meeting of key stakeholders from MOH, USAID, the United Nations Family Planning Association (UNFPA), and JCAP to gain consensus and determine next steps. All participants agreed on the content to be covered and three service delivery mechanisms.

HSS II Bridge developed materials, including checklists and guidelines for the two clinical service delivery mechanisms, while JCAP agreed to work with non-governmental organizations (NGOs) on the third, community-based mechanism and to develop a handout that could indicate more resources for clients on specified topics. During their final meeting in August 2015, stakeholders approved the preconception care model, checklists, and guidelines for the clinical sessions.

RESULTS

Given the epidemiology, common behaviors, and socio-cultural context in Jordan, the working group agreed to a list of priority topics for preconception care in Jordan, which include:

- Genetic/consanguinity screening and counseling.
- Fertility plans, healthy timing and spacing of pregnancy, modern FP options, and the normal range of time it can take to become pregnant.
- Healthy weight, diet, and exercise.
- Preventing or managing hypertension, diabetes mellitus, and anemia.
- Folic acid to prevent neural tube defects.
- Vaccines to avoid preventable infections.
- Reducing the use of unhealthy substances (tobacco, alcohol, drugs).
- Reducing environmental risks/exposures.
- Preventing interpersonal violence.

Unmarried youth, couples anticipating marriage, and/or married women who may already have at least one child do not usually perceive pregnancy as a health issue. Therefore, it was important to identify the best opportunities to engage these different target groups to prepare for a successful pregnancy. The PC TWG identified three opportunities to engage the different groups most in need of preconception care:

- Reaching unmarried youth to prepare them for good reproductive health.
- Integrating preconception care into the mandatory premarital visit.
- Providing preconception care to women presenting at HCs for other reasons.

To reach unmarried youth, JCAP plans to build a preconception approach into the youth-oriented NGO activities funded under the project. The approach will focus on youth in universities and out-of-school youth. The JCAP project team will use the content developed under the preconception care model to develop messages to share with this group. JCAP believes that framing FP messages within the broader context of preconception care is a more acceptable and inclusive way to encourage youth to take responsibility for their health, including reproductive health.

The GOJ requires couples to seek premarital physical exams before issuing a marriage certificate. The purpose of the exam is to rule out thalassemia. HSS II Bridge worked with stakeholders to determine the feasibility of adding couples preconception care counseling to the mandatory physical exam.

Based on that analysis, the project prepared a checklist of key topics for providers to discuss with each couple and guidelines to help providers conduct the sessions. The project developed a similar approach for women presenting at HCs for other reasons. The project team shared the provider checklists and guidelines for the two clinical sessions with all counterparts. Guidelines and checklists for both preconception care and premarital testing and counseling are included in Annexes 11, 12, 13, and 14 to this report.

SUSTAINABILITY AND FUTURE SCALE UP

The deliverable under this project was development of the model, not implementation. The introduction, scale up, and sustainability of this intervention will not be assured until the members of the technical working group within the MOH will provide the complete package to senior leadership (the Secretary General and the Minister) for review and approval. In addition to agreeing to this model, the MOH senior leadership will need to do the following:

- Designate the Directorate responsible for each component of preconception care (these may be different for the different delivery mechanisms).
- Incorporate this task into the job description and mandates of health care personnel (for the two service delivery mechanisms).
- Ensure readiness to secure adequate staffing within HCs to address the additional time needed to perform this service (for instance, by including it within the WISN tool used by the Ministry for optimal allocation of staff).
- Demonstrate willingness to continue to support the PC TWG to serve as a coordination body for introduction and scale up of this new service.
- Assume readiness for start-up costs to introduce this service (mainly orientation sessions for service providers).

Once these steps are completed, the PC TWG will need to develop a timeline and roll out process for progressive introduction of preconception care across Jordan. USAID support for this process would significantly increase the likelihood of achievement in a timely and complete fashion.

OBJECTIVE 3: STRENGTHEN THE CAPACITY OF MOH TO USE DATA GENERATED FROM DIFFERENT HMIS TO IMPROVE DECISION MAKING AND PLANNING

Deliverable 1: Models for data use established at MOH central, HD and facility levels

BACKGROUND

USAID tasked HSS II Bridge with improving the performance of HCs and hospitals in providing FP services and maternal and neonatal care. In designing activities and interventions, the project used a collaborative approach centered on the core concept of data use for decision-making. Integrating good documentation practices, data aggregation, and data analysis into the routine roles and responsibilities of stakeholders provides a strong basis for identifying gaps and developing suitable solutions.

TECHNICAL APPROACH

Generating operational and performance indicator data requires a thorough understanding of client/patient flow, documentation practices, and the dynamics relating indicators to one another. The project built data models for its main objectives based on these concepts. Field activities engaged stakeholders not only in data production, but also in using data to determine any changes that were needed.

The Monitoring and Evaluation (M&E) Plan, submitted in December 2014 as part of the HSS II Bridge Work Plan, outlines the project indicators. The M&E Plan also includes the performance indicator reference sheets (PIRS), which define each indicator, its method of calculation, and data sources, among other information.

The project reviewed the definitions for each indicator with counterparts at the facility, directorate, and central levels and studied data sources and documentation practices beginning at the facility level. In doing so, the participating HCs and hospitals were able to standardize their documentation and aggregation practices, making the resulting data consistent and comparable across HCs and governorates.

Finally, the project worked with counterparts at all three organizational levels to produce and visualize the data via the ministry's FP HMIS and other systems designed for the relevant data models. HSS II Bridge worked on the MCH and the FP logistics (LMIS) systems with the WCHD staff to ensure the indicator definitions were up-to-date. The project team also created the FP Decision Support System (FP DSS) and developed two web-based systems to monitor the maternal and neonatal care interventions hospitals implemented.

With the engagement of stakeholders at the facility, directorate, and central levels, the project designed data models for its interventions to improve FP services in HCs and for maternal/neonatal care in hospitals.

Photo 6: HSS II Bridge HMIS Expert presenting the data models to the WCHD and the seven HDs participating in the FP SDIC

The data models rest on three pillars necessary to standardize information and to strengthen reliability of results. They include:

- Client/patient workflow.
- Detailed reference sheets for each indicator, defining unit of measurement, validation criteria, numerator, denominator, and data source.

  A- Indicator list
  B- Outline of PIRS
  C- Data flow
  D- Quality check

- Presentation and visualization of resulting indicator data.

RESULTS

FP SDIC

Client Flow Model

The design of the health-based data model began with the client flow in health facilities. Through visits to health facilities and input from health staff during collaborative learning sessions, HSS II Bridge developed a schematic illustrating a typical FP client's journey through a HC. The schematic below specifies all the services such a client would receive, the persons responsible for providing the service, and all the data touch points in the process, including a description of records or data sources.

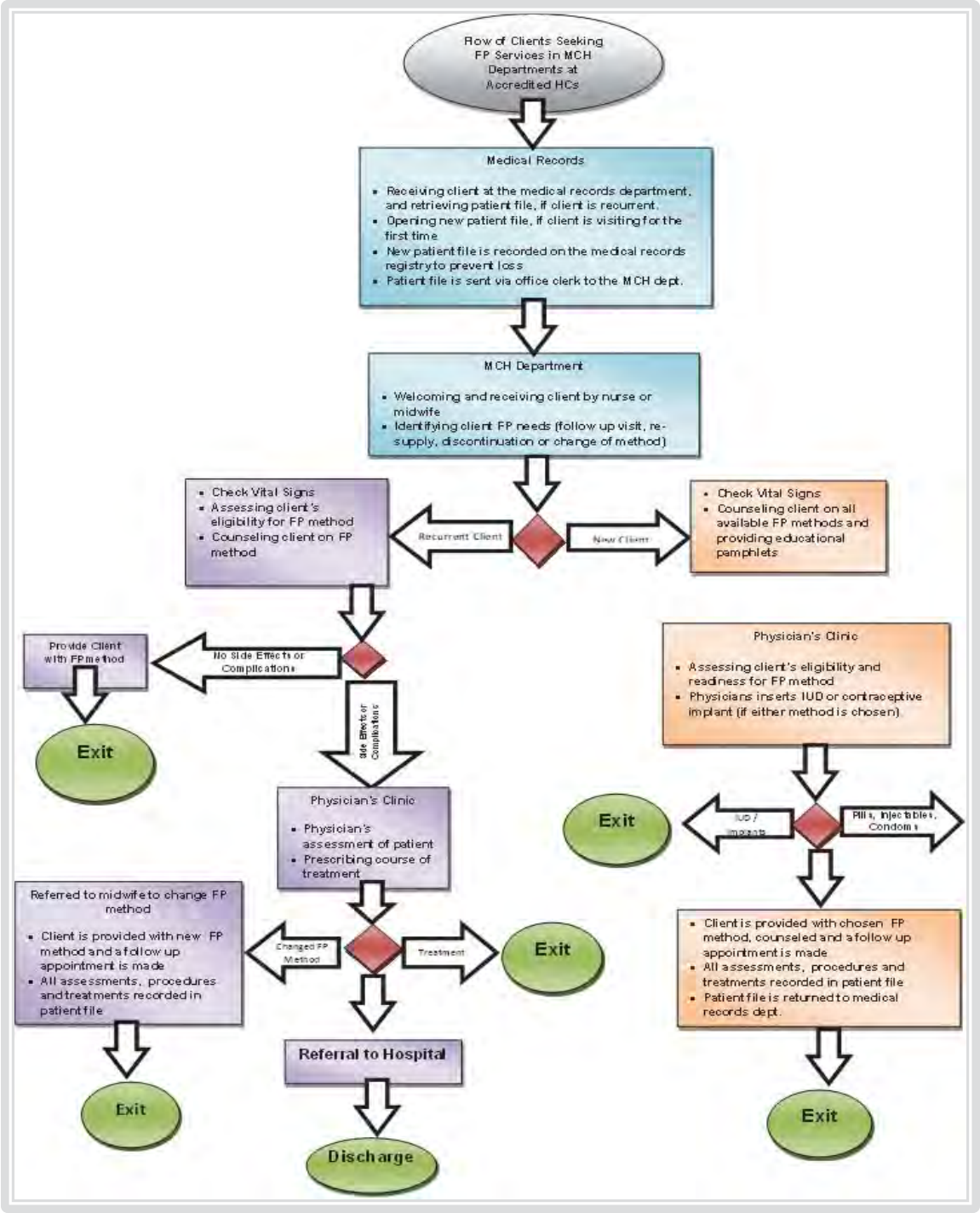


Figure 27: Client flow schematic for a typical comprehensive MOH HC

After designing the client flow model, it was possible to understand the data flow from HCs. At the MOH, FP data flow through three levels: HC, HD, and WCHD, with each level having multiple data touch points. A robust data model must consider these multi-layered levels in its design. In addition to the client flow schematic presented above, HSS II Bridge developed a data flow schematic, presented below.

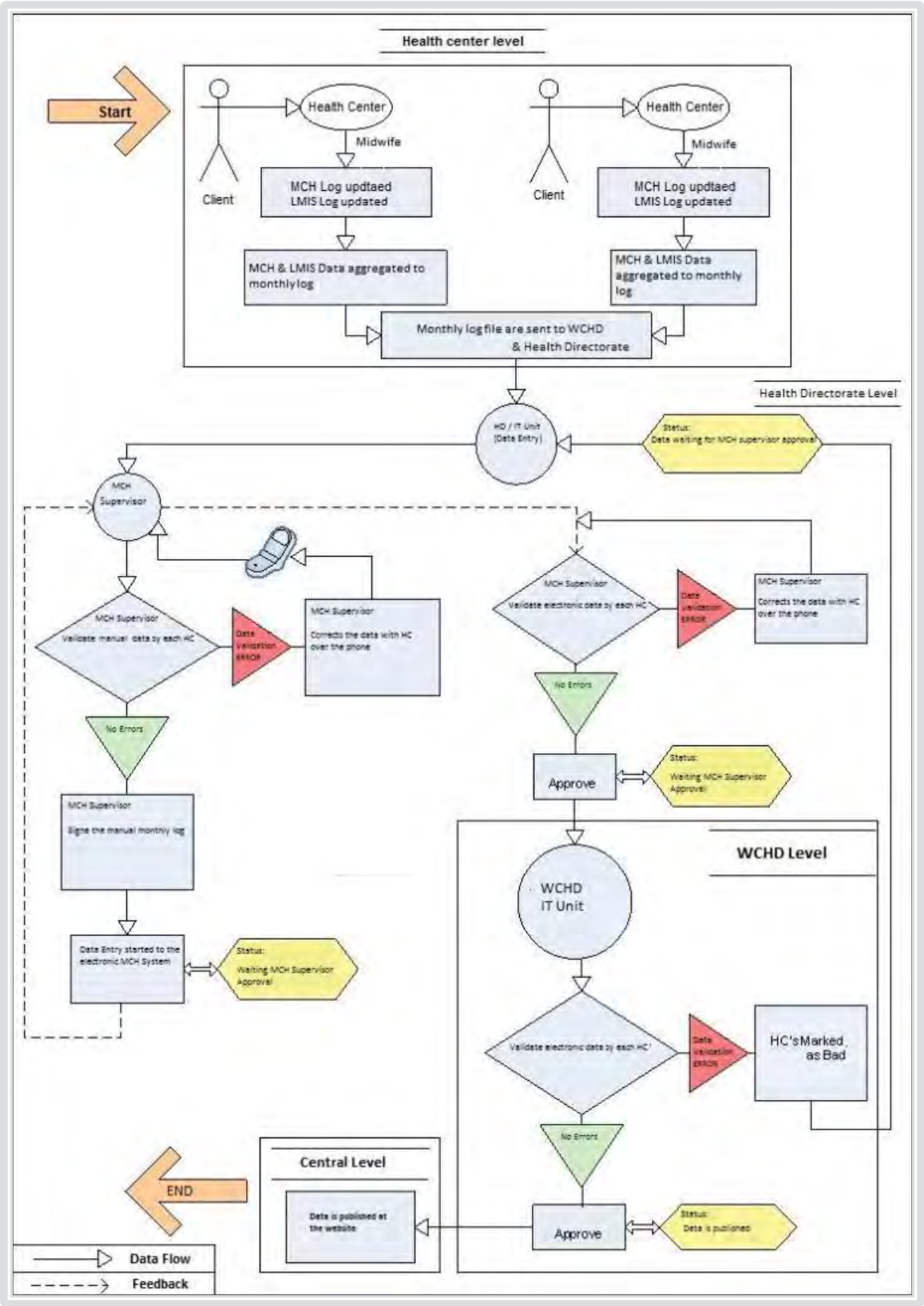


Figure 28: Data flow from HCs

Indicators and reference sheets

HSS II Bridge worked with MOH counterparts to define and develop performance improvement indicators. The teams developed 21 indicators around four key performance improvement areas:

- *Systems* for FP services
- *Access* to FP services
- *Quality* of FP services
- *Supply* of FP services

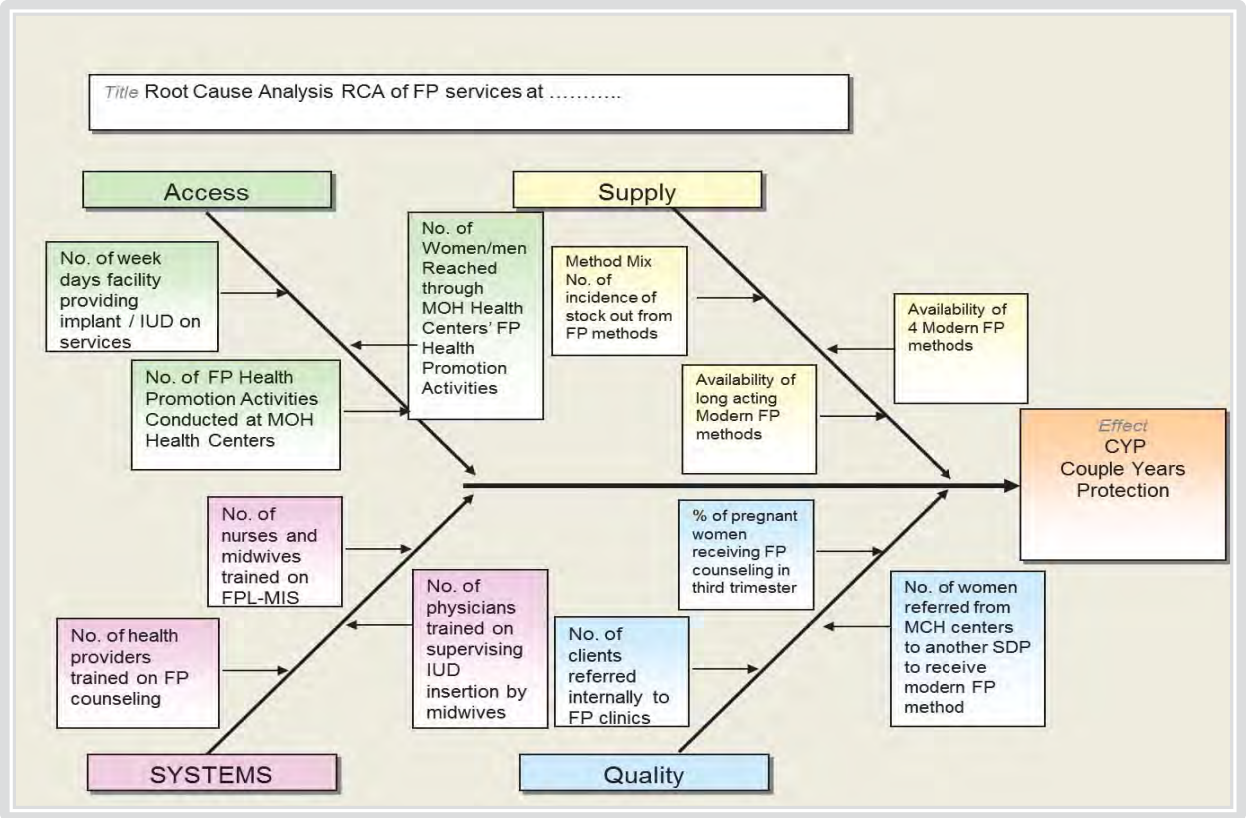


Figure 29: Root cause analysis schematic

To avoid new data collection burdens on MOH staff, HSS II Bridge developed indicators with existing and functioning data sources at MOH facilities. The project team, in collaboration with the MOH teams from the central, HD, and HC levels, prepared performance indicator reference sheets (PIRS) for each indicator.

For data collection, HSS II Bridge used a web-enabled data entry system. This system enabled simultaneous data entry from multiple staff. Additionally, the system has sophisticated branching and consistency logics to aid in the quality control of the entered data. Below is an example of the data entry page for dispensed FP methods.

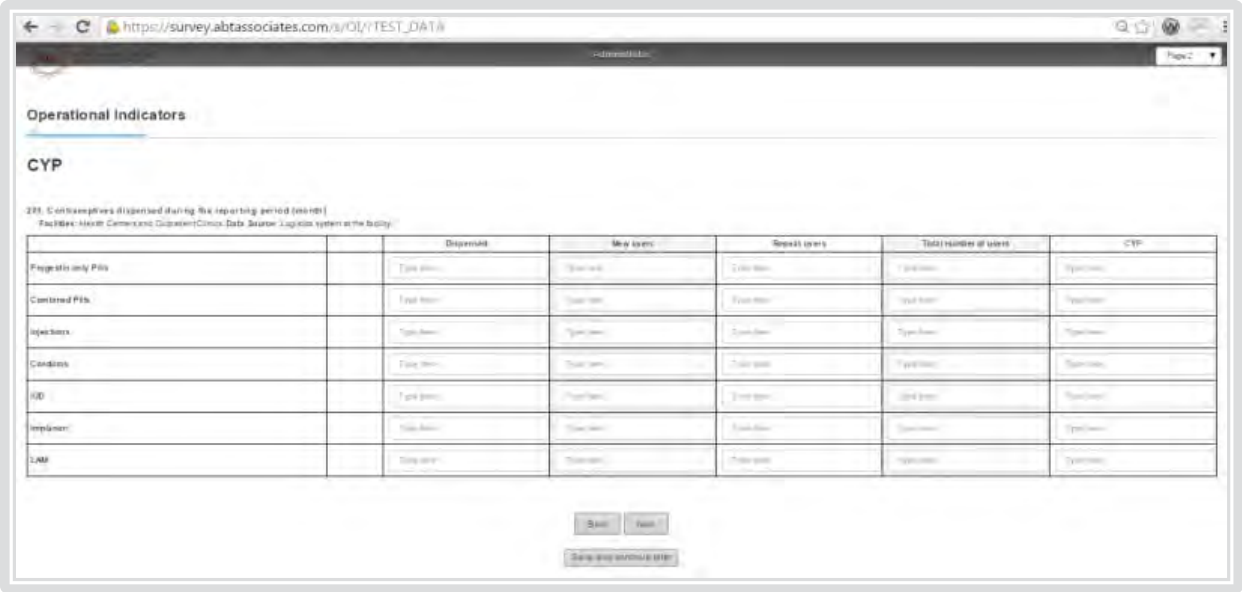


Figure 30: Data collection form for Collaborative HCs – Dispensed FP Methods

Data quality assurance includes logic checks programmed within the system, supervisor comparing between physical forms and the entered data, and field visits by supervisors to ensure that the entered data corresponds with the data sources. During entry, the internal quality system controls alert the user if the data is not in the correct format.

Display

Information display was a major activity area in the design of the data models. The project provided two platforms for the display of FP SDIC data. The first platform shows frequency charts of the data entered from HCs, as illustrated below.

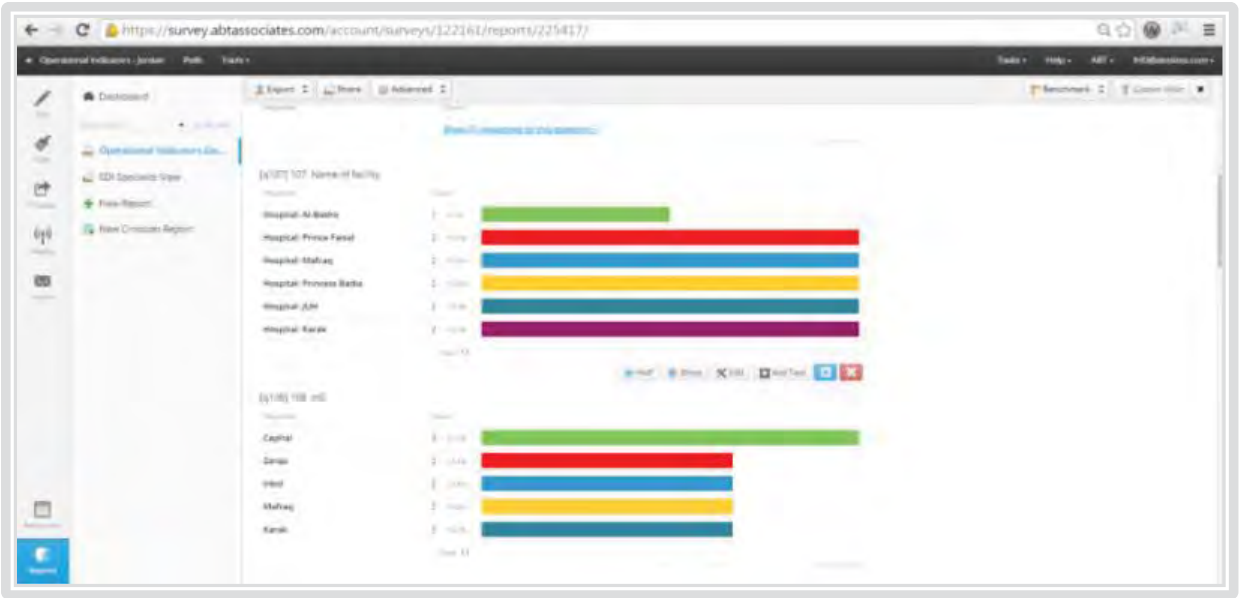


Figure 31: Data display for the Collaborative HCs

Using the above display, stakeholders can monitor the progress of data collection and perform a quick analysis of indicator data. Once data for the month has been entered, the system performs another round of data quality checks. This consists of frequency runs of all the entered data and cross-tabulations to ensure data logic and consistency. Then, users upload clean data to the second information platform, the online FP Decision Support System (FP DSS).

The FP DSS is an online data warehouse that has dashboard and visualization functionalities, allowing any (approved) user with internet access to monitor the progress of the 21 performance improvement indicators. Screenshots and use cases are presented below.

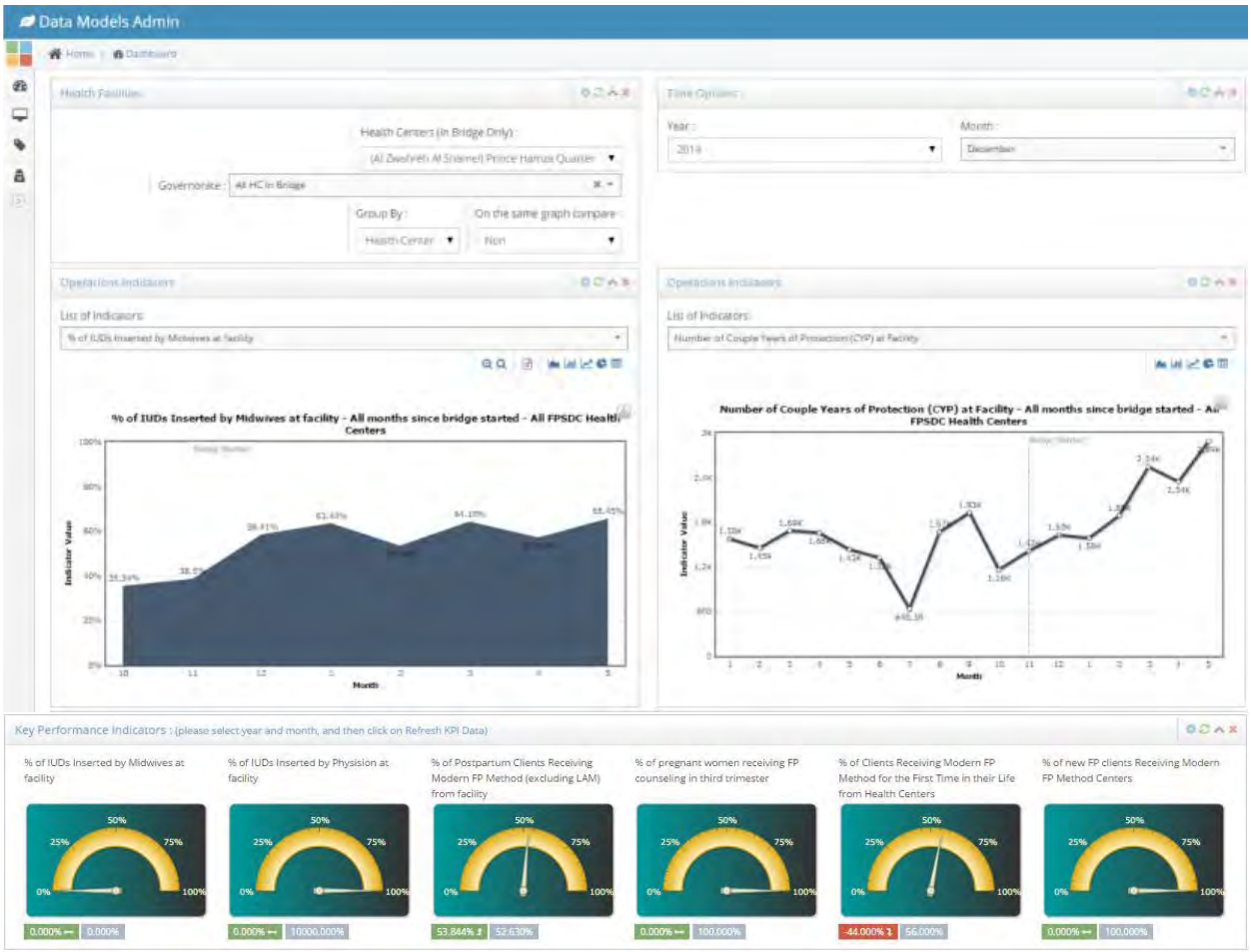


Figure 32: Web-based dashboard for HCs enrolled in the FP SDIC

With the FP DSS, users can choose from a variety of functionalities. Data visualizations can be by HC, directorate, or time-period. Additionally, users can select from different visualization formats, including bar charts, area graphs, pie charts, line graphs, and tables. These functionalities enable performance improvement monitoring, as the use case example below demonstrates.

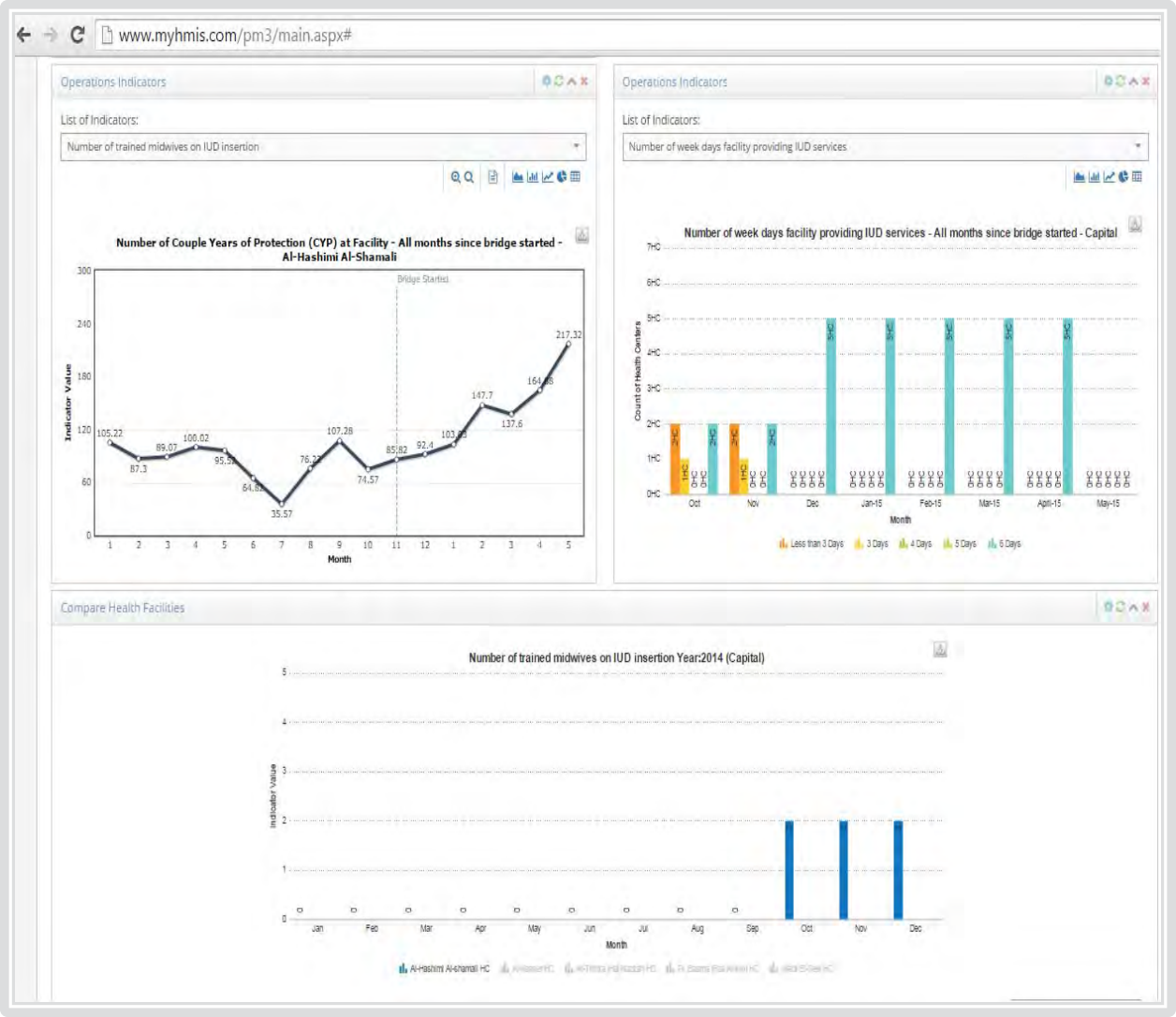


Figure 33: FP DSS use case

In the figure above, the left hand chart shows the CYP trend for Al-Hashmi Al-Shamali, a HC in Amman; the top right chart shows an increase in the number of weekdays in which providers deliver IUD services (in the same HC); and the chart below shows the increase in the number of trained midwives. This chart indicates that training of midwives has increased provision of long-acting FP methods. Through the visual display for multiple indicators, the system displays the dynamic relationships between indicators and intervention for decision makers.

HOSPITAL MATERNAL CARE

Client Flow

An important indicator during the HSS II Bridge was the percentage of deliveries managed according to AMTSL, a global best practice. To develop the data model that would capture the data on this indicator in an accurate and timely manner, HSS II Bridge began with a detailed mapping of the patient's journey in the maternity ward. This mapping exercise involved discussions with specialists in the six target hospitals and field visits.

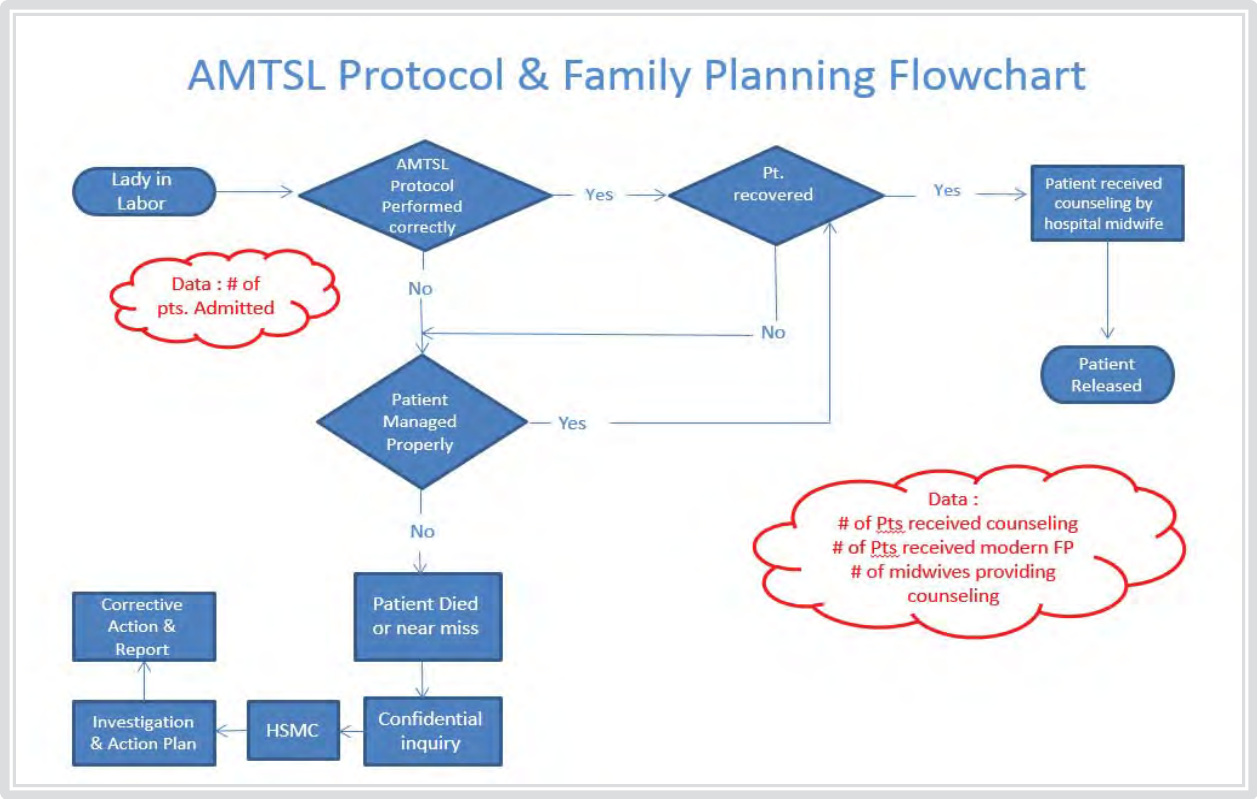


Figure 34: Client flow in the maternity ward

Indicators and Reference Sheets

For HSS II Bridge, three out of the 16 project or contract indicators pertained to safe motherhood. These included:

- Percentage of women giving birth in six selected hospitals who received uterotonics in the third stage of labor as the AMTSL protocol requires.
- Percentage of pregnancy-induced hypertensive women in six selected hospitals managed according to the clinical guideline.
- Selected hospitals using confidential inquiries into maternal deaths and near misses to monitor the quality of maternal care.

Only AMTSL required a new indicator reference sheet, and this is in the M&E plan in Annex I of this report. The other two indicators had reference sheets and have been monitored since the predecessor HSS II project. Collection of the AMTSL data required monthly visits to the six hospitals by HSS II Bridge specialists, with a random sample of medical reports selected and reviewed against an AMTSL checklist from each hospital.

The HSS II Bridge team also used the web-based data collection tool for maternal indicators. The following screenshot shows the AMTSL implementation data entry page.

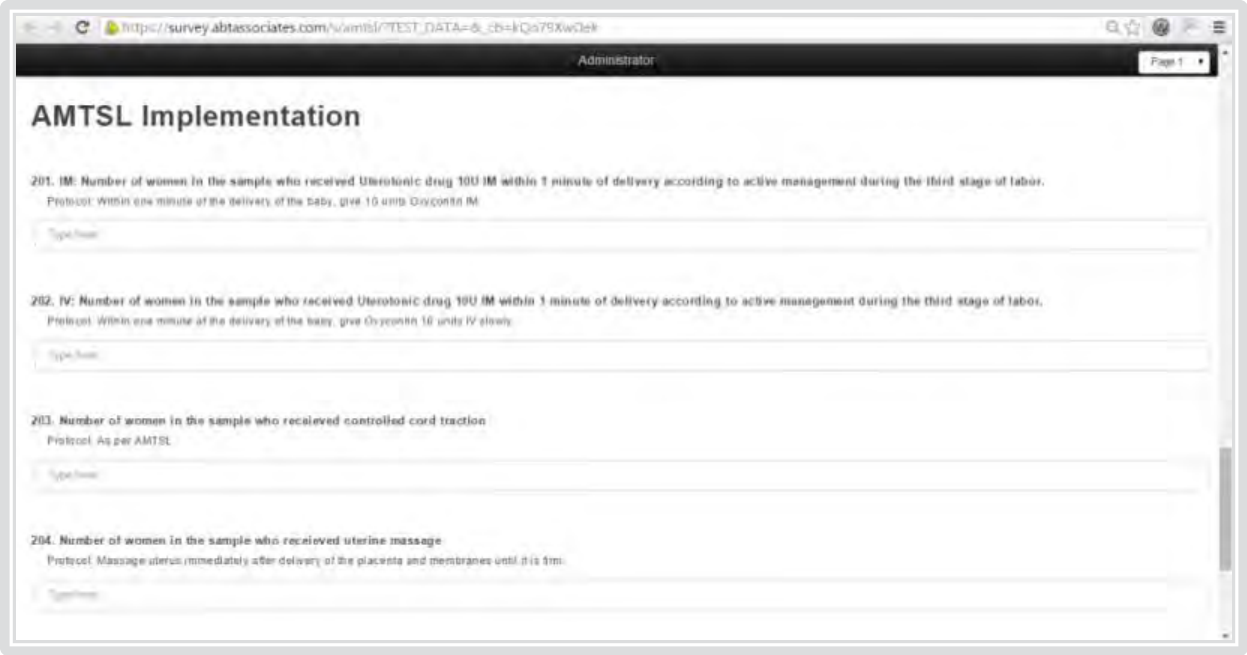


Figure 35: Data collection form for AMTSL

Display

Data display for maternal indicators used two platforms. The first was the summary of entered data described above (see Figure 35), and the second was an Excel dashboard placed on a shared folder in HSS II Bridge's server. An example of the Excel dashboard is presented below.

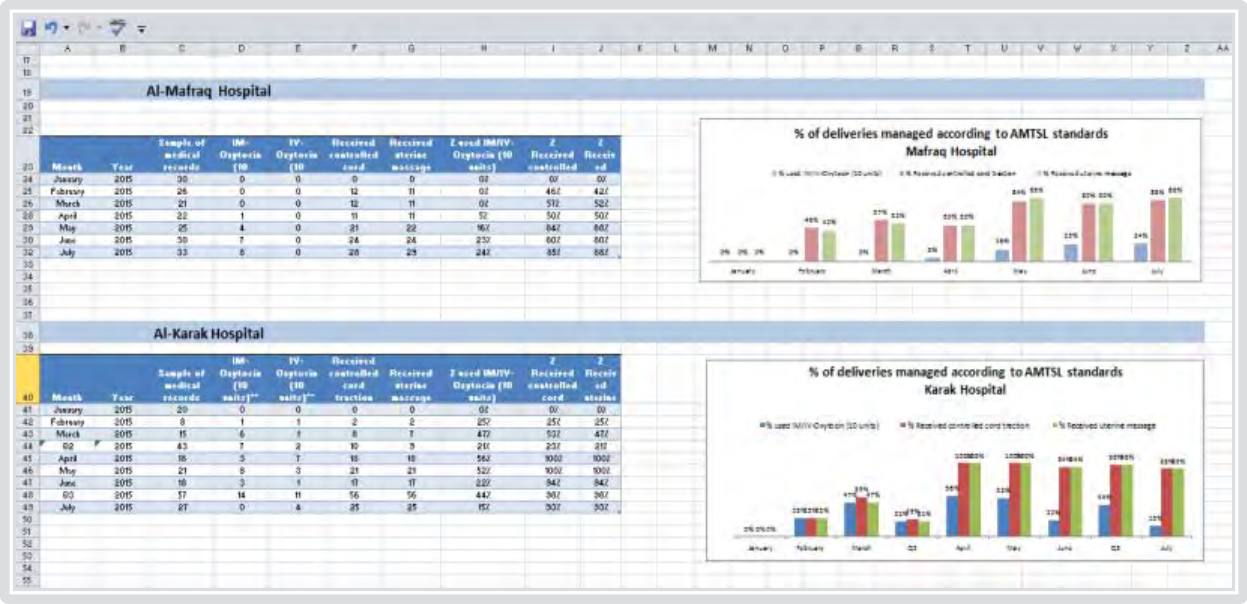


Figure 36: Excel dashboard

The Excel dashboard displays data by hospital, month, quarter, and aggregate. The dashboard automatically updates once the user enters monthly data for a hospital.

HOSPITAL NEONATAL CARE

Client Flow

Neonatal survival rate was an indicator in the HSS II Bridge project. Building on the successes achieved in HSS II, the HSS II Bridge focused on the institutionalization and expansion of NB – CPAP as the alternative to mechanical ventilation. The neonatal indicator in HSS II Bridge measured the survival rate of neonates placed on NB – CPAP.

As with the FP SDIC and maternal indicators, the HSS II Bridge created a detailed client flow chart to guide the data collection efforts in NICUs.

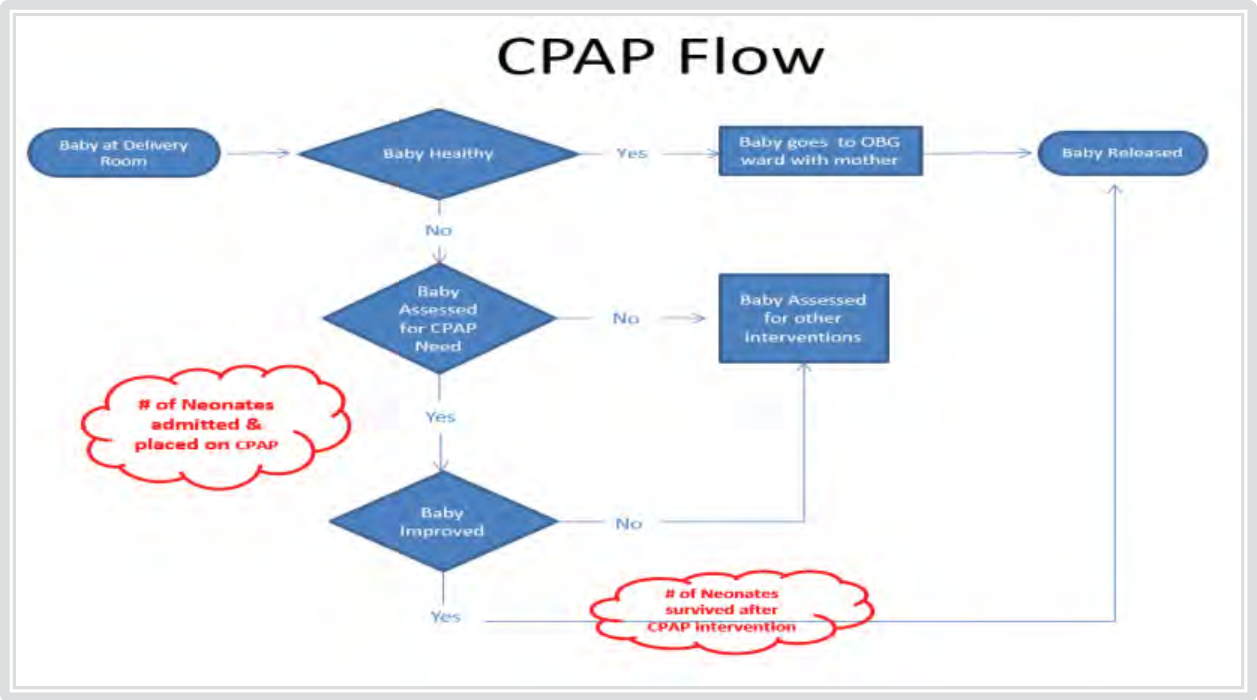


Figure 37: Flow of neonatal patients

Indicators and Reference Sheets

The indicator reference sheet for this indicator is presented in Annex I of this report. Collection of the CPAP data required monthly visits to the six hospitals by HSS II Bridge specialists. The Bridge team collected CPAP data from the NICU logbook, which records admission date, discharge date, and type of ventilation support provided to the neonates. For data collection, the Bridge team developed a web-based form (Figure 38).

Display

Data display for this neonatal indicator used two platforms. The first was the summary of entered data described in Figure 38, and the second was an Excel dashboard, and example of which is presented in Figure 39.

Figure 38: CPAP data collection web-based form

Figure 39: Excel Dashboard for CPAP

Developing data models according to patient flow and documentation resulted in accurate data describing the improvements in the delivery of services based on the project's objectives. The approach brought the "use of data" closer to the provider and enabled the teams at the facility level to appreciate how their efforts result in progress and quality improvement. Based on performance and results, the supervisory roles of HD and the WCHD staff were beneficial. The data model provided a tool to facilitate interaction between management staff and technical staff. Now that facility staff members have used data to make positive decisions affecting their delivery of services, they can continue tapping into the data yielded through the existing HMIS, namely the MCH and Logistic Systems as described above.

Deliverable 2: Conceptual framework for maternal mortality surveillance and response system designed and ready for implementation

BACKGROUND

Jordan's maternal mortality information is based on dated, periodic surveys. Maternal mortality ratios differ noticeably depending on the source: GOJ reported *19 per 100,000* in 2008 compared with the WHO's *50 per 100,000* in 2013.

Previous USAID support for safe motherhood programs through the HSS and HSS II projects contributed to significant quality improvement in maternal health services. The MOH documented dramatic decreases in maternal mortality due to PIH in their surveys and reports. The safe motherhood programs also strengthened the confidential inquiry (CI) into maternal deaths or near misses by establishing reporting mechanisms through SMCs in public hospitals.

The establishment of a maternal mortality surveillance and response (MMSR) system covering both the public and private sectors will therefore produce more current and accurate mortality ratios, provide confidential clinical and logistic information about maternal deaths, and thus improve the use of data for decision making in maternal health interventions.

TECHNICAL APPROACH

The project implemented the Jordan MMSR model according to four guiding strategies:

- Led technical work by appropriate committee of counterparts and stakeholders.
- Gained thorough understanding of all aspects of baseline practices, including policies and procedures.
- Built on existing mechanisms and strengthened their integration.
- Adapted standards and technical recommendations tailored to local needs in a complementary and sustainable manner.

During the project's work plan preparatory meeting in November 2014, the project team convened a working group to discuss maternal mortality, CI, and the need for a surveillance system. This working group included stakeholders from the MOH, HPC, RMS, and Higher Health Council, among others. The working group discussed the technical and operational needs for a surveillance system and specified the steps to be carried out in collaboration with HSS II Bridge.

Photo 7: The Strategy and Leadership Group during the work planning meeting led by HE the MOH Secretary General

The first step was the creation of the Maternal Mortality Surveillance and Response System Steering Committee by the MOH, chaired by H.E. the Secretary General, with the Director of the MOH Non-Communicable Diseases Directorate committee as rapporteur.

Together with the Steering Committee, the project studied all baseline practices concerning the reporting and documentation of deaths in general and maternal deaths specifically at all organizational levels for each sector. These findings are summarized in the "MMSR Consultant Trip Report, April 2015."

Field activities included visits and interviews at HCs, hospitals, forensic medicine departments, governorate HDs, and several directorates and administrations in the central MOH. The report also describes pertinent information from the Ministry of Interior's Civil Status and Passport Department.

This preparatory phase included meetings with other agencies and donors, including UN agencies, to ensure exchange of knowledge and efficient coordination of efforts. The Steering Committee rapporteur coordinated technical meetings for discussions and for dissemination of findings with the entire committee and to the Secretary General. The HSS II Bridge presented a final model and officially presented it to the National Millennium Development Goals Steering Committee on Tuesday, September 15, 2015.

Photo 8: Dr. Malak Al-Ouri during the JMMSRS presentation to the National MDG Steering Committee

RESULTS

Development of the Jordan MMSR Model built on existing structures and procedures. The project used technical information from WHO, USAID, and the Journal of Reproductive Health among other references to strengthen the existing structure and to make recommendations for needed changes. The existing systematic strengths include:

- Almost all childbirths in Jordan take place inside hospitals.
- All cases of death, if not occurring already inside a hospital, are brought to the hospital emergency department and then transferred to the forensic medicine department as appropriate by hospital medical staff.
- "Death Notification Forms" (DNF) and/or "Forensic Medicine Reports" are completed for all deaths.
- DNF include a clause specifying whether the death case is a pregnant woman, a woman who delivered within the previous 42 days, or of a woman of reproductive age (15 – 49).
- Families take DNF to the CSPD for registration of civil information.
- The MOH has existing surveillance systems for other diseases covering all sectors that are monitored through the Non-Communicable Disease Directorate.

While these structures and procedures exist, the challenge is to transform them into a continuous surveillance system that captures, identifies, reviews, analyzes, and responds to every maternal death. The complete Model for the Jordan Maternal Mortality Surveillance and Response System is included in Annex 7.

NEXT STEPS FOR IMPLEMENTATION

Implementation of the model requires several preparatory steps to ensure success and sustainability. First, the MOH should form an evaluation committee comprising all health care sectors to study the needs for model implementation.

The main tasks for the evaluation committee are based on the five key technical components of the Jordan MMSR model:

1. Identification and notification of maternal deaths
2. Maternal death review
3. Analysis and interpretation of aggregated findings
4. Response and dissemination
5. System monitoring and evaluation

For each of the steps above, the evaluation committee will evaluate capacity building programs needed for conducting the different functions of the surveillance system and managing the flow of information at each organizational level. In addition, the MOH must incorporate the surveillance and reporting of maternal deaths into the Public Health Law, mandating its implementation for all sectors.

Deliverable 3: A list of standard IT equipment is provided to accredited MOH primary healthcare facilities

Please refer to Annex 8 for the list of IT equipment and official handover documentation.

OBJECTIVE 4: ASSIST THE MOH TO IMPROVE ACCESS TO FAMILY PLANNING AND REPRODUCTIVE HEALTH THROUGH COMMUNITY BASED ORGANIZATIONS

Deliverable 1: Two CHCs transformed into community based organizations that provide FP services

BACKGROUND

Recognizing the community's essential role in health promotion, over the past decade USAID has partnered with the MOH to institutionalize an effective community health program. This program educates the population on health topics and their rights as healthcare consumers while engaging Jordanians to take responsibility for their health. As a result, Jordanians formed more than 100 CHCs across the Kingdom. These committees raise awareness of and increase demand for FP services at MOH HCs. In 2014, the project partnered with two of these CHCs as they underwent legal recognition to become community based organizations (CBOs) capable of fundraising and providing information and services to their target communities. These two CBOs, Entrepreneurial Association for Health Promotion (Al Nohoud Al Sihhi Pioneer Society, also known as Al Hashmi) in Amman and the Howara Health Society in Irbid both chose FP promotion among their main objective.

TECHNICAL APPROACH

HSS II Bridge partnered with these two new CBOs to accelerate their transformation and promote organizational development, including articulation of an organizational vision, policy development, organizational structure, development of operating systems, and fundraising capacity. HSS II Bridge did not include seed funding for these organizations. The project focused on enabling them to promote FP use, rather than providing clinical services on their own.

HSS II Bridge staff worked directly with the two CBOs with the assistance of an organizational development consultant to build their organizational and technical capacity to be effective advocates for FP in their target communities. In addition, the CBOs were able to access training and other technical support from the SHOPS Jordan (Ta'ziz) project and the Civic Initiative Support (CIS) project to strengthen their capacity to play their roles effectively. HSS II Bridge support included the following elements for each CBO:

Strategic Plan

Each CBO followed a structured process to develop a strategic plan with broad institutional support. This included a workshop and meetings with the administrative board of each CBO to discuss each aspect of its strategic plan followed by approval of a final draft. The strategic plan includes the scope of work, coverage, organization chart, a strengths/ weaknesses/ opportunities/ threats (SWOT) analysis, strategic issues, vision, mission, organization values, strategic goals and objectives, and operating procedures.

Operational Plan

Support from HSS II Bridge enabled each CBO to complete an operational plan, with Year 1 objectives selected by the respective administrative boards. The HSS II Bridge team helped each CBO member participate in developing an operational plan based on the strategic plan. In collaboration with the HSS II Bridge team, CBOs developed two essential documents based on the operational plan:

- Documentation form tracking all CBO activities
- Capacity building form: documentation of all training programs attended by a CBO administrative board member

These forms will enable the CBO to report on its activities and plan for future training needs. They also provide documentation needed for donors to track a CBO's history.

Marketing Plan

The project worked with each CBO to develop a marketing plan that outlines its marketing methods and fundraising sources. This will allow the CBO to secure funds to sustain its activities, as articulated in the operational plan.

Human Resources System

Each CBO prepared an organizational chart and established an HR management system, although for the time being the CBOs do not have paid staff. This will enable them to articulate and fill their staffing needs concurrently with fundraising efforts.

Financial Plan

Each CBO prepared a financial plan, taking into account the necessary elements to accomplish priority activities and attract and steward funds.

Support for Implementation of CBO Operational Plans

The project provided limited technical and financial support for the CBOs to conduct their initial activities as articulated in their operational plans. Financial support for these groups was contingent on their ability to attract other financial and in-kind support, and was limited to 30 percent of the total amount needed.

RESULTS

Entrepreneurial Association for Health Promotion (Al Nohoud Al Sihhi Pioneer Society or Al Hashmi)

Al Hashmi used support from HSS II Bridge for three activities: development of a profile to increase awareness of the CBO within its catchment area; a two-day event that promoted the use of FP services and launched the CBO; five Reproductive Health, FP, and Breast Cancer Screening sessions in collaboration with the Al Hashmi Al Shamali Comprehensive HC in Marka District.

Photo 9: Al Nohoud Al Sihhi Pioneer Society (CBO) Members

Huwwara Health Society

Huwwara Health Society used support from HSS II Bridge for two activities: a public launch event of the CBO, and Breast Cancer, FP, and Diabetes Screening sessions held in collaboration with Huwara Primary HC and Nusaibah Al Mazenieh College in four locations in the Society's target area.

Photo 10: Huwwara Health Society (CBO) Members

SUSTAINABILITY AND FUTURE SCALE UP

As a direct result of project support, two CHCs completed organizational, structural, and legal transformations into official CBOs, laying the foundation for increased impact and community engagement. These organizations have defined their vision, strategy, operational plan, and the systems they will use to support their efforts. They have moved beyond the theoretical desire to improve the health of their communities to having a strategy, practical approaches, and systems to do so. Their improved capacity to define and execute their respective visions will depend on their ability to attract financial support and demonstrate their effectiveness over time.

III. OTHER ACHIEVEMENTS

HSS II Bridge achieved results beyond the project's stated deliverables. The Bridge team built on the work of previous USAID investments, including HSS and HSS II. These additional accomplishments contributed to the project's mandate to strengthen the health system in Jordan.

1. EXPANSION OF HOSPITAL FP SERVICES

Two additional public hospitals began providing postpartum, post-miscarriage, and outpatient FP services as a result of HSS II Bridge support. The RMS Prince Hashem Bin Abdullah Hospital in Aqaba began offering FP services in the first quarter of 2015 after receiving training and supervisory support from a joint RMS/HSS II Bridge team. FP services began in June 2015 in the MOH Abi Obaida Hospital in Irbid for postpartum/post-miscarriage clients in the Ob/Gyn ward and for outpatient clients. The project worked with the MOH to provide regular coaching and support for the hospital staff to ensure that this service became a standard part of maternity care at these hospitals. The project also worked with the MOH to build its capacity to oversee hospital-based inpatient and outpatient FP services.

2. REVISED FP COUNSELING CURRICULUM

HSS II Bridge worked with the MOH WCHD to revise MOH training in FP counseling to focus on provider behavior. The updated curriculum will help reduce provider bias and improve providers' responsiveness to client concerns. A key feature of the revised curriculum is the requirement for several on-site visits by trainers to observe and coach newly trained staff before issuing competency certificates. The visits will verify provider performance following training. The WCHD formally approved the revised curriculum and introduced the revised training in June 2015. The project helped the WCHD prepare 22 MOH trainers to use the revised curriculum and training materials. These trainers then conducted four trainings for HC and hospital staff in Mafraq, Irbid, Zarka, and Capital HDs. The RMS also held a training session using the revised curriculum with logistical support from the project to improve the delivery of FP information and services in their hospitals.

3. EXPANSION OF MOH CLINICAL TRAINING TO INCLUDE PRIVATE PROVIDERS

The project worked closely with the WCHD and the USAID SHOPS Jordan (Ta'ziz) project to obtain unprecedented MOH approval for the WCHD to train private sector providers in clinical FP methods. The agreement made no concessions for additional compensation for the trainers, improving the sustainability of this initiative following the project's closure. With this agreement, the MOH demonstrates its understanding of the important role of the private sector in FP service delivery in Jordan. This is also illustrated by the MOH provision of contraceptive methods to NGOs and network doctors participating in the national FP program effort.

Photo 11: MOH competency-based training on IUD insertion using models

In June 2015, three physicians from private hospitals and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) received training from the WCHD in IUD services. Three physicians and five midwives from MOH HCs also received training. All of the physicians finished their didactic and practical training and are providing IUD services for their clients, expanding access to long-acting reversible contraception in the private sector.

4. DEVELOPMENT OF AN AGREED SCOPE OF PRACTICE FOR MIDWIVES IN JORDAN

HSS II Bridge worked closely with the Jordan Nursing Council (JNC) to revise the draft core competencies of midwives in Jordan developed under HSS II. The revised competencies reflect the complete roles of midwives in Jordan, including delivery of clinical FP service. The project then helped the chair of the JNC Midwifery Committee blend the revised core competencies document with a broader document setting out the scope of practice for midwives. To improve the buy-in of other professional associations and stakeholders for a broader professional scope for midwives in Jordan, HSS II Bridge proposed to introduce the document to key stakeholders before obtaining JNC board approval. The JNC Secretary General confirmed that the JNC will work with JCAP to create the nursing and midwifery strategy and advocate for its adoption with stakeholders. This is an important precursor to the revision of midwifery training in Jordan as it will include clinical training in FP. This commitment demonstrates the synergy between USAID's investments in the HSS II Bridge and JCAP projects.

5. INCREASED USE OF DATA TO DETERMINE STAFFING NEEDS AT THE MOH HUMAN RESOURCES FOR HEALTH TECHNICAL WORKING GROUP (HRH TWG)

Building on progress during HSS II, HSS II Bridge staff worked with the HRH TWG to apply the WHO's global standard for evidence-based health sector staffing, the WISN tool. The project worked with the TWG to collect data concerning the staffing needs in all 24 HCs participating in the FP SDIC. At the same time, both Balqa and Central HDs applied the WISN tool in additional HCs with limited project technical support, demonstrating increased capacity to implement this tool as a result of work done during HSS II and HSS II Bridge. The project helped participating HDs collect data on the activities of each staff member and then enter and analyze the results using the WISN. The HRH TWG is ready to advocate for systematic use of this tool in all HDs to make adjustments in staff levels. Staffing adjustment based on WISN data will enable the MOH to cover identified staffing gaps and reduce surpluses where they occur, increasing efficiency of the health workforce in Jordan. Efficient allocation will help ensure that trained providers, especially female FP providers, will be well distributed to maximize access to a full range of modern contraceptive methods.

6. REINFORCEMENT OF SUPPORTIVE SUPERVISION FOR MCH/FP SERVICES

The MOH WCHD requested project assistance to revitalize the supervisory processes and procedures used at the central level for MCH programs and to improve tracking of overall supervision of MCH/FP services across the Kingdom. HSS II Bridge staff helped the WCHD launch an updated central supervision process. This process mandates team supervisory visits to all HDs to monitor the key performance indicators and other aspects of MCH services, including the quality of supervision conducted by the MCH supervisory staff at the HDs. HSS II Bridge also developed a data entry tool for use by the WCHD to track the performance of all HD MCH supervisors. This tool enables them to verify the degree to which supportive supervision is functioning in each HD.

7. ENGAGING CHCS IN FP PROMOTION

In the 24 FP SDIC sites in seven HDs, 23 CHCs actively contributed to achievement of the FP SDIC results. In one of the FP SDIC sites, the CHC had already been transformed into a CBO. The project provided technical and in some cases modest logistical support to the CHCs to enable them to be actively involved in the FP SDIC. In June 2015, HSS II Bridge and the MOH Health Communications and Awareness Directorate jointly assessed the effectiveness of these CHCs. The assessment found that the CHCs were a vital part of the collaborative process. All of the 23 CHCs were actively engaged in FP promotion and 21 of the 23 reached the ambitious target of a 30 percent increase in new FP visits over the course of the FP SDIC. These 23 CHCs will need support in the future to update their change packages and continue active FP promotion. CHCs should be considered an intrinsic part of any future scale-up of the FP SDIC.

Photo 12: Group Photo with Ms. Katherine Tilout, HSS II Bridge COR/USAID, Dr. Sabry Hamza, Project COP, Dr. Leil Al-Fayez, Capital Health Director and Staff from MOH Capital HD, HCs and CHCs at the FP SDIC Closeout Event

8. FACILITATING USAID ASSISTANT ADMINISTRATOR OF THE BUREAU FOR THE MIDDLE EAST's VISIT TO TAFEELEH

On February 12, 2015, the USAID Assistant Administrator of the Bureau for the Middle East, Ms. Paige Alexander, visited the accredited MOH Al-Ees Comprehensive Health Center, which serves a population of 12,000 Jordanians. She was accompanied by USAID Mission Director, Ms. Beth Paige; Tafeeleh Health Director, Dr. Ghazi Mrayat; Al-Ees Health Center Manager, Dr. Nihaya Jaradeen; and HSS II Bridge and JCAP project representatives.

Photo 13: Photo with Ms. Paige Alexander, Ms. Beth Paige, Al-Ees HC Manager and MCH Staff

During the part of her visit facilitated by the HSS II Bridge, she was provided with HC service delivery statistics and service delivery improvements implemented by Abt's HSS II project. She toured various departments at the center, including MCH and FP. She then proceeded to meet with Al-Ees CHC and received highlights of their achievements to date.

"My visit today is very inspiring, I could see how this group of people was able to make the change to improve the health of their community, I look forward to come back and see more successes."

Ms. Paige Alexander, USAID Assistant Administrator of the Bureau for the Middle East, stated at the end of her tour.

9. RECOGNIZING HC ACCREDITATION

The HSS II project partnered with the MOH to prepare 120 HCs to meet accreditation standards. Compliance with these international standards helps centers provide better quality, cost-effective, and appropriate care. In addition, formal recognition of their compliance assures clients that they will receive high quality services. The successful implementation of this approach resulted in the accreditation of 28 MOH HCs in December 2012, 48 centers in June 2014, and 12 centers in December 2014, for a total of 88 accredited HCs as a result of HSS II support. In March 2015, Her Royal Highness Princess Muna Al-Hussein, the USAID Mission Director, MOH, and Secretary General of the MOH honored the most recent set of 12 HCs for achieving accreditation by the Health Care Accreditation Council (HCAC) and an additional 12 of the first group of centers that achieved reaccreditation.

Photo 14: Group Photo including HRH Pr. Muna Al-Hussein, Senior Leaderships of the MOH, USAID and HSS II Bridge Project with Accredited HC Managers

10. REGIONAL REVIEWS OF MOH FP PERFORMANCE IN 2014

HSS II Bridge helped the WCHD hold three regional meetings in Aqaba, Irbid, and Amman in March 2015 to review the 2014 MOH achievements under the MOH FP Strategic Plan. A total of 131 MOH staff from relevant MOH central administrations and directorates, all 12 HDs, and hospitals providing FP services attended at least one of these sessions. Each administration, directorate, and hospital presented its achievements in FP, comparing their 2013 and 2014 results. The project exceeded the 2014 targets in 10 of the 12 primary indicators tracked under the Strategic Plan.

11. NATIONAL FP DAY

In August 2015, HSS II Bridge helped the MOH and its partners in FP activities mark Jordan's second National FP Day. Those in attendance included Her Royal Highness Princess Muna Al-Hussein, US Ambassador to Jordan, the USAID/Jordan Deputy Mission Director, General Secretaries of the MOH, HPC, and High Health Council, the RMS Director, the UNFPA Country Director, and other representatives from the GOJ and numerous private and NGO organizations that support or provide FP services across the country.

Photo 15: Group Photo with Event Patron HRH Pr. Muna Al-Hussein along with HE USA Ambassador and National FP Stakeholders

The second National FP Day enabled all parties to assess progress midway through the five-year strategy. Booths set up by the MOH Women and Child Health Directorate and by partner organizations such as the Jordan Association for Family Planning and Protection (JAFPP), UNFPA, HPC, RMS, and other groups that promote or provide FP in Jordan showcased accomplishments.

After opening remarks by the UNFPA Country Director, (see photo 15) the US Ambassador and the General Secretaries of the MOH and HPC reviewed the development considerations that led the GOJ to support provision of voluntary FP.

"The Government of the United States is proud to partner with the Government of Jordan in helping the Kingdom achieve the goals set for this five-year period. Through USAID, we will continue to support the MOH and contribute to this national program as a key component of our support for overall progress in Jordan," remarked the US Ambassador to Jordan, Alice Wells.

The General Secretary of the MOH extended his deep appreciation to the US Government and other partners for their support and expressed the ministry's renewed commitment to FP programs. Before she departed, Her Royal Highness Princess Muna Al-Hussein praised the event and project team, saying: "The event is a model, not only because of its great organization but also because of its important topics that addressed impact on national priorities."

"We must work together with our partners! The HPC is committed to improving national FP performance within the larger demographic context and the importance of moderating population growth to achieve Jordan's continued economic growth and stability."

HE Dr. Sawsan Al-Majali, Secretary General of the HPC

IV. CHALLENGES

The project encountered challenges to achieving and sustaining gains in key areas of the health system. The primary challenges are described below.

I. HRH ISSUES

Management of HRH weaknesses within and beyond the MOH present significant obstacles for MOH and USAID FP objectives, safe motherhood, health systems, general community engagement, and the sustainability of HSS II Bridge achievements. HRH challenges in Jordan encompass elements of job requirements, deployment, preparation, and on-the-job performance of staff. These challenges include:

- **Deployment and job requirement issues:**

  There is a dearth of policies and clear criteria at the MOH to guide the allocation of staff to facilities based on the system's best interests. Current staffers in some areas are either overstretched or lack the core competency to perform a job according to standards. Defining staff allocations based on workload of each facility (using the WISN tool) is very attractive to senior managers of the MOH. HSS II Bridge has worked with the MOH HRH TWG to move this process forward; it now needs and MOH policy change to transform it into a formal requirement for assignment of staff.

- **On-the-job performance of staff:**

  There is a common perception among MOH staff that their performance, good or bad, will not influence their career development, chances of promotion, advancement, or future assignments. This perception affects their attitudes and behaviors, particularly when asked to do additional work to improve quality of care. The FP SDIC showed that sustained support for teamwork within a facility, including planning, implementing, and reviewing performance, can greatly affect staff performance. This approach and other innovative ways to inspire and reward high performance by health staff must be introduced or reinforced at all levels of the MOH system to achieve the GOJ's goals.

- **Staff preparation and certification issues:**

  There is a large gap between pre-service education for physicians and midwives and the actual skills the MOH needs from these cadres. The continuous need for in-service training strains the capacity and resources of MOH and project staff. Also, there is no continuous medical education (CME) system to regularly update the skills and knowledge of existing health staff. In the absence of a formal CME structure, in-service training is not linked to certification requirements so there is little intrinsic motivation for providers to upgrade their skills. More attention to this issue and coordination among professional associations, the MOH, and other bodies is needed.

II. HOSPITAL OVERSIGHT ISSUES

USAID has expended considerable efforts through HSS II Bridge and predecessor projects to improve the quality and functioning of public hospitals in Jordan. However, there are still constraints to the continued high performance of these hospitals. A mechanism to increase systematic oversight, supervision, and review of performance in hospitals would greatly improve the sustainability of gains achieved to date and support continued improvements in the future. Constraints include:

- **Lack of a functioning central supervisory structure** to monitor and maintain overall quality and performance in individual hospitals. The MOH Hospital Administration at the central level is organized vertically around different functions, mimicking divisions within hospitals. This makes it difficult to supervise overall or program-specific performance in individual hospitals and directly affects the continued performance of FP, safe motherhood, and neonatal services.

- **No intermediary, decentralized structure** exists that could help MOH oversee performance of its individual hospitals, similar to the HD structure for primary health care. Even if the central level had a highly structured supervisory system, monitoring performance of 30 facilities across the whole Kingdom would be a huge logistic and operational challenge.

III. LOGISTIC/FINANCIAL CONSTRAINTS TO PERFORMANCE

There is a large discrepancy between operational planning and actual budget to achieve the planned activities. Central level Directorates and HDs do not have the funds to plan and manage budgets to accomplish their objectives, making them overly dependent on external financing such as project allocations for supervisory visits, meetings, and trainings. Without such external assistance, these directorates are often blocked from accomplishing their goals.

IV. CHALLENGES RELATED TO ACHIEVEMENT OF SPECIFIC HSS II BRIDGE PROJECT COMPONENTS

- **Expand access to equitable and sustainable facility-based FP services**

  The FP SDIC was successful in 24 HCs, with excellent leadership/support from WCHD and HDs. The MCH staff in the HDs will need to sustain these gains through consistent support and supervision. For national impact, they will also need to introduce the FP SDIC in more facilities. Due to the challenges in hospital management described above, the collaborative was not successful in improving hospital FP performance. A different approach will be needed in the future to consolidate gains in both inpatient and outpatient FP service delivery in hospitals. Due to financial and organizational constraints at the central and HD levels, ongoing training and regular performance reviews for FP will continue to depend on external support unless more budgetary and operational control is given to those levels.

  The current requirement that midwives can insert IUDs at HCs only if they are supervised by trained physicians limits access to this method. Clarification of the role of general

practitioners in supervising midwives in IUD insertion could greatly facilitate increased access to this service.

- **Strengthen the capacity of MOH and RMS hospitals to continue implementing best practices for maternal and newborn care**

  - Implementation of the preconception care model will require careful roll-out and attention to inter-directorate issues within the MOH since the different components are not within the mandate of any one directorate.

- **Strengthen the capacity of MOH to use data generated from different Health Management Information System (HMIS) to improve decision making and planning**

  - While the new data models and innovative visualization tools make it easier for program managers at all levels to use data for decision making, regional reviews of performance and other systematic review processes are still dependent on external support due to the financial constraints described above.

  - High staff turnover is a particular problem for IT since skilled IT personnel are highly prized in the private sector. This causes issues for IT and HMIS system maintenance.

  - The transition to use of an electronic medical records system in more hospitals and HCs (Hakeem) will create major disruptions for MOH HMIS systems. The MOH is not actively managing the interaction between these two different systems created to solve different problems. More coordination is urgently needed to develop a unified approach that serves the needs of central managers for program data and care of individual patients.

- **Assist the MOH to improve access to FP and reproductive health through CBOs**

  - While the project has strengthened the capacity of the two CBOs, they will still be dependent on external funding and possibly some intermittent technical support to accomplish their goals.

  - With support from HSS II Bridge, HDs have taken steps to encourage continued performance of CHCs. HDs have also taken steps to improve effective HC/CHC interaction. However, these steps are not consistent across all HDs and are hampered by the lack of logistic and budget support mentioned above.

V. ANNEXES

ANNEX 1:

INDICATOR MONITORING

The performance matrix below presents the final updates on all the indicators for the HSS II Bridge project.

1. OVERVIEW OF INDICATORS

Objective 1: Expand access to equitable and sustainable facility based FP services						
Objective 1 Indicators		**Baseline**	**Target**	**Data Source**	**Collection Frequency**	**Reporting to USAID Frequency**
1.1	Number of HCs adopting the FP SDI Collaborative[2]	0	24[3]	Project and MOH reports	Monthly	Quarterly
1.2	Number of hospitals adopting the FP SDI Collaborative	0	6		Monthly	Quarterly
1.3	% of post-partum women who are counseled on FP before discharge in the six intervention hospitals	71%	75% (+ 4 % from baseline)	Hospital Reports and OBGY logbooks	Monthly	Quarterly
1.4	% of post-partum women adopt LAM or a modern a FP method before discharge in the six intervention hospitals[4]	29%	33% (+ 4 % from baseline)		Monthly	Quarterly
1.5	Number of CYP in the 24[2] new HCs targeted by the project for adopting the FP SDI Collaborative	1043[5]	1,543 (+ 10 % from baseline)	Logistic System	Monthly	Quarterly
1.6	% of MOH HCs providing at least 4 modern FP methods	29%[6]	32% (+ 3 % from baseline)		Monthly	Quarterly
1.7	% of MOH HCs providing LARC (IUD or Implanon) services	35%[5]	38% (+ 3 % from baseline)		Monthly	Quarterly
1.8	% of 24[7] HCs and 6 hospitals targeted by the project for adopting the FP SDI Collaborative that experience a stock-out of a contraceptive method expected to be available at any time during the reporting period	HCs = 8% Hospitals (outpatient) = 16%	HCs = 0% Hospitals (outpatient) = 0%	Logistic System and facility stock logbooks	Monthly	Quarterly

[2] Family Planning (FP) Service Delivery Improvement (SDI) Collaborative
[3] In order to obtain good coverage of major population centers in each of the health directorates, MOH counterparts at the central and HD levels and the HSS II Bridge agreed to add four more HCs to the FP SDI Collaborative; the total therefore has been increased from 20 to 24 health centers.
[4] The wording of this indicator was improved to clarify that the figure is calculated from all postpartum women, and not only those who receive one-on-one counseling.
[5] This CYP figure for the 24 HCs is an average per month. Accordingly, the target figure is an average per month for the final quarter.
[6] Due to the three month lag between data collection and upload onto the LMIS at the MOH, the baseline period is the months of July, August and September, 2014.
[7] In order to obtain good coverage of major population centers in each of the health directorates, MOH counterparts at the central and HD levels and the HSS II Bridge agreed to add four more HCs to the FP SDI Collaborative; the total therefore has been increased from 20 to 24 health centers.

Objective 2: Strengthen the capacity of MOH and RMS hospitals to continue implementing best practices for MNC						
Objective 2 Indicators		**Baseline**	**Target**	**Data Source**	**Collection Frequency**	**Reporting to USAID Frequency**
2.1	Survival rate of neonates in 6 selected hospitals admitted to the NICUs and placed on CPAP	90%	Maintain	Medical Record/ Data Collection Forms	Monthly	Quarterly
2.2	% of women giving birth in 6 selected hospitals who received uterotonics in the third stage of labor according to AMTSL protocol	0%[8]	50%		Monthly	Quarterly
2.3	% of pregnancy-induced hypertensive women in 6 selected hospitals managed according to the clinical guideline	92%[9]	95% (+3% from baseline)		Monthly	Quarterly
2.4	Selected hospitals using confidential inquiries into maternal deaths and near misses to monitor the quality of maternal care	0	3	CI Data Collection Form	Monthly	Quarterly
2.5	Preconception care model designed (Milestone Indicator)	0	1	Project records	End of project	End of project
2.6	Conceptual framework for Maternal Mortality Surveillance system developed (Milestone Indicator)	0	1		End of project	End of project

[8] The period for the baseline figure of this indicator is January, 2015.
[9] The period for the baseline figure of this indicator is April-June, 2014.

Objective 4: Assist the MOH to improve access to family planning and reproductive health through community base organizations					
Objective 4 Indicators	**Baseline**	**Target**	**Data Source**	**Collection Frequency**	**Reporting to USAID Frequency**
4.1 Number of CBOs established with project support that are ready to provide FP services	0	2	Project records	End of project	End of project
4.2 Percent of CHCs participating in the FP SDI Collaborative that are promoting FP and healthy life styles in their catchment areas	0	24 CHCs	CHC action plans and activity records, monitoring visits	End of project	End of Project

2. PERFORMANCE MONITORING MATRIX

The grid below presents updates for indicators that are reported quarterly.

Result: 3.1.1: Access to, and quality of FP reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Baseline	Bridge Target	Results	
					Q	Data
1.1 Number of HCs adopting the FP SDI Collaborative	This is a quantitative indicator that measures the number of HCs that adopt the FP SDI Collaborative approach. An HC is considered an adopter of the collaborative approach if it fulfills the following criteria: 1. Participates in the Learning Sessions 2. Prepares a Change Package 3. Reports on its action period using the "storyboard"	*Data Source:* 1- Attendance sheets 2- Change packages 3- Storyboards *Method:* Data sources are reviewed by M&E staff. *Frequency:* Collected after each learning session.	0	24	Q1	24
					Q2	24
					Q3	24

Result: IR 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.2 Number of hospitals adopting the Collaborative Approach for improving FP services	This is a quantitative indicator that measures the number of hospitals that adopt the FP SDI Collaborative approach. A hospital is considered an adopter of the collaborative approach if it fulfills the following criteria: 1. Participates in the Learning Sessions 2. Prepares Change Package 3. Reports on its action period using the "storyboard".	*Data Sources:* 1- Attendance sheets 2- Change packages 3- Storyboards *Method:* Data sources are reviewed by M&E staff. *Frequency:* Collected after each learning session.	0	6	Q1	6
					Q2	6
					Q3	6

Result: IR 3.1.1: Access to, and quality of FP reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.3 % of post-partum women who are counseled on FP before discharge in the six intervention hospitals	This is a quantitative indicator that measures the percentage of post-partum clients receiving counseling for FP before discharge from selected public hospitals. *Numerator:* Number of post-partum clients receiving FP counseling before discharge at selected public hospitals during the quarter *Denominator:* Total number of post-partum clients at selected public hospitals during the quarter	*Data Source:* OB/GYN FP logbooks *Method:* Aggregate data are collected from the FP logbooks by the FP Specialist & EOC Specialist *Frequency:* Collected on monthly basis and reported quarterly.	71%	75%	Q1	Baseline=71%
					Q2	77%
					Q3	70%[10]

[10] This figure includes the month of Ramadan, which usually records a dip in FP performance indicators.

Result: IR 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.4 % of all post-partum women who adopt LAM or a modern a FP method before discharge in the six intervention hospitals	This is a quantitative indicator that measures the percentage of postpartum clients receiving modern FP methods before discharge from selected public hospitals. Modern methods include: LAM, pills, IUD, Implanon, tubal ligation, condoms. A postpartum client is included in the numerator of this indicator if she receives any of the aforementioned modern methods before discharge from the hospital. <u>Numerator:</u> Number of post-partum women receiving modern FP methods before discharge at selected public hospitals during the quarter <u>*Denominator:*</u> Total number of post-partum women at selected public hospitals during the quarter	*Data Source:* OB/GYN FP logbooks *Method:* Aggregate data are collected from the FP logbooks by the FP Specialist & EOC Specialist *Frequency:* Data are collected on a monthly basis and reported quarterly.	29%	33%	Q1	Baseline=29%
					Q2	33.6%
					Q3	30%[11]

[11] This figure includes the month of Ramadan, which usually records a dip in FP performance indicators.

Result: 3.1.2: Demand for family planning and reproductive health services increased						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.5 Number of CYP in the 24 new HCs targeted by the project for adopting the FP SDI Collaborative	CYP is the estimated protection provided by contraceptive methods during a one-year period, based upon the volume of all contraceptives sold or distributed free of charge to clients during that period.	*Data Source:* Logistics System data collection forms. *Method:* CYP figures are based on the numbers of FP methods dispensed in each HC that are recorded in the logistics logbook. The reported figure for each quarter is the average CYP per month for the quarter in question. The figures are calculated using USAID's CYP factors per method. *Frequency:* Data are collected monthly and reported to USAID quarterly.	1,403[12]	1,543	Q1	Baseline=1,403
					Q2	2,003
					Q3	2,216

[12] The baseline calculation is the average CYP in October, November and December of 2014. The Bridge began in November.

Result: IR 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.6 % of MOH HCs providing at least 4 modern FP methods	This is a quantitative indicator that measures the percentage of all MOH HCs providing a range of modern FP methods, with a minimum of 4 modern methods. This indicator assures that clients have a wider choice of method selection that meets their needs and desires. A HC will be considered if at least four modern FP methods are provided to FP clients; modern methods are IUD, OCs, Condom, injectables and implants. *Numerator:* Number of HCs providing at least 4 modern FP methods during the quarter *Denominator:* Total number of MOH HCs providing FP services during the quarter	*Data Source:* Logistic information system *Method:* Data are accessed from the online LMIS. *Frequency:* Data are collected quarterly.	29%	32%	Q1	Baseline=29%[13]
					Q2	34%[14]
					Q3	33[15]%

[13] Due to the three month lag between data collection and upload onto the LMIS at the MOH, the months of July, August and September, 2014 were used to calculate the baseline.
[14] Q2 data are for the months of October, November and December, 2014.
[15] Q3 data are for the months of January, February and March, 2014.

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.7 % of MOH HCs providing LARC (IUD or Implanon) services	This is a quantitative indicator that measures the percentage of HCs providing long-acting FP methods. This indicator assures that clients are able to receive long-acting (and more secure) FP methods. A HC will be considered providing long acting methods if it is providing IUDs or implants. *Numerator:* Number of HCs providing long acting FP methods (IUD or Implanon) during the quarter *Denominator:* Total number of MOH HCs providing FP services during the quarter	*Data Source:* Logistic information system *Method:* Data are accessed from the online LMIS. *Frequency:* Data are collected quarterly.	35%	38%	Q1	Baseline=35%
					Q2	39%
					Q3	38%

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
1.8 Percent of 24 HCs and 6 hospitals targeted by the project for adopting the FP SDI Collaborative Approach for improving FP services that experience a stock out of a contraceptive method expected to be available	This indicator measures the number of centers that experience a stock-out of FP methods at the HC. A stock out is defined as one day in which a method was not available. A center has to experience at least one incident of stock-out to be counted in the indicator. A center is counted once even if it experiences more than one stock-out per period. *Numerator:* Number of HCs and hospitals providing FP methods that experience a stock-out during the quarter *Denominator:* Total number of HCs and hospitals participating in the collaborative and which are providing FP services during the quarter. (The denominator for the target is 24 HCs and 6 hospitals)	*Data Source:* Inventory forms (already in use) at the HCs and inventory forms at hospitals *Method:* Data are aggregated from the inventory forms and entered into a data tool created by HSS II Bridge. *Frequency:* Data are collected monthly and reported to USAID quarterly.	HCs = 8% Hospitals (outpatient)= 16%	HCs = 0% Hospitals (outpatient) = 0%	Q1	HCs=8% Hospitals =16%
					Q2	HCs=0% Hospitals =0%
					Q3	HCs = 0% Hospitals = 0%

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
2.1 Survival rate of neonates in 6 selected hospitals admitted to the Neonatal Intensive Care Units and placed on CPAP	This is a quantitative indicator that measures the percentage of neonates admitted to the intensive care units at selected hospitals that are placed on CPAP and discharged alive. This includes inborn and referred cases. A surviving newborn is a neonate admitted to the NICU for any medical or surgical intervention and discharged home alive after completing the required hospitalization period. *Numerator:* Neonates discharged alive after being admitted to the NICU and placed on CPAP during the quarter *Denominator:* Total neonates admitted to the NICU who are placed on CPAP during the quarter	*Data Source:* Neonate Log Book *Method:* The logbook is reviewed and the relevant numbers are aggregated. *Frequency:* Data are collected monthly and reported quarterly.	90%	92%	Q1	Baseline= 90%[16]
					Q2	78%[17]
					Q3	86%

[16] Excludes two hospitals: Badia and Karak. These hospitals did not have appropriate documentation of survival rate numbers for CPAP cases for those months in order to include in the baseline.
[17] Please refer to section 2.3 in the Q2 narrative report for an explanation of the drop in neonatal survival rates for CPAP cases.

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
2.2 % of women giving birth in 6 selected hospitals who received uterotonics in the third stage of labor according to AMTSL protocol	This is a quantitative indicator that measures the percentage of women giving birth in the selected hospitals who are managed according to the AMTSL protocol. A women is managed according to the AMTSL protocol if all the following criteria are met: 1- Administration of uterotonic agents 2- Controlled cord traction 3- Uterine massage after the delivery of the placenta *Numerator:* Number of women giving birth in the selected hospitals who received uterotonics in the third stage of labor according to AMTSL protocol[18] *Denominator:* Number of women giving birth in the selected hospitals during the quarter. (Only women giving normal birth will be included the denominator. Caesarian cases will be excluded.)	*Data Source:* Medical record *Method:* A sample of medical records are collected and reviewed. Results of each reviewed record are recorded in a data collection form prepared by HSS II Bridge. *Frequency:* Data are collected monthly and reported quarterly.	0%	50%	Q1	Baseline = 0%
					Q2	20%
					Q3	42%

[18] While AMTSL protocol includes three criteria, the HSS II Bridge is required to report on the first criteria only (% of cases receiving uterotonic drug according to AMTSL protocol) in this section. Please note that the results of the other two criteria are reported in the report narrative (see chart in section 2.1)

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Target	Results	
					Quarters	Data
2.3 % of pregnancy-induced hypertensive women in 6 selected hospitals managed according to the clinical guideline	This is a quantitative indicator that measures the percentage of PIH patients managed according to the clinical guidelines. A PIH patient will be considered as managed according to the clinical guidelines if the following management procedures were performed: - Examination: Checked blood pressure, reflexes, FHS according to guidelines. - Investigations: Checked for urine albumin upon admission. - Active Management: Administered Magnesium Sulfate according to guidelines. <u>Numerator:</u> Number of women admitted to hospital with PIH who are managed according to clinical guidelines during the quarter <u>Denominator</u>: Number of women admitted to hospital with PIH during the quarter	Hospital obstetric records, PIH form, PIH Logbook	92%	95%	Q1	99%
					Q2	100%
					Q3	97%

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.						
Performance Indicator	Definition	Data Source, Method & Frequency	Base Line	Bridge Target	Results	
					Quarters	Data
2.4 Selected hospitals using confidential inquiries into maternal deaths and near misses to monitor the quality of maternal care	This is a quantitative indicator that measures the percentage of hospitals utilizing confidential inquiries into maternal deaths and near misses according to guidelines. A hospital will be considered as implementing CI into maternal deaths and near misses if it fulfills the following criteria: 1) All cases of maternal deaths are audited according to the CI inquiry surveillance cycle 2) 75% of cases of obstetric: hemorrhage, severe-preeclampsia and eclampsia are audited according to the near misses review cycle 3) data should be collected and investigation done on monthly basis. *Numerator:* Number of hospitals utilizing CI into maternal deaths and near misses *Denominator:* Total number of hospitals trained on using the Confidential Inquiries into maternal deaths and near misses	*Data Source:* CI Data Collection Form / Hospital SMCs minutes of meetings *Method:* CI forms are received from the hospitals for each month. *Frequency:* Forms are completed monthly and reported to USAID quarterly.	0/6[19]	3/6	Q1	Baseline = 0/6
					Q2	0/6
					Q3	4/6

[19] Three out of six hospitals reported they met the first criterion for this indicator, but none reported that they audited near misses (criterion 2).

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.					
Performance Indicator	Definition	Data Source, Method & Frequency	Baseline	Bridge Target	Results
2.5 Preconception care model designed	Preconception care is care received before a woman becomes pregnant. It involves identifying and addressing problems that might affect the woman and her child, including diabetes or high blood pressure. It also involves steps which can be taken to reduce the risk of birth defects; for example addressing anemia and encouraging the use of iron and folic acid. Birth spacing is one of the key elements of this model. This is a binary indicator: model for MMSR system developed / model for MMSR system not developed.	*Data Source:* The final Preconception Care Model. *Method:* The model will be delivered to USAID as one of the contract deliverables. *Frequency:* Once. Delivered at the end of the project.	0	1	1

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.					
Performance Indicator	Definition	Data Source, Method & Frequency	Baseline	Bridge Target	Results
2.6 Conceptual framework for Maternal Mortality Surveillance System developed	The Material Mortality Surveillance and Response (MMSR) system includes maternal death identification, reporting, review and response and can provide the essential information to stimulate and guide actions to prevent future maternal deaths and improve the measurement of maternal mortality. This is a binary indicator: Model for MMSR system developed / model for MMSR system not developed.	*Data Source:* The final Conceptual Framework for the Maternal Mortality Surveillance System. *Method:* The Conceptual Framework for the Maternal Mortality Surveillance System will be delivered to USAID as one of the contract deliverables. *Frequency:* Once. Delivered at the end of the project.	0	1	1

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.					
Performance Indicator	Definition	Data Source, Method & Frequency	Baseline	Bridge Target	Results
4.1 Number of CBOs established with project support that are ready to provide FP services	This is a quantitative indicator that measures whether the number of new community based organizations that were established for the purpose of providing FP services. A CBO meets is counted as part of this indicator if the following criteria have been fulfilled: 1- The CBO has been officially established. This means that the CBO has the necessary registration documents from the MOH and Ministry of Social Development. 2- The CBO has a clear Scope of Work specifying its functions. 3- The CBO has defined Standard Operating Procedures that govern the way the CBO is managed. 4- 4- The CBO has a business plan outlining its funding source and marketing approach.	*Data Source:* CBO documentation *Method:* Review of CBO documentation *Frequency:* Once; end of project deliverable	0	2	2

Result: 3.1.1: Access to, and quality of, family planning reproductive health and maternal health services improved.					
Performance Indicator	Definition	Data Source, Method & Frequency	Baseline	Bridge Target	Results
4.2 Percent of CHCs participating in the FP SDI Collaborative that are promoting FP and healthy life styles in their catchment areas	This is a quantitative indicator that measures the percent of active CHCs in HDs from 24 focal CHCs.	*Data Source:* Review of CHCs records and the MCH system at the respective HC. (The MCH system is needed to measure new family planning visits.) *Method:* On-site review of CHC documentation *Frequency:* Annually	0	24	23/24 or 96%

ANNEX 3:

IN-COUNTRY PARTICIPANT TRAINING ACTIVITIES FOR HSS II BRIDGE

Title of the Training Activity	Training Provider	Start Date	End Date	Duration (in Days)	No. of Males	No. of Females	Total No. of Participants	Estimated Cost in US$
Family Planning Service Delivery Improvement Collaborative (FP SDIC) in HCs / Learning Session 1	HSS II Bridge	15-Dec-14	16-Dec-14	2	5	23	28	693
		22-Dec-14	23-Dec-14	2	6	17	23	500
		22-Dec-14	23-Dec-14	2	11	23	34	785
		22-Dec-14	23-Dec-14	2	13	12	25	550
		22-Dec-14	23-Dec-14	2	3	19	22	495
		22-Dec-14	23-Dec-14	2	7	18	25	590
		19-Jan-15	19-Jan-15	1	5	15	20	218.93
FP SDIC in HCs / Learning Session 2	HSS II Bridge	18-Feb-15	18-Feb-15	1	4	22	26	456.11
		23-Feb-15	23-Feb-15	1	8	11	19	287.41
		24-Feb-15	24-Feb-15	1	6	20	26	395.38
		25-Feb-15	25-Feb-15	1	5	15	20	270.34
		26-Feb-15	26-Feb-15	1	9	19	28	403.62
		2-Mar-15	2-Mar-15	1	2	20	22	340.74
FP SDIC in HCs / Learning Session 3	HSS II Bridge	14-Apr-15	15-Apr-15	2	6	24	30	139.83
		19-Apr-15	20-Apr-15	2	12	14	26	264.83
		20-Apr-15	21-Apr-15	2	6	16	22	352.26
		22-Apr-15	23-Apr-15	2	10	13	23	664.55
		26-Apr-15	27-Apr-15	2	3	17	20	310.73
		2-Jun-15	2-Jun-15	1	0	10	10	101.34
		22-Apr-15	23-Apr-15	2	7	16	23	262.71
FP SDIC in Hospitals / Learning Session 1	HSS II Bridge	6-Jan-15	7-Jan-15	1	5	25	30	249.21
FP SDIC in Hospitals / Learning Session 2	HSS II Bridge	4-Mar-15	4-Mar-15	1	2	24	26	217.51

Title of the Training Activity	Training Provider	Start Date	End Date	Duration (in Days)	No. of Males	No. of Females	Total No. of Participants	Estimated Cost in US$
FP SDIC in Hospitals / Learning Session 3	HSS II Bridge	13-May-15	13-May-15	1	0	19	19	20.34
Community Activation Cycle on FP	HSS II Bridge	29-Dec-14	29-Dec-14	1	14	9	23	303
		13-Jan-15	13-Jan-15	1	5	12	17	134.20
		5-Jan-15	5-Jan-15	1	6	12	18	135.78
		6-Jan-15	6-Jan-15	1	2	13	15	134.29
		13-Jan-15	13-Jan-15	1	5	11	16	145.34
		14-Jan-15	14-Jan-15	1	21	15	36	240.50
		18-Jan-15	18-Jan-15	1	11	9	20	172.84
		20-Jan-15	20-Jan-15	1	15	32	47	290.36
		25-Jan-15	25-Jan-15	1	6	10	16	126.97
		26-Jan-15	26-Jan-15	1	11	15	26	237.41
		28-Jan-15	28-Jan-15	1	22	38	60	498.05
		2-Feb-15	2-Feb-15	1	11	23	34	255.70
		3-Feb-15	3-Feb-15	1	1	18	19	182.56
		5-Feb-15	5-Feb-15	1	6	9	15	136.69
		8-Feb-15	8-Feb-15	1	17	18	35	267.16
		9-Feb-15	9-Feb-15	1	7	8	15	122.57
		10-Feb-15	10-Feb-15	1	5	16	21	250.69
		11-Feb-15	11-Feb-15	1	7	10	17	139.85
Contraceptive Technology Update including Physicians Supervising Midwives Providing IUD Services	MOH	11-Feb-15	11-Feb-15	1	15	2	17	497.18
	HSS II Bridge	7-Apr-15	7-Apr-15	1	17	3	20	186.45
	MOH	26-May-15	26-May-15	1	13	1	14	146.90
	MOH	7-Jun-15	7-Jun-15	1	5	0	5	0.0

Title of the Training Activity	Training Provider	Start Date	End Date	Duration (in Days)	No. of Males	No. of Females	Total No. of Participants	Estimated Cost in US$
IUD Training for Physicians and Midwives	MOH	18-Jan-15	22-Jan-15	5	0	12	12	1003.53
	HSS II Bridge	26-Apr-15	30-Apr-15	5	2	9	11	1,300.99
IUD Refresher Training	MOH	19-Apr-15	19-Apr-15	1	0	8	8	29.66
Jordan Logistics System for Modern Contraceptives	MOH	8-Feb-15	10-Feb-15	3	0	19	19	1053.67
		10-May-15	12-May-15	3	0	18	18	176.56
Long Acting Hormonal Contraceptives: Contraceptive Implants Training	HSS II Bridge	24-Feb-15	26-Feb-15	3	10	4	14	550.85
Orientation on Standards for Postpartum / Post-Miscarriage FP Services	HSS II Bridge	11-Mar-15	11-Mar-15	1	3	33	36	110.00
Strategic Planning	HSS II Bridge	4-Feb-15	4-Feb-15	1	3	7	10	97.00
Use of Workload Indicator for Staffing Needs (WISN) Tool	HSS II Bridge	24-Mar-15	24-Mar-15	1	14	8	22	163.14
		25-Mar-15	25-Mar-15	1	9	10	19	146.89
FP Counseling	MOH	14-Apr-15	16-Apr-15	2	0	12	12	76.27
		18-May-15	21-May-15	4	0	18	18	539.47
		1-Jun-15	4-Jun-15	4	0	24	24	586.94
		7-Jun-15	10-Jun-15	4	0	20	20	388.56
		8-Jun-15	11-Jun-15	4	0	25	25	592.59

Title of the Training Activity	Training Provider	Start Date	End Date	Duration (in Days)	No. of Males	No. of Females	Total No. of Participants	Estimated Cost in US$
Orientation on Standards for Postpartum / Post-Miscarriage FP Services	HSS II Bridge	24-Jun-15	24-Jun-15	1	0	23	23	0.0
Training of Trainers (TOT) on Modified FP Counseling Training Curriculum	HSS II Bridge	11-May-15	11-May-15	1	0	20	20	57.20
Total					**398**	**891**	**1,364**	**20,246.68**

ANNEX 4:

TDY SCHEDULE FOR QUARTER 4

Name of Consultant	Component	Proposed Dates	Estimated LOE (work days)	Purpose of the Visit (SOW)	Status
Patrice White American College of Nurse Midwives	Components 1 and 2	January 15-24, 2015 May 3-12, 2015	20 (2 visits)	▪ Support institutionalization of midwifery core competencies as MOH policy; assist with AMTSL approach	Completed
Adel Hakim Maternal Mortality Surveillance and Response Consultant - Egypt	Component 3	January 4 - 12, 2015 April 1 – 9, 2015	18	▪ Identifying the current, baseline steps in the Jordanian health sector regarding the diagnosis, documentation, and investigation of maternal mortality cases at facilities or in homes and the respective procedures at the district, governorate, and central levels. ▪ Review of both local and international material, documents, and technical guidance related to MMSR. ▪ Assist in outlining the required policies, procedures, resources, mandates, data models, and a national maternal mortality register to transform the designed MMSR model into an implemented and monitored system across the Kingdom.	Completed first visit; second visit cancelled

Name of Consultant	Component	Proposed Dates	Estimated LOE (work days)	Purpose of the Visit (SOW)	Status
Rebecca Sheridan Senior Finance and Contracts Manager / Abt Associates Inc.	Cross Cutting	July 15-24, 2015	10	▪ Assist with review of project systems and processes, including budgeting and reporting	Completed
Abigail Donner Technical Project Officer / Abt Associates Inc.	Cross Cutting	August 21-30, 2015	7	▪ Assist in preparation of technical reports	Cancelled

ANNEX 5:

LIST OF HSS II BRIDGE PROJECT COUNTERPARTS

MINISTRY OF HEALTH	
MOH Central Administrations	
1.	Planning Administration
2.	Primary Health Care Administration
3.	Health Directorates Administration
4.	Administrative Affairs Administration
5.	Hospital Administration
MOH Central Directorates	
6.	Woman and Child Health Directorate
7.	Directorate of Planning and Project Management
8.	Project Management Department
9.	Quality Directorate
10.	Health Communications and Awareness Directorate
11.	Information Technology Directorate
12.	Information, Research and Studies Directorate
13.	Human Resources Development Directorate
14.	Employee Affairs Directorate
15.	Legal Affairs Directorate
16.	Chief of Ob/Gyn Specialty
17.	Chief of Pediatrics Specialty
18.	Chief of Midwifery and Nursing Specialty
19.	Communicable Diseases Directorate
ROYAL MEDICAL SERVICES	
20.	Planning and Information Department
21.	Chief of Ob/Gyn Specialty
22.	Chief of Neonatology
23.	Nursing Director
24.	Training Programs Coordinator
HIGHER POPULATION COUNCIL	
25.	Secretary General

ANNEX 6:

LIST OF HEALTH CENTERS AND HOSPITALS PARTICIPATING IN THE FAMILY PLANNING SERVICE DELIVERY IMPROVEMENT COLLABORATIVE (FP SDIC)

No.	FP SDIC Health Center (HC) Name	Governorate
1.	Ajloun HC	Ajloun
2.	Pr. Hasan (Kofranja) HC	Ajloun
3.	Ain Al-Basha HC	Balqa
4.	Al Baqee' HC	Balqa
5.	Mobis HC	Balqa
6.	Al-Subaihi HC	Balqa
7.	Al-Sareeh HC	Irbid
8.	Kofor Youba HC	Irbid
9.	Al-Razi HC	Irbid
10.	Ibn Sina HC	Irbid
11.	Wadi Al-Seer HC	Amman
12.	Al-Thraa' (Hay Nazzal) HC	Amman
13.	Al-Naser HC	Amman
14.	Princess Basma HC	Amman
15.	Al-Hashmi Al-Shamali HC	Amman
16.	Al-Tatweer Al-Hadari (Yajooz) HC	Zarqa
17.	Hay Al-Rasheed CHC	Zarqa
18.	Prince Hamza (Zawahreh) HC	Zarqa
19.	Al-Musherfeh HC	Zarqa
20.	Al-Qadesiyyeh HC	Jarash
21.	Sakeb HC	Jarash
22.	Manshiet Abu-Hammor HC	Karak
23.	Mo'ab HC	Karak
24.	Mo'tah HC	Karak

No.	FP SDIC Hospital Name	Governorate
25.	Al-Bashir Hospital	Amman
26.	Al-Hussein (Salt) Hospital	Balqa
27.	Prince Faisal hospital	Zarqa
28.	Mafraq Ob/Gyn Hospital	Mafraq
29.	Princess Badia Hospital	Irbid
30.	Karak Hospital	Karak

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ANNEX 7:

MODEL FOR THE JORDAN MATERNAL MORTALITY SURVEILLANCE AND RESPONSE SYSTEM (JMMSRS)

Disclaimer
The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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FOREWORD

THE HASHEMITE KINGDOM OF JORDAN
MINISTRY OF HEALTH (MOH)

المملكة الأردنية الهاشمية
وزارة الصحة

Over the past few decades, Jordan has made substantial progress in improving maternal health, and although the maternal mortality ratio has decreased, there are still challenges to achieving the fifth Millennium Development Goal.

Existing references all indicate that the majority of maternal deaths are preventable. However, measurement and analysis of maternal mortality at the national level remained a challenge due to discrepancy in results from previous studies, which prevented accurate analysis of avoidable factors and hindered progress in averting maternal deaths. A new continuous action cycle system was needed to promptly track all maternal deaths, identify their causes and stimulate a response process to prevent future deaths.

As a preliminary step towards implementing such a system, a model was developed for the "Jordan Maternal Mortality Surveillance and Response System" with the aim to further contribute in reducing the maternal mortality by eliminating preventable maternal deaths through a continuous surveillance system that not only tracks the number of deaths, but also provides information about the underlying contributing factors and how they should be tackled.

This model was developed and prepared for implementation by the Ministry of Health with support from the USAID-funded Health Systems Strengthening II (HSS II) Bridge project and other key stakeholders.

The model, in combination with resource allocation, supportive policies and synergy among different partners and stakeholders at all levels of the health care system, will be a driving force to eliminate preventable maternal deaths in Jordan.

Given that maternal mortality continues to be a global issue, through this system Jordan is taking a clear stand and making the decision that every mother's life counts, and with this decision not only mothers' lives are saved, but also the lives and well-being of families, communities and future generations.

Minister of Health

Dr. Ali Hyasat

ACKNOWLEDGEMENT

We would like to express our deepest gratitude to the "Maternal Mortality Surveillance and Response System Steering Committee" particularly His Excellency Dr. Deifallah Al-Louzi, MOH Secretary General and Chair of the committee for his wise leadership and continuous support throughout the model development process.

We also extend our sincere appreciation to all the committee members, mentioned in the contributors list, for their expertise and enthusiasm to complete this model. We also highly value the significant contributions of other relevant stakeholders who have truly made this process a national effort.

We would also like to acknowledge the positive interaction and remarks we received from service providers working in maternal and forensic medicine departments at hospitals, with their cooperation this document was tailored to meet Jordan national goals in the coming years.

Special acknowledgement is dedicated to the international organizations who have provided the needed references and technical guidelines to develop this model for Jordan, particularly the WHO, UNFPA UNICEF, UN Population Fund and the World Bank.

Last but not least, the hard-working HSS II Bridge staff would not have been able to achieve any of this without the exceptional guidance and support from USAID.

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Acronyms

CSPD	Civil Status and Passport Department
DAG	Directorate Advisory Group
DNF	Death Notification Form
FMD	Forensic Medicine Department
HD	Health Directorate
JMMSRS	Jordan Maternal Mortality Surveillance and Response System
M&E	Monitoring and Evaluation
MDR	Maternal Death Review
MOH	Ministry of Health
MOI	Ministry of Interior
NAG	National Advisory Group
NCD	Non-communicable Diseases Directorate
WHO	World Health Organization
WRA	Women of Reproductive Age

BACKGROUND

The maternal death presents a global challenge for countries all over the world, an estimated 300 000 women die annually due to maternal causes according to *the institute for global health*. On other words 300 000 families are affected on annual bases. Numbers are of extreme importance to the health authorities and all available numbers lie on estimates with limited accuracy. More than half of the world's maternal deaths are not documented. This provides a major block not only in terms of actual maternal deaths reported ,but also reflect on the absence of analysis of causes of death for the available data. As a result, the health planning and prioritization is affected to a great extent. The data availability varies between countries out of 180 countries, 27 have no data, 88 lack complete data and 65 have complete data. Over 80% of all births occur in countries where maternal causes of death data do not exist or are incomplete.

Jordan is part of the countries that have incomplete data. According to local estimates resulting from surveys, Jordan maternal mortality ratio was reduced from 41/100000 (year 1995) to 19/100000 (year 2008). The WHO Jordan maternal mortality ratio for the same period was estimated 73/100000, reduced to 58/100000 at the same period. According to ranking issued by *Trends in maternal mortality 1990 to 2013 estimated by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division* , World percentage change in MMR between 1990 and 2013 is (-45), Jordan percentage change is (-41). Jordan achievement is modest compared to the world's percentage change and other neighboring countries, in addition to its own potential on the currently available national data.

Therefore the need for a continuous surveillance process is recognized. There is a gap where in many settings what we don't know, limits us from eliminating preventable maternal deaths. The gap needs to be narrowed and the solution lies in obtaining and using information on each maternal death case continuously to guide the health system strategies and monitor the impact.

Jordan's collective efforts towards improving maternal health and reducing maternal morbidity and mortality have achieved successful milestones in many areas. Upgrading of physical infrastructure of 20 obstetrics departments in public sector hospitals, procuring essential and state of the art medical equipment, developing human resources for safe motherhood, and establishing and strengthening a cluster of health systems to support and enhance maternal health, all improved maternal health indicators and positioned the country to achieve some of its national goals. In addition to the aforementioned, Jordan has many systematic pillars that support the establishment of MMSR:

1. The heath system has well recognized interaction among central MOH and its directorates.
2. Jordan has multiple well established surveillance systems ex. Cancer national registry, suggesting the availability of the expertise and capacity.
3. Almost 99% of births take place in hospitals.
4. All deaths are reported to hospitals as per General Health Law قانون الصحة العامة
5. The hospitals and Forensic Medicine Department (FMD) are the only entities entitled to issue a death notification form.

Jordan is now ready for the next step in eliminating preventable maternal deaths. A vital component of any elimination strategy is a continuous surveillance system that not only tracks the number of deaths, but also provides information about the underlying contributing factors and how they should be addressed. Maternal Mortality Surveillance and Response "MMSR" is a model of such a system.

Goals and Objectives

The primary goal of the JMMSRS is to eliminate preventable maternal mortality by obtaining and using information on each maternal death to guide the health system strategies and monitor their impact.

Specific Objectives:

1. Measure and track all maternal deaths in real time.
2. Identify the underlying factors contributing to death.
3. Guide immediate and long-term responses and strategies to prevent future deaths.

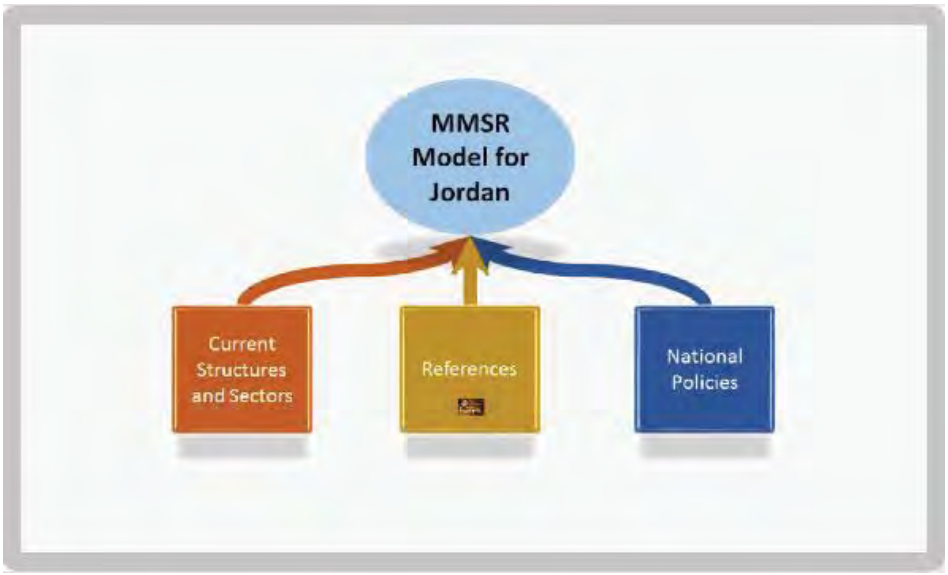
Baseline Situation of Recording Deaths in Jordan

In Jordan, mortality reporting is based on information from death notification forms (DNF) reported from the 12 governorates of Jordan. In June 2003, a new death notification reporting system was implemented in Jordan in which death notification forms are reported to the Civil Status and Passport Department (CSPD) of the Ministry of Interior (MOI) and to the Directorate of Information, Research and Studies at the Ministry of Health (currently to the national registry for diseases and mortality department in the MOH Non-Communicable Diseases Directorate). The updated DNF includes a specific section where a physician records whether the death is of a woman of reproductive age, pregnant, or within 42 days of termination of pregnancy.

Guidelines were developed on completion of death notification forms and these were distributed to all health institutions and physicians in Jordan. The DNF has two copies, and after being completed by hospitals or forensic medicine department, one copy is taken to the CSPD by the family, while the second copy is sent by the hospital to the Directorate of Information, Research and Studies for coding, data entry, and analysis.

This assessment was the basis to design the JMMSRS and its first step is to capture all deaths of women in reproductive age either occurring in a hospital setting or in the community outside of a health facility.

KEY COMPONENTS OF MMSR MODEL



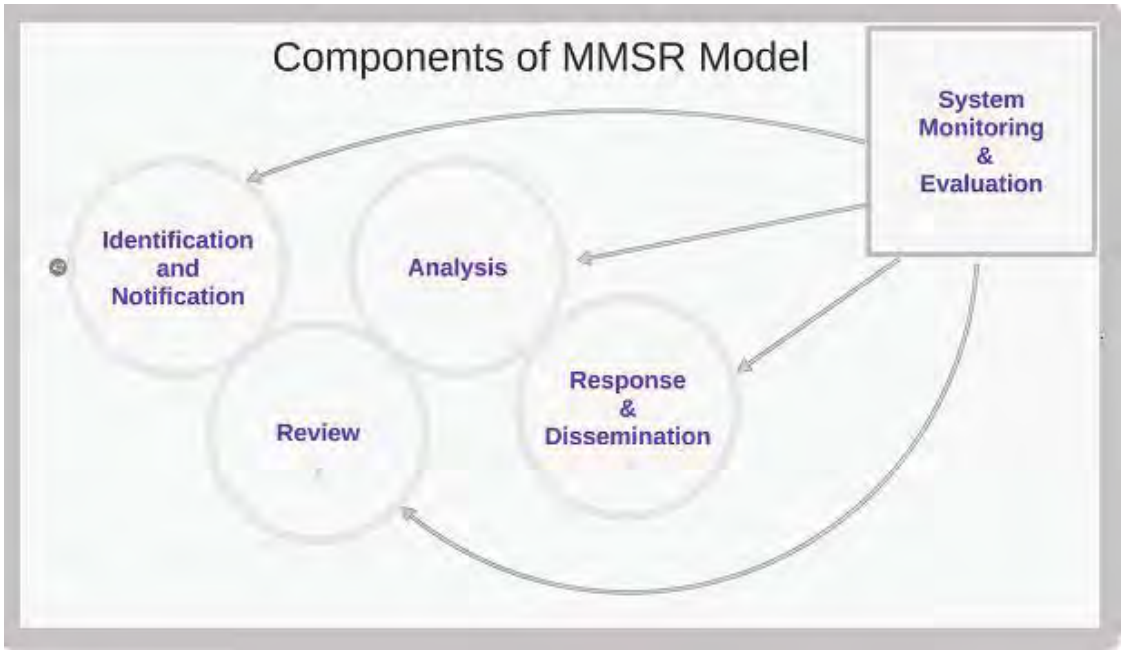
Annex 7 - Figure 1: MMSR model for Jordan

The JMMSRS framework was formed taking into consideration the baseline situation mentioned earlier, the existing national policies which concerns the general heath and latest world-class references .Several reference where reviewed prior to framework formation two of which were the main building blocks of them , *Maternal death surveillance and response: technical guidance information for action to prevent maternal death*. Geneva, World Health Organization, 2013 and *Trends in maternal mortality: 1990 to 2013 estimated by WHO, UNICEF, UNFPA, The World Bank and the United Population Division*
Refer to figure 1

The JMMSRS framework consists of four main components and a fifth which integrates with each of the four, these components include:

1. Identification and notification of maternal deaths
2. Maternal death review "MDR"
3. Analysis and interpretation
4. Response and Dissemination of results and recommendations
5. Monitoring and evaluation (M&E) of JMMSRS

Refer to figure 2.



Annex 7 - Figure 2: Components of MMSR Model

The framework addresses three main levels of responsibility and distributes roles accordingly. Those levels are recognized as level one at the facility, level two at Health directorate in each governorate and level three at the central MOH – Non Communicable Diseases department (NCD).

1) Identification and Notification of Maternal Death:

The investigation of deaths of women of reproductive age is an important strategy to qualify data on maternal mortality and identify maternal death. Accordingly, the first step in the surveillance process requires that all death cases among women of reproductive age (WRA), between 15 and 49 years, are regularly documented, aggregated and reported.

The first step in documenting and reporting a death is completing the death notification form. DNF[20] for deaths that occur either in the hospital or in the community is completed on daily basis by hospitals and/or forensic medicine departments (FMDs), and sent to the health directorate in the respective governorate. Refer to figure 3

For the JMMSRS, hospitals and (FMDs) are required on daily basis to create lists of all WRA death cases and report them to their corresponding MOH Health Directorate (HD) within 24 hours of death. The accumulated list of all deaths during the week is then sent also to the HD on weekly basis.

[20] According to the current system, DNFs are issued either by hospitals or FMDs. Despite having a compulsory system of registering death, the JMMSRS is designed to eliminate inconsistencies when reporting cases of WRA deaths from both the hospitals and FMDs.

A suspected maternal death is defined, according to WHO, as the "death of any woman while pregnant or within 42 days of the termination of pregnancy. Reporting from hospitals and FMDs will include zero reporting; it is essential that such entries are not left blank, but instead a "zero" is recorded when no deaths occur in order to demonstrate active surveillance.

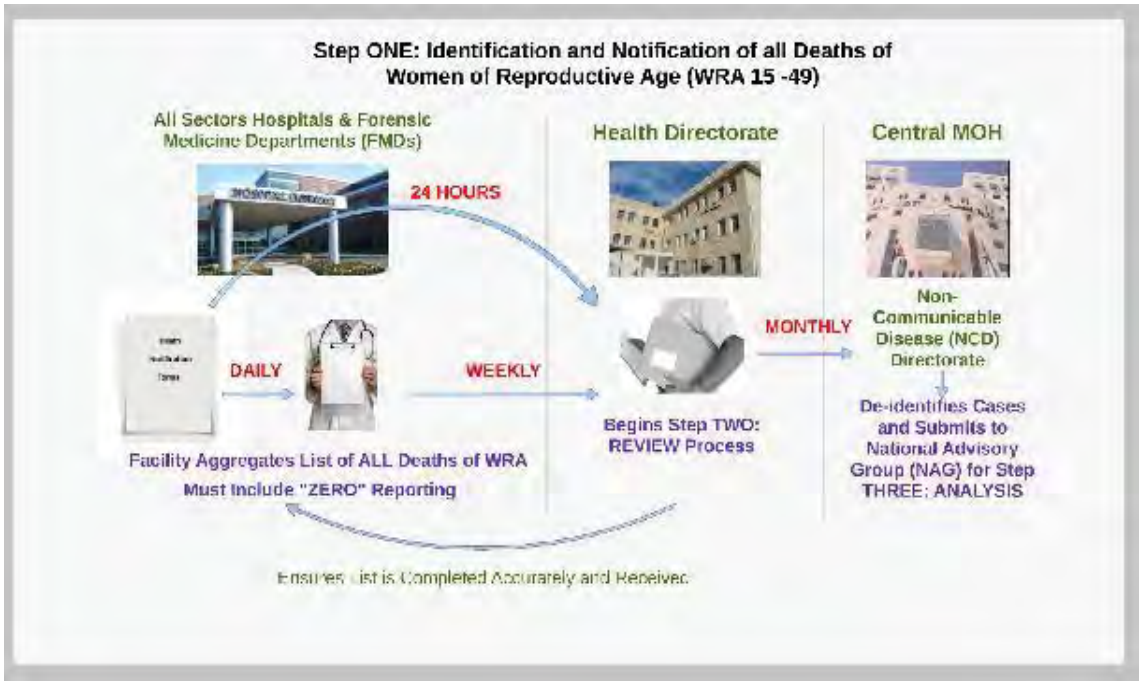
At the HD level, the process of identifying a maternal death starts by:

- Checking on daily basis the death logs and other records reported from both hospitals and FMDs from the previous 24 hours , and

- Ensuring lists are completed accurately and received from all respective health providers under the directorate.

This step will result in a listing of deaths of all WRA to ensure no maternal deaths are missed. If there is evidence that the woman was pregnant or within 42 days of the end of a pregnancy, the death will be notified as a suspected maternal death to the next higher level (Central MOH, Non Communicable Diseases Directorate) and will trigger the start of a full maternal death review process.

- The HD sends the accumulated lists of the suspected maternal deaths from all health facilities at its governorate to the central MOH on monthly basis to begin the maternal death review.



Annex 7 - Figure 3: Identification and Notification of Maternal Death

2) Maternal Death Review:

Maternal death reviews (MDR) begin immediate after a notification of suspected maternal deaths takes place. MDR is an essential component of JMMSRS and will include a qualitative, in-depth investigation of the causes of, and circumstances surrounding each maternal death that occurred in both healthcare facilities and communities.

MDR prerequisites include confidential and participatory approaches that aim to improve quality of care rather than to blame or punish. WHO recommends that each case of maternal death be reviewed with the following objectives:

1. Verify completeness and accuracy of the MDR report and request additional information if needed
2. Determine causes of death, identify preventable areas and associated factors, and suggest interventions

The review should be done at the facility level or the HD level by multidisciplinary committees, including the health facility staff, as appropriate. For the JMMSRS, it will be the Directorate Advisory Group "DAG" leading the review process. MDR methodologies include facility-based and community-based reviews, depending on the place where the deaths occur (home or facility) and the availability of data sources. Often, a combination of methods may be considered to collect as much information on maternal deaths as possible. The JMMSRS will support the expansion of the MDR concept to include information on maternal deaths from the community, even when deaths occurred in health facilities.

Review Steps: a written summary of each death, including key findings, is prepared and presented to the DAG that discusses the case, reviews all pertinent data, and completes a brief report on the medical cause of death (including probable causes for deaths that occurred outside health facilities), contributing factors, and preventability. Findings are coded and entered into the database. The DAG then issues recommendations, which may be broad or specific, to address avoidable factors noted by the review to prevent similar deaths in the future. Review steps are illustrated in Figure 4.

Annex 7 - Figure 4: Review process

Key points related to MDR:

1. As a principle, data collected and documented through the MDR report during the review process is standardized with comparable elements across the country.

2. The MDR process will include all probable maternal deaths and will be performed at the facility, HD and community levels. Ideally, local reviews are conducted immediately for facility deaths and maximum within a month for deaths outside a facility, so that early actions can be instituted.

3. For community death cases reported by the FMDs, the MDR will be based on the forensics report if applicable, and/or by conducting verbal autopsy as necessary; final MDR reports will therefore include the forensics and/or verbal autopsy reports. The Verbal Autopsy Form will guide the DAG in completing the review of probable cases through interviewing relatives or other persons aware of the occurrence. In addition, the DAG may seek additional information from pre- or postnatal care visits the deceased may have conducted at health facilities. In some cases, family members may be able to reveal where the deceased has received such services.

4. National guidelines for MDR will be developed and will include information on its processes, availability of data and tools, data transmission, frequency, required channels, feedback mechanisms, and clear standard operating procedures for MDR at each level, including legal information.

5. "No blame," participatory environment is essential in ensuring the quality of information and data in the MDR and in improving practices.

6. The support of local community leaders, facility directors, and national or state government entities for MDR and their involvement at each step in the process is essential.

A successful MDR will:

1. Identify medical causes of death
2. Confirm if the case is a maternal death
3. Determine non-medical factors contributing to the death
4. Assess the quality of medical care provided
5. Determine if the death was avoidable
6. Enable provision of recommendations for immediate (short-term) action

3) Analysis and Interpretation of Aggregated Findings from Reviews:

The aim of aggregated data analysis is to identify causes of death, groups at highest risk, contributing factors, and emerging data patterns and to prioritize health problems to guide the public health response. The translation of JMMSRS data into information meaningful for decision-makers, the medical community, and the public is important.

Key points related to this step:

1. A data management plan with a clear framework for data flow, aggregation, processing, and storage must be defined, along with an analytical plan that includes specified indicators.

2. Analysis should be performed at the level closest to the community with the appropriate analytical skills at the directorate level, at the minimum.

3. Health facilities with large-volume deliveries should also perform analyses of facility-based maternal deaths through the confidential inquiries.

4. Grouping the findings from death reviews and reviewing them quantitatively provides information about which problems are most common and assists in prioritizing responses.

MDR conducted by the DAGs is the first part of the overall analysis process. At the central level, additional analysis is performed to further interpret medical causes, non-medical contributing factors, preventable cases, and descriptive analysis for directorate and national levels. This analysis will show trends and allow stakeholders to monitor and evaluate both interventions to improve care as well as overall system effectiveness.

At the central level, the NAG will perform analysis at two levels. First, the NAG will analyze each single de-identified MDR report submitted by the DAG. This process will result in a final confirmation of the cause of death, which will be marked on the final page of the MDR.
The next level of NAG analysis is based on aggregated data for directorates, sectors, and the national level. This data will be used to conduct:

1. Descriptive analysis
2. Indicator analysis
3. Analysis of causes, factors, and preventability

Previous steps in information aggregation ensure that maternal mortality ratios and rates, cause-specific mortality data, and proportion of maternal deaths that are due to avoidable factors are generated.

Understanding which factors are contributing to maternal deaths provides guidance for a systematic response. Therefore, documentation of the contributing factors and their frequency is a priority in the analysis phase.

4) Response and Dissemination of Results and recommendations

Findings from reviews should lead to immediate actions to prevent similar deaths, at health facilities and in the community. In addition, responses may also be periodic or annual. Identification of patterns of particular problems contributing to maternal deaths or geographical areas where deaths occur in greater numbers should result in more comprehensive responses.

Responses will be tailored to address the problems identified in the community, health-care facility, and health-care system, as well as at the inter-sectorial level.

The type of action taken will depend on the level at which the decisions are being made, the findings of the analysis, and the stakeholders involved. Improving quality of care is an important element of response at the health facility.

Guiding principles for response include:

1. Starting with the avoidable factors identified during the review process
2. Using evidence-based approaches
3. Prioritizing actions (based on prevalence, feasibility, resources, health-system readiness)
4. Establishing a timeline (immediate, short, medium, and long term)
5. Deciding how to monitor progress, effectiveness, and impact
6. Integrating recommendations within annual health plans and health-system packages
7. Monitoring to ensure recommendations are being implemented

Key points related to this step:

1. Findings and recommendation are communicated with the HD and its DAG in aggregated/ de-identified form

2. The DAG and HD assist hospitals and facilities in the implementation of recommendations, monitoring effectiveness, and receiving continuous feedback and reporting

3. Legal safeguards should be in place to prevent the use of the review findings in litigation

The availability of data is likely to change the dynamics of advocacy, resources mobilization, accountability, and effectiveness for preventing maternal mortality at national and sub-national levels. JMMSRS will support mechanisms of briefing of high-level decision makers and share update and engage on numbers of cases, place of occurrence, and causes of deaths.

A plan for disseminating JMMSRS results should be determined in advance. The team involved in undertaking the MDR "both from DAG and NAG" should be fully involved in the review, developing the recommendations, planning and promoting their implementation, and acting as advocates for change.

Data should be aggregated or de-identified so individual families or providers cannot be identified; recommendations should be fed back to the hospital or community where the information was collected using language and dissemination methods tailored to the target audiences; and legal safeguards should be in place to prevent the use of the review findings in litigation. Key messages must get to those who can implement the recommendations and make a real difference towards saving the lives of mothers.

An important dimension whilst implementing JMMSRS is related to communication. It is paramount to develop a plan for communication before the system is established; this includes communication of results and communication for advocacy and resource mobilization.

5) Monitoring and Evaluation (M&E) for JMMSRS

To improve the timeliness, quality and completeness of information and ensure that the major steps in the JMMSRS are adequately functioning, an M&E framework that includes standard indicators is developed and will be implemented to evaluate the main functions of the system. Monitoring of the MMSRS will be carried out primarily at the national level.

The framework for M&E includes standard indicators based on the JMMSRS principles:

1. Maternal death as a notifiable event
2. Cases reported from all sectors nationwide
3. Reporting forms are completed correctly and communicated timely
4. Facility, community and directorate level reviews, data quality, and percentage of recommended responses undertaken

Failing to take actions to eliminate preventable maternal deaths would defeat the purpose of the JMMSRS. In such cases, a more detailed evaluation may be needed to assess how the system can function more effectively.

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ANNEX 8:

LIST OF MOH CENTRAL DIRECTORATES, HDs, HEALTH FACILITIES AND CBOs THAT RECEIVED IT EQUIPMENT THROUGH HSS II BRIDGE PROJECT

IT Equipment Procured by the USAID-funded HSS II Bridge Project for Central MOH Directorates			
#	Description	Quantity	Location
1.	HP LaserJet Printer model M201N	1	Planning Administration
	Laptop HP Probook Model 450 G2	1	
2.	Desktop Computer HP model 400PD MT I5 Processor	1	Directorate of Project Planning and Management
	Monitor HP W2072a 50,8 cm (20") LED Backilit LCD Monitor	1	
	HP LaserJet Printer Model M201N	1	
3.	Desktop Computer HP model 400PD MT I5 Processor	4	The Woman and Child Health Directorate
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	4	
	HP LaserJet Printer model M201N	3	
	Laptop HP Probook Model 450 G2	1	
4.	Desktop Computer HP model 400PD MT I5 Processor	2	Information Technology Directorate
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	3	
5.	Desktop Computer HP model 400PD MT I5 Processor	2	Employee Affairs Directorate
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	2	
6.	Desktop Computer HP model 400PD MT I5 Processor	1	Health Communication and Awareness Directorate
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	

IT Equipment Procured by the USAID-funded HSS II Bridge Project for the 12 MOH Health Directorates (HDs)			
#	Description	Quantity	Location
1.	Desktop Computer HP model 400PD MT I5 Processor	1	Ajloun HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
2.	Desktop Computer HP model 400PD MT I5 Processor	1	Aqaba HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
3.	Desktop Computer HP model 400PD MT I5 Processor	3	Balqa HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	3	
	HP LaserJet Printer model M201N	3	
4.	Desktop Computer HP model 400PD MT I5 Processor	2	Capital HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	1	
5.	Desktop Computer HP model 400PD MT I5 Processor	1	Irbid HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
6.	Desktop Computer HP model 400PD MT I5 Processor	2	Jarash HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	2	
7.	Desktop Computer HP model 400PD MT I5 Processor	1	Karak HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	

IT Equipment Procured by the USAID-funded HSS II Bridge Project for the 12 MOH Health Directorates (HDs)			
#	Description	Quantity	Location
8.	Desktop Computer HP model 400PD MT I5 Processor	1	Ma'an HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
9.	Desktop Computer HP model 400PD MT I5 Processor	1	Madaba HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
10.	Desktop Computer HP model 400PD MT I5 Processor	1	Mafraq HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
11.	Desktop Computer HP model 400PD MT I5 Processor	1	Tafila HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	
12.	Desktop Computer HP model 400PD MT I5 Processor	1	Zarqa HD
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	1	
	HP LaserJet Printer model M201N	1	

IT Equipment Procured by the USAID-funded HSS II Bridge Project for MOH Hospitals			
#	Description	Quantity	Location
1.	Desktop Computer HP model 400PD MT I5 Processor	2	Karak Hospital Ob/Gyn Outpatient Clinic
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	1	
2.	Desktop Computer HP model 400PD MT I5 Processor	2	Pr. Faisal Hospital Ob/Gyn Outpatient Clinic
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	1	

IT Equipment Procured by the USAID-funded HSS II Bridge Project for Community Based Organizations (CBOs)			
#	Description	Quantity	Location
1.	Desktop Computer HP model 400PD MT I5 Processor	2	Huwwara Al-Sihhiya CBO / Irbid
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	1	
2.	Desktop Computer HP model 400PD MT I5 Processor	2	Al-Nuhoud Al-Sihhi Al-Riyadieh CBO / Capital
	Monitor HP W2072a 50,8 cm (20") LED Backlit LCD Monitor	2	
	HP LaserJet Printer model M201N	1	

ANNEX 9:

LIST OF MOH HOSPITALS THAT RECEIVED CPAP UNITS THROUGH HSS II BRIDGE PROJECT

Medical Equipment (CPAP) Procured by the USAID-funded HSS II Bridge Project for Neonatal Departments at MOH Hospitals			
#	Description	Quantity	Location
1.	Nasal Bubble Continuous Positive Airway Pressure (CPAP) System Manufactured by Fisher & Paykel	3	Princess Badia Hospital
2.	Nasal Bubble Continuous Positive Airway Pressure (CPAP) System Manufactured by Fisher & Paykel	2	Mafraq Ob/Gyn Hospital

ANNEX 10:

EFFORTS TO ASSIST THE GOJ TO CALCULATE THE TOTAL FERTILITY RATE (TFR) USING CSPD DATA

BACKGROUND

The total fertility rate (TFR) is the average number of children that would be born to a woman over her reproductive years. In Jordan, Population and Family Health Surveys (PFH) were performed in 1990, 1997, 2002, 2007, 2009, and 2012 to determine the national TFR. The TFR for those years showed a sharp decline in fertility in the 1990s, followed by minor changes in the rate over the past decade.

Annex 10 - Figure 1: DOS PFH Survey TFR Values for years (1990 - 2012)

The TFR is affected by many social, educational, health, and economic factors, and in turn, itself affects aspects of development. Changes in the population, whether due to external or internal factors, require proportionate changes in national policies to maintain or improve the efficient use of resources. With limited national resources, an increase in TFR may introduce a burden on national structures to maintain or improve the public services they provide, including health services.

STEPS

Obtaining a current TFR value and assessing recent trends in fertility will assist national stakeholders, partners, and donors in better understanding national efforts and recent regional developments affecting the population in Jordan. USAID through its Abt-led HSS II Bridge supported the GOJ's calculation of the TFR using Civil Status and Passport Department (CSPD) data as an initial step toward establishing a system and building national capacity to manage a regular calculation of the TFR. Below is a summary of the steps taken by HSS II Bridge to assist in calculating the TFR:

1. The efforts were initiated by a request from USAID on May 17, 2015 for suggestions for calculating the national TFR without carrying out an entire DHS.

2. After careful discussion and consultation, the project team agreed to assist in the calculation, defined the variables needed to calculate the TFR, and confirmed that the CSPD had the data.

3. USAID recommended formally requesting the data from project counterparts (either MOH or HPC).

4. On May 21, HSS II Bridge formally requested the MOH's assistance in obtaining the data. HSS Bridge held multiple meetings with the MOH Planning Administration and Non-Communicable Diseases (NCD) Directorate to engage them, highlight the importance of this calculation, and help them understand the needed data and different variables.

5. The project followed up with the MOH through many telephone calls and meetings, which resulted in some progress and a technical meeting with counterparts within the (NCD) Directorate. The meeting outlined which data variables are needed and how to aggregate them appropriately. However, the MOH did not end up sharing the data.

6. The project then discussed and agreed with USAID to seek assistance from the HPC in obtaining the data.

7. On July 8, the project had its first meeting with HPC. During this meeting, Dr. Sawsan Majali, the HPC Secretary General, fully support the need to calculate the TFR using CSPD data to supplement periodic information from the DHS. Dr. Majali also emphasized the need to coordinate with both the Department of Statistics (DOS) and CSPD and said that TFR data must be first acknowledged and endorsed by DOS before dissemination of findings. Dr. Sawsan proposed to meet and engage the Ministry of Planning and International Cooperation (MOPIC) as it is the supervising body over both DOS and HPC. From that point forward, the HPC facilitated the process, including meetings with MOPIC.

8. On July 30, USAID and the project had their first meeting with MOPIC, which included participants form HPC, DOS, and CSPD. During the meeting, Dr. Sawsan emphasized the need to calculate the TFR and emphasized that this would not and should not contradict or replace the DHS. During the meeting, the group tasked the project to develop a concept note and share it with them.

9. On August 9 and 10, follow-up emails were sent to the MOPIC to check on progress. When we learned that the Minister of MOPIC must approve the process, the project drafted and sent a memo to his office for approval.

10. On August 16, the project shared the concept note with HPC for revision and dissemination to other stakeholders (MOPIC, DOS, CSPD).

11. Meanwhile, to expedite getting a written approval from the Minister of MOPIC, the project suggested that USAID directly contact the MOPIC Minister's office and obtain the signed approval letter to perform the calculation.

12. On September 14, MOPIC sent the approval letter requesting USAID's technical assistance in calculating TFR. The letter was shared with HPC to trigger specified actions for obtaining the data.

13. HPC, in response to the letter, called for forming a committee of representatives from DOS, MOPIC, CSPD, and HSS II Bridge under HPC leadership to manage and facilitate the processes of TFR calculation.

14. The committee met twice, on October 11 and 14. The outcomes of these meetings were: an agreed upon methodology to unify and standardize the process for calculating the national TFR among stakeholders and an agreement to have the CSPD provide the data to the project to start the calculation.

15. On October 26th, Dr. Sawsan inquired about the possibility of financial compensation or reward for the committee for managing the process of calculating TFR. The project team clarified that HSS II Bridge would perform the actual calculation in collaboration with the committee, thus eliminating the need for financial compensation.

16. Following the request letter from HPC, the CSPD provided the data on October 28, and the HSS II Bridge team, including Dr. Ali Arabji, began the calculation. We took into consideration the process history detailed below:

    a) Several attempts in the past to calculate TFR from CSPD data.

    b) In 2013, Dr. Ali Arbaji (then at USAID) proposed to HPC to test if CSPD data are good enough for calculation of TFR, with a promise to develop the software to use for the calculation.

    c) HPC requested a dataset from CSPD to contain data on women and children aged 15-49 years as of 31December 2010.

    d) A tool to calculate TFR using STATA software was developed and CSPD data provided acceptable results.

    e) Later HPC asked if the tool can be built using SPSS software because of lack of experience at CSPD using STATA software.

    f) Accordingly, Dr. Ali Arbaji developed an SPSS tool for TFR calculation of CSPD data using the logic implemented by Macro (Implementer of Measure DHS all over the world over the last 50 years). Part of the SPSS tool was obtained from Macro on a personal basis.

g) Results of the 2010 data were presented to HPC, CSPD, and DOS representatives. Furthermore, training on the SPSS tool was provided to a group of professionals at HPC, CSPD, and DOS, so they can run the analysis in the future with minimal effort.

h) In 2014, two experts from Macro conducted training in Jordan for a selected group of statisticians, demographers, and public health specialists from academia, the public sector, and NGOs. Dr. Sara Bradley one of the Macro specialists, was one of the trainers. Dr. Arbaji approached Dr. Bradley to review the SPSS tool during her stay in Jordan. She went through the syntax of the tool and concluded that it is good enough to do the calculation of TFR based on CSPD data.

i) Meanwhile, CSPD officials did not proceed with any further calculations, The issue went dormant until HSSII Bridge approached Dr. Ali Arbaji in May 2015 to inquire about the possibility of reviving the calculation of TFR based on CSPD data. He agreed to proceed.

j) After several months, CSPD was officially asked to provide a data file for all Jordanian women aged 15-64 years so that the project could carry out the calculation.

k) The file was delivered to Dr. Ali Arbaji. He ran the new CSPD dataset with the SPSS tool and produced the first draft reports, which were all based on TFR calculation for the preceding three years (same period of calculation used in DHS).

l) The tool was developed to calculate TFR beyond the three years of the survey so that the CSPD could do the runs annually and even monthly.

m) Dr. Ali Arbaji started producing reports for individual years (12 months before the specified date) and applied comprehensive quality checks. He discovered some discrepancies between the three-year and one-year calculations.

n) Ideally, the births and women-year exposures, ASFRs and TFR for a sum of three individual years preceding the survey, should give exactly concordant numbers with the three-year results. This was not observed with the first run.

o) Accordingly, Dr. Ali Arbaji developed a more detailed and comprehensive SPSS tool that removed all inconsistencies discovered in the first tool.

p) To validate the new SPSS tool, Dr. Arbaji used a well-recognized program developed by Bruno Schoumaker from the Centre de Recherche en Demographie et Societies, Universite Catholique de Louvain, Belgium.

q) The validation tool is called tfr2 and uses Poisson regression analysis for calculation of TFR. The program is designed to run only under Stata for DHS data files and was officially released in late 2014. Dr. Ali Arbaji first tested the tfr2 tool with all DHS data files available for Jordan, and it gave exactly the same results as reported in DHS reports.

r) To run the tfr2 tool on CSPD data required only renaming variables to fit DHS conventional variable names.

s) Several runs of CSPD data with tfr2 produced results identical to those the new SPSS tool produced.

17. Dr. Ali Arbaji finalized the TFR calculation and presented to the committee the methodology he followed to calculate the TFR, including selection criteria. He also explained to the group, as noted above, that to eliminate a minor inconsistency in TFR data for individual years versus the average of three years, he used a modified SPSS tool that was validated using the "tfr2" and Poisson regression analysis for calculation of TFR. His logic was clear and the group understood it.

18. Dr. Ali also showed the TFR results using the modified SPSS tool during the 36 months prior to and ending in December, 2014, for Jordanians residing in Jordan and the figure he presented was 3.1.

19. The committee appreciated Dr. Ali's innovation to modify and validate the SPSS tool and asked Dr. Ali to use the modified validated tool to run the TFR calculation for DHS index years and also the following index years: 2009, 2004, and 1999, as he did in the first calculation.

20. Dr. Ali presented to the committee the TFR calculation using CSPD data for all DHS index years (1997, 2002, 2007, 2009, 2012) and also for Index years (2014, 2011, 2008, 2005, 2002).

21. The committee agreed on the following important steps: 1) methodology followed by the CSPD to collect data and variables used for calculation, 2) methodology followed to calculate the TFR using the modified and verified SPSS tool, 3) the results of calculating the TFR using the CSPD data.

22. Under the leadership of the HPC Secretary General, the committee also agreed on the following action steps:

a) Get all committee members to sign off on meeting minutes detailing the above
b) Send an official letter to HE the Minister of MOPIC, supported by the committee consensus and signed meeting minutes, and get his approval to:

- Approve the methodology followed to calculate the TFR
- Endorse the results of calculation
- Provide advice on sharing and disseminating the results
- Formally assign the CSPD as the entity to regularly do the calculation for the future on annual basis

The committee also requested that CSPD to define its needs for capacity building, tools, and equipment that will enable CSPD to pursue this important task on an annual basis. We expect that the HPC will send the letter to HE the Minister of MOPIC during the month of December.

RESULTS

At the conclusion of this activity, a report was prepared by Dr. Ali Arbaji highlighting details of the methodology followed to calculate the TFR, the main findings, and conclusions. This report was submitted to the HPC in November.

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Health Systems Strengthening II (HSS II) Bridge

ANNEX 11:

Service Provider Guidelines for Preconception Care

August 30, 2015

Health Systems Strengthening II Bridge

The Health Systems Strengthening II Bridge project is funded by the United States Agency for International Development and implemented by Abt Associates Inc. in partnership with the American College of Nurse-Midwives (ACNM) and the Eastern Mediterranean Public Health Network (EMPHNET).

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Service Provider Guidelines for Preconception Care

- Use of Counseling Checklist -

Introduction

Every woman of reproductive age who comes to the health clinic for any reason, such as preventive care of an infant or young child, dental care or other health issues, should be asked about her reproductive health and her fertility intentions. Every woman who indicates that she is sexually active and does not wish to become pregnant and is not using a modern contraceptive method should be referred for family planning counseling before she leaves the clinic. Every woman who indicates that she and her husband want a pregnancy within the next year should be offered preconception care.

This guidance is provided for physicians and midwives to help women who wish to become pregnant in the near future prepare for a healthy pregnancy and delivery and a healthy baby. The preconception care checklist should be used when providing counseling for women who wish to become pregnant according to the guidelines below.

Initially, the provider should screen the woman for medical conditions according to the checklist, including requesting a complete blood count (CBC) test for anemia, checking vital signs and calculating her body mass index (BMI), as well as her age and that of her husband. The provider should also review the medical record of the woman and ask her for any of the following information if missing from the records.

1. **Review family histories, consanguinity, genetic disorders and chronic disease tendencies as well as previous pregnancy outcomes and any complications, discuss implications for subsequent pregnancies**

Information to be collected should include:

- ***Pregnancies:***
  - Total number of pregnancies
  - Total number of deliveries and type of each birth
  - Any complications experienced during pregnancy, delivery or the postpartum period, especially in last pregnancy
  - Date of last birth and /or miscarriage

- ***Birth outcomes:***
  - Total number of babies
  - Any type of abnormality in any of the babies, including notable low birth weight or large size at birth, any newborn admitted to NICU, any stillbirths or neonatal deaths
  - Age of oldest and youngest child
- ***Miscarriages:***
  - Number of miscarriages
  - Dates of miscarriages
  - Any tests performed /reasons if known

Discuss implications for subsequent pregnancies if her answers to any of the above raise health concerns. If the woman or any of her babies had any serious medical complications in previous pregnancies or if there were any abnormalities, and/or if she has had multiple previous Cesarean Sections, the risks of a subsequent pregnancy for both her and her baby should be discussed. If she meets these or other criteria for high risk births, discuss the importance of seeking early prenatal care as soon as a pregnancy is suspected and of following medical advice during her pregnancy.

If the woman's history reveals suspected genetic disorders, refer her to a qualified genetic counselor.

2. Explain good timing and spacing of pregnancies; explain consequences of not practicing birth spacing, explain briefly about family planning methods and where to get them, explain importance of breast feeding

Explain to the woman that planning her pregnancies carefully will help her to avoid risk factors for herself, for the developing baby she will be carrying and for the children she already has. In general, optimal outcomes are associated with three to five years spacing between births (not becoming pregnant for at least two years after the previous birth); avoiding pregnancy at either end of the reproductive years (before 18 or after 35), avoiding pregnancies that are not desired. If the woman is in need of family planning counseling and services, please refer her to the family planning clinic at the maternal and child health care center.

Annex 11 - Table 1: Specific risk factors of mistimed pregnancy

Behaviors / risk factors	Increased risks for maternal mortality and morbidity	Increased risks for childhood mortality and morbidity
Pregnancy too early (<18 , when the woman's body is not fully mature)	Complications in pregnancy and delivery, miscarriage, increased risk for delivery through caesarian section and for adverse outcomes	Perinatal death, low birth weight, social, and emotional problems
Unintended pregnancy (any time in the reproductive age)	Psychosocial consequences, less attention to care during pregnancy, morbidity or mortality related to complications of unsafe abortion	Less attention to care of unborn child during pregnancy, with adverse effects on infant and child health
Short birth intervals (<24 months)	Complications during pregnancy (e.g. preterm labor), miscarriage, increased likelihood of depression.	Prematurity, low birth weight, small size for gestational age (associated with birth intervals of <6–18 months), increased risk of fetal death, neonatal and post neonatal (1 month–1 year) death
High parity	Increased risk of adverse outcomes during pregnancy or childbirth after birth of fifth child, more likely to experience anemia, need blood transfusions during delivery, or have fatal hemorrhage than women with four or less children.	Increased risk of neonatal tachypnea, and malformations, stillbirths and low birth weight
Pregnancy too late (≥35 years)	Increased risk of: chronic diseases such as gestational diabetes and hypertension, placenta praevia, breech presentation, C/S delivery, postpartum hemorrhage.	Increased risk of congenital abnormalities especially Down syndrome, oversized baby, stillbirths and low birth weight

Explain the benefits of breastfeeding for both mother and child. Breast milk is the ideal nutrition for infant as it contains all elements needed for growth and development with the composition changing according to his/her age. It contains antibodies that help infant fight bacteria and viruses and lowers infant's risk of having asthma or allergies. Plus, the physical closeness, skin-to-skin touching, and eye contact all help the baby bond with mother and feel secure.

Breastfed infants are more likely to gain the right amount of weight as they grow rather than become overweight children. In addition, breastfeeding helps the mother to lose pregnancy weight, accelerates uterus return to its pre-pregnancy size and reduces uterine bleeding after birth. Breastfeeding also lowers mother's risk of breast and ovarian cancer.

No cost is associated with breastfeeding, and it gives more time for the mother to bond and relax with their infant. Early breastfeeding, as soon as possible after the delivery, provides special benefits for both mother and child.

3. Discuss importance of healthy weight, good diet and exercise, and weight reduction or increase if indicated by BMI

Evaluate the woman's status according to her BMI and discuss the situation as appropriate:

3.1. Underweight (BMI <18.5 kg/m2):

A low BMI, especially if associated with short stature (<145 cm), can result in complications during pregnancy and delivery. Maternal under nutrition results in poor fetal development and lower birth weights, which can increase the newborn risk of mortality. The children from undernourished women are also more likely to develop non-communicable diseases such as type 2 diabetes and cardiovascular disease. Women who are underweight should be advised to try to improve their diet and weight before becoming pregnant, and referred to a nutritionist if feasible.

3.2. Healthy weight (BMI >18.5 and <25):

If the woman has a healthy weight, encourage her to keep monitoring her weight and follow a healthy life style. Keeping a healthy weight prior to getting pregnant is associated with healthy diet and good exercise routine. (Handling house hold activities, going for a walk and mild exercise.)

3.3. Overweight (BMI ≥25 kg/m2) or obese (BMI>30 kg/m2):

Women who are overweight or obese before pregnancy are at greater risk of developing hypertensive disorders during pregnancy such as eclampsia or pre-eclampsia. They are also at greater risk of developing gestational diabetes mellitus or may have pre-existing type 2 diabetes before conception. Overweight and obesity may also increase the risk of stillbirth, difficult delivery, and other complications.

Overweight status, including weight retained from a previous pregnancy, may also predict subsequent obesity. Infants of overweight women tend to be born larger and may be at increased risk of developing obesity and type 2 diabetes as children and adolescents.

Obesity is associated with: an elevated risk of type 2 diabetes; infertility; gallbladder disease; limitations in mobility; osteoarthritis;, sleep apnea; respiratory impairment; social stigmatization and a variety of cancers (e.g. breast, uterine, colon). These risks increase proportionally with the degree of obesity.

A woman who is overweight or obese should be offered counseling on diet and exercise to be initiated before becoming pregnant and should be advised to consider delaying conception until she lowers her BMI. Obese women should be referred to a nutritionist if feasible.

4. Hypertension/ Diabetes Mellitus/Anemia

4.1. Hypertension:

Review medical history, ask women if they have a personal or family history of hypertension, and review blood pressure results. If blood pressure (BP) is elevated, explain the risks of hypertension for pregnancy and suggest that she avoid becoming pregnant until her hypertension is under control. Refer her to primary health center (PHC) clinic for management according to the protocol for hypertension.

4.2. Diabetes Mellitus:

Ask woman if she has a family history/ history of diabetes/gestational diabetes. If she has a history of diabetes or elevated blood glucose or had gestational diabetes in a previous pregnancy,, explain the risks of gestational diabetes in pregnancy such as very large babies, hypoglycemia in the newborn, and diabetic babies, and refer to PHC clinic for management. If she is overweight, obese or hypertensive, and has a family history, a fasting blood glucose or HbA1c test should be performed.

4.3. Anemia:

Explain the CBC test result. If she has or is at risk of anemia, explain risks of anemia in pregnancy. Iron-deficiency anemia during pregnancy is linked to an increased risk of preterm delivery and low birth weight. It's also associated with a higher risk of stillbirth or newborn death and postpartum hemorrhage. If the woman is anemic, advise her to take iron supplements to treat the anemia before she becomes pregnant and to eat foods rich in iron during pregnancy. Refer for further diagnosis or treatment if indicated.

5. Explain the importance of taking folic acid supplements for 3 months before pregnancy to reduce risk of neural tube defects (NTD)

Encourage the woman to initiate and continue folic acid supplementation if she plans to become pregnant within the coming year. Adequate folic acid supplementation before pregnancy and during early pregnancy can help to reduce the risk of a neural tube defect-affected pregnancy. Folic acid insufficiency before conception and during the first trimester is associated with a higher prevalence of neural tube defects. In addition to supplements, folic acid can be found in breakfast cereals, breads, flours, pastas, cornmeal, and white rice, but all pregnant women should use folic acid supplements to further reduce the risk of these defects.

6. Review/Encourage client to review vaccination status with health professional

Annex 11 - Table 2: Vaccinations needed before a woman becomes pregnant

Vaccine type	Required Vaccine	Facility to get Vaccination
*Rubella	Rubella-containing vaccine (monovalent rubella [R] or measles–rubella [MR] or measles–mumps–rubella [MMR]) for women who have not been vaccinated previously	Primary Health Care Center
Tetanus	Tetanus- and diphtheria-containing (Td) vaccine for women who were not fully immunized in childhood or previous pregnancies	Primary Health Care Center
Hepatitis B	Hepatitis B vaccination	Primary Health Care Center

* It is recommended that women avoid pregnancy for at least 1 month after vaccination.

If Rubella vaccination status is uncertain, preconception screening for Rubella (Rubella IgM, Rubella IgG tests) provides the opportunity to increase immunization coverage to prevent transmission of infectious diseases and to improve maternal and newborn outcomes.

7. Other Medications

Counsel the women that any exposure to illicit drugs would be extremely harmful to her and the fetus, and even prescription medicine or some over-the counter-medications pose risks during pregnancy. Before becoming pregnant she should review with a doctor any medications she takes to ensure they are safe to take before or during pregnancy.

8. Ask about unhealthy activities: tobacco & argila use, second-hand smoke, alcohol and drugs, counsel on harmful effects on pregnancy

8.1. Tobacco & argila use, second-hand smoke:

If the woman discloses use of tobacco or argila or exposure to second hand smoke, discuss the following:

- ***General health effects of smoking on adult men and women:*** include increased risk of the following conditions: decreased bone density**;** rheumatoid arthritis; cataracts; gum disease; stomach ulcers; complications of surgery including poorer wound healing; depression.

- ***Health effects specific to women:*** include increased risk of the following**:** menstrual problems including irregular or painful periods; going through menopause at a younger age or have worse symptoms of menopause; and compromised respiration**.**

- ***Effect of smoking before conception:*** women who smoke may have a harder time getting pregnant and are more likely than other women to have a miscarriage.

- ***Effect of smoking during pregnancy: w***omen who smoke during pregnancy are more likely than other women to have a **miscarriage** or **stillbirth.** When a pregnant woman smokes, dangerous chemicals pass through her blood to the baby. Smoking can cause problems with the placenta, the source of the baby's food and oxygen during pregnancy, including separation from the womb too early or bleeding, which is dangerous to the mother and baby.

- ***Effect of smoking on the newborn and children:***
  Smoking or exposure to second-hand smoke during pregnancy can cause:

  - A baby to be born too early or to have low birth weight or have certain birth defects (cleft lip, cleft palate) making it more likely the baby will be sick and have to stay in the hospital longer.
  - Smoking during and after pregnancy is a risk factor for Sudden Infant Death Syndrome (SIDS).
  - Children exposed to secondhand smoke are more likely to experience increased frequency of: asthma, colds, bronchitis, pneumonia, and other lung diseases; middle ear infections and sinus infections; caries in deciduous teeth.

8.2. Use of alcohol and drugs or medications:

Ask the woman if she herself ever drinks alcohol, or if there is someone in her home who drinks, occasionally or heavily.

If the answer to all questions is negative, confirm that this is an important way to preserve her health and that of her baby.

If the answer to either question is positive, counsel on the importance of avoiding alcohol during pregnancy, as well as the risks of having a heavy drinker in the home.

- ***Alcohol consumption in pregnancy (any amount):***
  There is no known safe amount of alcohol use during pregnancy or while trying to get pregnant.

  Drinking alcohol during pregnancy can cause miscarriage, stillbirth, and a range of physical, behavioral, and intellectual disabilities for the baby that can last a lifetime. These disabilities are known as fetal alcohol spectrum disorders (FASDs). Some of the behavioral and intellectual disabilities of people with FASDs include learning disabilities, hyperactivity, attention deficits, low IQ, speech and language delays, poor reasoning and judgment skills. The child's organs can also be affected by drinking alcohol during pregnancy, especially the heart and kidneys.

- ***Alcohol abuse (any member of the family):***
  Numerous health conditions are linked to chronic heavy drinking, including cardiovascular disease; cirrhosis, dementia, depression, pancreatitis and seizures. Heavy drinking suppresses the immune system, providing a toehold for infections, including tuberculosis, pneumonia, HIV/AIDS, and other sexually transmitted diseases (including some that cause infertility). It also reduces cognitive control and therefore can lead to violence or abuse in the home.

  If the woman reports a heavy drinker in the home, provide advice on referring the individual for counseling.

9. Counsel on the risks of exposure to radiation, pesticides, lead and indoor air pollution (coal use) before or during pregnancy

Advise the woman to avoid exposure to X-rays, CT scans, etc. for any non-emergency reason in the period before and during pregnancy since radiation can harm the fetus.

Also explain the importance of minimizing exposure to pesticides, lead-based paints and other strong chemicals to avoid harm to the fetus.

Note that the indoor use of charcoal for argila is toxic and poses risks for pregnant women and newborns. If she ever uses charcoal or wood for heating indoors, counsel her on the importance of avoiding this practice.

Annex 11 - Table 3: Specific environmental risk factors before or during pregnancy

Health problems/ problem behaviors/ risk factors	Increased risks for maternal mortality and morbidity	Increased risks for childhood mortality and morbidity
Ionizing radiation	First-trimester miscarriage	Fetal growth restriction, impaired brain function, microcephaly, childhood cancers
Pesticides	Early spontaneous abortion	Childhood cancers
Lead or mercury pollution	Miscarriage, early spontaneous abortion, stillbirth, anemia	Central nervous system damage, fetal growth restriction, preterm births
Indoor air pollution	Stillbirth, chronic obstructive pulmonary disease, lung cancer (from coal use)	Pneumonia, fetal growth restriction

10. Explain the damage that violence at home causes to adults and children, and where to receive help and care

Ask the woman if she has any concerns about violence in the home for herself or her children, whether physical or other forms of aggression. Explain that not only physical violence, but also verbal aggression and other types of psychological abuse are very harmful to the whole family. Emphasize that if she is experiencing abuse or has any concerns about it she should seek help before becoming pregnant and provide her with a handout showing where she can get help.

10.1. Risks during pregnancy:

Family violence is particularly dangerous for a mother and her fetus. Physical aggression can cause miscarriage and other dangerous conditions for the mother such as hemorrhage. Even psychological violence is dangerous to the woman, increasing risk of depression and reducing her ability to care for herself and her children. Studies have shown that stress during pregnancy negatively affects the physical growth of newborns, can cause hyper reactivity and other difficulties for newborns that can persist throughout their lives.

10.2. Risks to children in the home:

Children who are exposed to battering become fearful and anxious. They may feel worthless and powerless. They may feel rage, embarrassment, and humiliation, and they may blame themselves for the abuse, thinking if they had not done or said a particular thing, the abuse would not have occurred. They may also become angry at their siblings or their mother for triggering the abuse.

Children who witness domestic violence may act out, withdraw or show anxiousness to please, and may have a short attention span which results in poor school performance and attendance. They may experience developmental delays in speech, motor or cognitive skills.

They may also use violence to express themselves with their mother or peers and they can become self-injuring. In later life, children from violent homes have higher risks of alcohol/drug abuse, post-traumatic stress disorder, and juvenile delinquency. Witnessing domestic violence is the single best predictor of juvenile delinquency and adult criminality. It is also the number one reason children run away from home.

Inform on available help centers:

- Public Security Directorate-Family protection
- Ministry of Health-Protection against Violence
- Ministry of Social Development-Women Affairs
- Ministry of Justice, Ministry of Awqaf, Ministry of Education, National Media Center
- Jordan River Foundation, Family Guidance and Awareness Center, Women's Union, Noor Al Hussein Foundation - Institute for Family Health - and The Queen Zein Al-Sharaf Institute for development

11. Concluding the session

After completing the different sections of the counseling session, ask the woman if she has any further questions or concerns. Explain that she is always welcome to come back to the health center for further advice, and for folic acid if she is ready to become pregnant. Provide her a hand out that indicates where more information or services can be obtained concerning each topic, with links to on-line information if available.

ANNEX 12:

CHECKLIST FOR PRECONCEPTION CARE SCREENING AND COUNSELING

(For all women presenting at health centers who say they want to get pregnant within the next year)

Date of marriage:_____

Age: Wife: _____yrs. Husband: _____yrs.

1. Laboratory tests:

☐ Complete Blood Count (CBC): Hemoglobin (Hb) (g/dL): _____ (12-16)

2. Woman physical exam:

☐ Blood pressure _____/_____ ☐ Normal (≤ 120-80) ☐ Abnormal

☐ Height_____ Weight _____ BMI _____ ☐ Underweight (< 18.5) ☐ Normal (18.5-24.9)

☐ Overweight (>25) ☐ Obese (> 30)

Other tests, specify: _____

3. Counseling session ensuring privacy

☐ Review previous pregnancy outcomes and any complications, discuss implications for subsequent pregnancies.

☐ Explain good timing and spacing for pregnancy, if applicable; explain consequences of not practicing birth spacing, explain briefly about family planning methods and where to get, explain importance of breast feeding.

☐ Discuss importance of healthy weight, good diet and exercise, weight reduction/increase if indicated per BMI**.**

☐ If hypertension, diabetes or anemia is detected, manage/refer client as per MOH protocol.

☐ Explain the importance of taking folic acid supplements for 3 months before pregnancy to reduce risk of neural tube defects (NTD).

☐ Review/Encourage client to review vaccination and medication status with health professional.

☐ Ask about unhealthy activities (tobacco & argila use, second-hand smoke), alcohol and drugs, counsel on harmful effects on pregnancy.

☐ Counsel on risks of exposure to radiation, pesticides, lead and indoor air pollution (coal use for heating, cooking and/or argila), before or during pregnancy.

☐ Explain the damage that violence at home causes to adults and children, and where to receive help and care.

☐ Other issues of concern, specify:

_____

Handout with summary of topics and links for further information provided to couple.

Name of provider: _____

Signature: _____Date of Counseling: ___ /___ /_____

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Health Systems Strengthening II (HSS II) Bridge

ANNEX 13:

Service Provider Guidelines for Premarital Testing and Counseling

August 30, 2015

Health Systems Strengthening II Bridge

The Health Systems Strengthening II Bridge project is funded by the United States Agency for International Development and implemented by Abt Associates Inc. in partnership with the American College of Nurse-Midwives (ACNM) and the Eastern Mediterranean Public Health Network (EMPHNET).

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Service Provider Guidelines for Premarital Testing and Counseling - Use of Counseling Checklist -

Introduction

In Jordan, a premarital blood test is a requirement for civil registration of marriage in order to avoid the inheritance of genetic disorders that can be fatal. Every couple that comes to the health clinic for premarital blood tests should also be offered additional physical exams and counseling to prepare them for eventually starting a family in good health.

This guidance is provided for physicians or other qualified health staff to help couples planning marriage prepare for a healthy and successful pregnancy and delivery, and a healthy baby. The premarital visit checklist should be used when providing counseling for all couples that come to the clinic for their blood tests and results according to the guidelines below.

1. Review blood tests, family histories, consanguinity and genetic disorders

Initially, the provider should review the lab test results. If any signs of potential Beta Thalassemia or other blood disorder such as sickle cell anemia are noted, refer the couple for further testing according to protocol. In this circumstance, do not proceed with the rest of the counseling session unless the final test results rule out the risk of Beta Thalassemia.

If the blood tests are normal, take a brief family history for both of them. The family history should focus on the closeness of family links between them as well as any abnormalities or genetic disorders in the immediate family. If either the man's or woman's history reveals any suspected genetic disorders refer the couple to a qualified genetic counselor.

2. Explain good timing and spacing of pregnancies and consequences of not practicing birth spacing; explain briefly about family planning methods and where to get them; explain normal delays in becoming pregnant.

Explain to the couple that planning their pregnancies will help them to achieve their overall goals, and to avoid risk factors for the woman and for any baby she will be carrying. In general, optimal outcomes are associated with avoiding pregnancy at either end of the reproductive years (before 18 or after 35), practicing three to five years spacing between births (not becoming pregnant for at least two years after the previous birth); and avoiding pregnancies that are not desired. Indicate that they should follow their own wishes in how soon to start trying to have a child, rather than family pressures, since it can be stressful to cope with a pregnancy or infant very early in a marriage, and their own well being as a family is the most important consideration. As relevant to their situation, consider providing more information on any or all of the following:

Annex 13 - Table 1: Specific risk factors of mistimed pregnancy

Behaviors / risk factors	Increased risks for maternal mortality and morbidity	Increased risks for childhood mortality and morbidity
Pregnancy too early (<18 , when the woman's body is not fully mature)	Complications in pregnancy and delivery, miscarriage, increased risk for delivery through caesarian section and for adverse outcomes	Perinatal death, low birth weight, social, and emotional problems
Unintended pregnancy (any time in the reproductive age)	Psychosocial consequences, less attention to care during pregnancy, morbidity or mortality related to complications of unsafe abortion	Less attention to care of unborn child during pregnancy, with adverse effects on infant and child health
Short birth intervals (<24 months)	Complications during pregnancy (e.g. preterm labor), miscarriage, increased likelihood of depression.	Prematurity, low birth weight, small size for gestational age (associated with birth intervals of <6–18 months), increased risk of fetal death, neonatal and post neonatal (1 month–1 year) death
High parity	Increased risk of adverse outcomes during pregnancy or childbirth after birth of fifth child, more likely to experience anemia, need blood transfusions during delivery, or have fatal hemorrhage than women with four or less children.	Increased risk of neonatal tachypnea, and malformations, stillbirths and low birth weight
Pregnancy too late (≥35 years)	Increased risk of: chronic diseases such as gestational diabetes and hypertension, placenta praevia , breech presentation, C/S delivery, postpartum hemorrhage	Increased risk of congenital abnormalities especially Down syndrome, oversized baby, stillbirths and low birth weight

Indicate that there are a range of modern family planning methods available to help them delay or space births, and they can choose which method may suit them best. Explain that the family planning clinic at the maternal and child health unit can provide family planning counseling and services whenever they wish to learn more.

Advise the couple that normally it can take up to 12 months to conceive. They should not be concerned unless they are unable to conceive after a year, at which time they should consult a health provider to determine if there are any fertility problems. Also explain that fertility problems can be a result of factors in the man or woman or both.

3. Unhealthy activities: tobacco & argila use, second-hand smoke, alcohol and drugs, harmful effects on pregnancy

3.1. Tobacco & argila use, second-hand smoke

If either the man or woman, or both, discloses use of tobacco or argila or exposure to second hand smoke, discuss the following:

- ***General health effects of smoke on adult men and women**:* include increased risk of the following conditions: decreased bone density among women**;** rheumatoid arthritis; cataracts; gum disease; stomach ulcers; complications of surgery including poorer wound healing; depression.

- ***Health effects specific to women:*** include increased risk of the following**:** increased *menstrual* problems including irregular or painful periods; increased likelihood to go through menopause at a younger age or have worse symptoms of menopause; and compromised respiration**.**

- ***Effect of smoking before conception:*** women who smoke may have a harder time getting pregnant and are more likely to more likely than other women to have a miscarriage.

- ***Effect of smoking during pregnancy:*** women who smoke during pregnancy are more likely than other women to have a **miscarriage** or **stillbirth.** When a pregnant woman smokes, dangerous chemicals pass through her blood to the baby. Smoking can cause problems with the placenta, the source of the baby's food and oxygen during pregnancy, including separation from the womb too early or bleeding, which is dangerous to the mother and baby.

- ***Effect of smoking on the newborn:***

  - Smoking or exposure to second-hand smoke during pregnancy can cause a baby to be born too early or to have low birth weight or have certain birth defects (cleft lip, cleft palate), making it more likely the baby will be sick and have to stay in the hospital longer.

- Smoking during and after pregnancy is a risk factor for Sudden Infant Death Syndrome (SIDS).
- Babies born to women who smoke are also more likely to have children born with decreased lung function.

- ***Effect of smoking on children:*** children exposed to secondhand smoke are more likely to experience increased frequency of: asthma, colds, bronchitis, pneumonia, and other lung diseases; middle ear infections and sinus infections; caries in deciduous teeth.

3.2. Use of alcohol and drugs

When any use of alcohol is suspected, counsel on the importance of avoiding alcohol during pregnancy, as well as the risks of having a heavy drinker in the home.

- ***Alcohol consumption in pregnancy (any amount)***

  There is no known safe amount of alcohol use during pregnancy or while trying to get pregnant. Drinking alcohol during pregnancy can cause miscarriage, stillbirth, and a range of physical, behavioral, and intellectual disabilities for the baby that can last a lifetime. These disabilities are known as fetal alcohol spectrum disorders (FASDs). Some of the behavioral and intellectual disabilities of people with FASDs include learning disabilities, hyperactivity, attention deficits, low IQ, speech and language delays, poor reasoning and judgment skills. The child's organs can also be affected by drinking alcohol during pregnancy, especially the heart and kidneys.

- ***Alcohol abuse (any member of the family)***
  Numerous health conditions are linked to chronic heavy drinking, including cardiovascular disease; cirrhosis, dementia, depression, pancreatitis and seizures. Heavy drinking suppresses the immune system, providing a toehold for infections, including tuberculosis, pneumonia, HIV/AIDS, and other sexually transmitted diseases (including some that cause infertility). It also reduces cognitive control and therefore can lead to violence or abuse in the home. If the woman reports a heavy drinker in the home, provide advice on referring the individual for counseling.

4. Exposure to radiation, pesticides, lead and indoor air pollution (coal use) before or during pregnancy

Explain that a woman should avoid exposure to X-rays, CT scans, etc. for any non-emergency reason, in the period before and during pregnancy, since radiation can harm the fetus. Also explain the importance of minimizing exposure to pesticides, lead-based paints and other strong chemicals to avoid damaging the fetus. Note that indoor use of charcoal for argila is toxic and poses risks for pregnant women and newborns. If she uses charcoal or wood for heating indoors, counsel her on the importance of avoiding this practice.

Annex 13 - Table 2: Specific environmental risk factors before or during pregnancy

Health problems / Problem behaviors / risk factors	Increased risks for maternal mortality and morbidity	Increased risks for childhood mortality and morbidity
Ionizing radiation	First-trimester miscarriage	Fetal growth restriction, impaired brain function, microcephaly, childhood cancers
Pesticides	Early spontaneous abortion	Childhood cancers
Lead or mercury pollution	Miscarriage, early spontaneous abortion, stillbirth, anemia	Central nervous system damage, fetal growth restriction, preterm births
Indoor air pollution	Stillbirth, chronic obstructive pulmonary disease, lung cancer (from coal use)	Pneumonia, fetal growth restriction

5. Violence in the home

Explain that not only physical violence, but also verbal aggression and other types of psychological abuse are very harmful to the whole family.

5.1. Risks during pregnancy:

Family violence is particularly dangerous for a mother and her fetus. Physical aggression can cause miscarriage and other dangerous conditions for the mother such as hemorrhage. Even psychological violence is dangerous to the woman, increasing risk of depression and reducing her ability to care for herself and her children. Studies have shown that stress during pregnancy negatively affects the physical growth of newborns, can cause hyper reactivity and other difficulties for newborns that can persist throughout their lives.

5.2. Risks to children in the home:

Children who are exposed to battering may experience developmental delays in speech, motor or cognitive skills and have numerous behavioral or psychological problems during their childhood and/or in later life.

Explain to the couple that it is important to do a brief physical exam of the woman including weight and blood pressure and provide counseling related to the results, for about 10 minutes. Ask them if they prefer that the man stays with her or that she attends the exam and counseling alone. In either case, complete the physical exam for the woman as indicated in the checklist.

6. Conduct a short physical exam and counseling session for the woman (the couple should decide whether the man stays with her or she completes it alone)

6.1. Underweight: Body Mass Index (BMI) <18.5 kg/m2):

A low BMI, especially if associated with short stature (<145 cm), can put the mother and child at risk of complications during pregnancy and delivery. Maternal under nutrition results in poor fetal development and lower birth weights, which can increase the newborn risk of mortality. The children from undernourished women are also more likely to develop non-communicable diseases such as type 2 diabetes and cardiovascular disease. Women who are underweight should be advised to try to improve their diet and weight before becoming pregnant, and referred to a nutritionist if feasible.

6.2. Healthy Weight (BMI >18.5 and <25):

If the woman has a healthy weight, encourage her to keep monitoring her weight and follow a healthy life style. Keeping healthy weight prior to getting pregnant is associated with healthy diet and good exercise routine. (Handling house hold activities, going for a walk and mild exercise.)

6.3. Overweight (BMI ≥25 kg/m2) or Obese (BMI>30 kg/m2):

If her BMI is above 25**,** discuss the following: Women who are overweight or obese before pregnancy are at greater risk of developing hypertensive disorders during pregnancy such as eclampsia or pre-eclampsia. They are also at greater risk of developing gestational diabetes mellitus or may have pre-existing type 2 diabetes before conception. Overweight and obesity may also increase the risk of stillbirth, difficult delivery, and other complications. Overweight status, including weight retained from a previous pregnancy, may also predict subsequent obesity. Infants of overweight women tend to be born larger and may be at increased risk of developing obesity and type 2 diabetes as children and adolescents. Obesity is associated with: an elevated risk of type 2 diabetes; infertility; gallbladder disease; limitations in mobility; osteoarthritis;, sleep apnea; respiratory impairment; social stigmatization and a variety of cancers (e.g. breast, uterine, colon). These risks increase proportionally with the degree of obesity.

A woman who is overweight or obese should be offered counseling on diet and exercise to be initiated before becoming pregnant and should be advised to consider delaying conception until she lowers her BMI. Obese women should be referred to a nutritionist if feasible.

If she is overweight or obese, also advise her to be tested for her blood glucose level and if she agrees, arrange a screening to rule out diabetes risk.

6.4. Hypertension:

Review BP results and ask about any history of hypertension. If BP is elevated or if indicated by previous history of hypertension, explain the risks of hypertension for pregnancy and suggest that she avoid becoming pregnant until her hypertension is under control. Refer her to PHC clinic for management according to the protocol for hypertension.

6.5. Diabetes Mellitus:

Ask woman if she has a family history of diabetes or gestational diabetes. if she is diabetic or pre-diabetic, ***or*** if she is overweight, obese or hypertensive and has a family history of diabetes , explain the risks of diabetes in pregnancy such as very large babies, hypoglycemia of the newborn or diabetic babies. A woman with these indications she should be referred to the PHC clinic for a fasting blood glucose or HbA1c test, and follow-up as indicated.

6.6. Anemia:

Explain the CBC test result. If she has or is at risk of anemia, explain risks of anemia in pregnancy. Iron-deficiency anemia during pregnancy is linked to an increased risk of preterm delivery and low birth weight. It's also associated with a higher risk of stillbirth, newborn death and postpartum hemorrhage. If the woman is anemic, advise her to take iron supplements to treat the anemia before she becomes pregnant and to eat foods rich in iron during pregnancy. Refer for further diagnosis or treatment if indicated.

6.7. Discuss Folic Acid Supplements:

Encourage the woman to initiate and continue folic acid supplementation if she plans to become pregnant within the coming year. Adequate folic acid supplementation before pregnancy and during early pregnancy can help to reduce the risk of neural tube defects in infants. Folic acid insufficiency before conception and during the first trimester is associated with a higher prevalence of neural tube defects.

In addition to supplements, folic acid can be found in breakfast cereals, breads, flours, pastas, cornmeal, and white rice, but all pregnant women should use folic acid supplements to further reduce the risk of these defects.

6.8. Vaccination Status:

Encourage client to review her vaccination status with health professional before trying to become pregnant.

The following vaccinations should be performed before a woman becomes pregnant.

Annex 13 - Table 3: Vaccinations needed before a woman becomes pregnant

Vaccine type	Required Vaccine	Facility to get Vaccination
***Rubella**	Rubella-containing vaccine (monovalent rubella [R] or measles–rubella [MR] or measles–mumps–rubella [MMR]) for women who have not been vaccinated previously	Primary Health Care Center
Tetanus	Tetanus- and diphtheria-containing (Td) vaccine for women who were not fully immunized in childhood or previous pregnancies	Primary Health Care Center
Hepatitis B	Hepatitis B vaccination	Primary Health Care Center

* It is recommended that women avoid pregnancy for at least 1 month after vaccination.

If Rubella vaccination status is uncertain, preconception screening for Rubella (Rubella IgM, Rubella IgG tests) provides the opportunity to increase immunization coverage to prevent transmission of infectious diseases and to improve maternal and newborn outcomes.

6.9. Other Medications:

Counsel the couple that any exposure to illicit drugs would be extremely harmful, especially during pregnancy, and even prescription medicine or some over-the-counter medications pose risks during pregnancy. Before becoming pregnant she should review with a doctor any medications she takes to ensure they are safe to take during pregnancy.

6.10. Breastfeeding:

Briefly explain the benefits of breastfeeding for both mother and child. Breast milk is the ideal nutrition for infant as it contains all elements needed for growth and development, with the composition changing according to his/her age.

6.11. Violence in the Home:

Provide information on sources of support should she ever experience violence in the home.

7. Concluding the session

After completing the different sections of the counseling session, ask the couple if either of them has any further questions or concerns. Explain that they are always welcome to come back to the health center for further advice, and for the woman to receive supplements if she is ready to become pregnant. Provide them a hand out that indicates where more information or services can be obtained concerning each topic, with links to on-line information if available.

ANNEX 14:

CHECKLIST FOR PRE-MARITAL SCREENING AND COUNSELING

(For couples who are planning to get married)

1. **Laboratory tests**:
   - ☐ Complete Blood Count for: Male: MCV (fL) :_____(< **80**), Hb) g/dL) : _____ (14-18)
   - ☐ Female: MCV (fL) :_____(< **80**), Hb) g/dL) : _____ (12-18)
   - ☐ Review results and refer client as appropriate according to the protocol.

2. **Counseling session with couple**
   - ☐ Family histories: consanguinity, genetic disorders and chronic disease tendencies.
   - ☐ Reproductive plans, healthy timing/spacing of pregnancy, advantages of delaying first pregnancy, modern family planning methods, normal range of time to become pregnant (1 year after marriage).
   - ☐ Unhealthy activities (tobacco & argila use, second-hand smoke), and alcohol.
   - ☐ Environmental exposures: Radiation, pesticides, lead and indoor air pollution (coal use for heating, cooking and argila) exposure before and during pregnancy.
   - ☐ Domestic violence, its consequences on family.
   - ☐ Other issues of concern, specify: _____

Explain to the couple that it is important to do a brief physical exam of the woman and provide counseling related to the results, for about 10 minutes. Ask them if they prefer that the man stays with her or that she attends the exam and counseling alone. In either case, complete the physical exam as below:

3. **Woman physical exam:**

   Blood pressure _____/_____ ☐ Normal (≤ 120/80) ☐ Abnormal

   Height_____ Weight _____ BMI _____ ☐ Underweight (< 18.5) ☐ Normal (18.5-24.9) ☐ Overweight (25-29.9) ☐ Obese (> 30)

   Women Age: _____ yrs. Spouse Age: _____yrs.

   Other tests, specify: _____

4. **Discuss the laboratory tests, physical exam results and provide counseling session ensuring privacy:**
   - ☐ Importance of healthy weight, good diet and exercise, weight reduction/increase if indicated as per the BMI.
   - ☐ If hypertension, diabetes or anemia is detected, manage/refer client as per MOH protocol.
   - ☐ Importance of taking folic acid supplements for 3 months before pregnancy to reduce risk of spinal cord defects.
   - ☐ Encourage client to review vaccination and medication status with health professional.
   - ☐ Domestic violence, its consequences and places for help and care.
   - ☐ ***Handout with summary of topics and links for further information provided to couple.***

Name of provider: _____ Signature: _____ Date of Counseling: __ /__ /____

ANNEX 15:

LIST OF HSS II BRIDGE PROJECT DELIVERABLES HANDED OVER TO MOH

HSS II
Health Systems Strengthening II

Ref.: 126/015
Date: July 07, 2015

Eng. Muna Herzallah
Head of Project Management Department
Directorate of Planning and Project Management
Ministry of Health (MOH)

Subject: Medical and IT Equipment Procured by HSS II Bridge for Selected MOH Directorates, Health Facilities and CBOs

Dear Eng. Muna,

Kindly note that the HSS II Bridge project has procured, distributed and installed medical and IT equipment for selected central MOH directorates, health directorates, hospitals and community based organizations (CBOs).

For this reason, please find enclosed the following:

1. List of medical and IT equipment distributed to their designated locations.
2. Acknowledgement receipts and installation reports for equipment under warranty.

For this purpose, we highly appreciate your kind support in facilitating the official receipt and entry of these items to MOH records and inventory.

Best regards,

Dr. Sabry Hamza
Project Director

Cc: Dr. Mohammad Tarawneh: Director of Planning Administration / MOH
Dr. Ali Al-Saad: Director of Health Directorates Administration / MOH
Dr. Bashir Al-Qaseer: Director of Primary Health Care Administration / MOH
Dr. Khaled Al-Odwan: Director of Health Directorates Administration / MOH
Ms. Samar Sammouh: Director of the Information Technology Directorate / MOH
Dr. Eng. Firas Abu-Dalou: Director of Biomedical Engineering Directorate / MOH
Ms. Katherine de la Rionda: Health Officer/HSS II COR, Office of Population & Family Health / USAID
Dr. Nagham Abu Shaqra: Senior Health Advisor/ Project Management Specialist / USAID
Ms. Lisa Childs: Deputy Director, Office of Population & Family Health / USAID
Ms. Reem Al-Ajlouni: Project Management Specialist / USAID
Ms. Susan Wright: Deputy Project Director and Service Delivery Improvement Lead / HSS II Bridge
Dr. Salah Gammouh: Performance Management and Quality Improvement Lead / HSS II Bridge
Ms. Hania Naber: Procurement Specialist / HSS II Bridge

Wadi Saqra, Arrar Street, Building No. 215, P.O.Box 851275 Amman 11185 Jordan

List of MOH Counterparts

No.	CENTRAL MOH	TITLE
1.	Dr. Mohammad Al-Tarawneh	Director of Planning Administration
2.	Dr. Khaled Al-Odwan	Director of Health Directorate Administration
3.	Dr. Basheer Al-Qaseer	Director of Primary Health Care Administration
4.	Dr. Ali Al-Saad	Director of Hospital Administration
5.	Dr. Abdel-Rahman Al-Ma'ani	Director of Administrative Affairs Administration
6.	Eng. Muna Herzallah	Head of Project Management Department / Directorate of Planning and Project Management
7.	Dr. Malak Al-Ouri	Director of Women and Child Health Care Directorate
8.	Dr. Raja' Khater	Director of Quality Directorate
9.	Dr. Malek Habashneh	Director of Health Communication and Awareness Directorate
10.	Ms. Samar Sammouh	Director of Information Technology Directorate
11.	Mr. Kamel Al-Ajlouni	Director of Nursing Directorate
12.	Dr. Ayyoub Al-Sayaideh	Director of Non-Communicable Diseases Directorate
13.	Dr. Ghaleb Qawasmeh	Director of Employee Affairs Directorate
14.	Dr. Fadwa Al-Shawabkeh	Director of Human Resources Development Directorate
15.	Dr. Radwan Abu-Dames	Director of Legal Affairs Directorate
16.	Dr. Issa Jaber	Chief of Ob/Gyn Specialty
17.	Dr. Samir Faouri	Chief of Pediatrics Specialty
No.	**HEALTH DIRECTORS**	**HEALTH DIRECTORATES (HDs)**
18.	Dr. Leil Al-Fayez	Capital HD
19.	Dr. Turky Kharabsheh	Zarqa HD
20.	Dr. Khaled Hiyari	Balqa HD
21.	Dr. Khaled Khreisha	Madaba HD
22.	Dr. Haidar Al-Otoum	Irbid HD
23.	Dr. Deifallah Al-Husban	Mafraq HD
24.	Dr. Abdel-Rahman Tbeishat	Ajloun HD
25.	Dr. Mohammad Bani-Mustafa	Jarash HD
26.	Dr. Tayseer Kreishan	Ma'an HD
27.	Dr. Zakaria Nawayseh	Karak HD
28.	Dr. Ghazi Mrayat	Tafilah HD
29.	Dr. Haitham Muheisen	Aqaba HD

Project Components and Deliverables Index

#	Project Component	Title of Deliverable Document	Notes
1	**Expand access to equitable and sustainable facility based family planning services**	1. FP SDIC Final Report 2. FP SDIC Implementation Kit	
		3. Addressing Traditional Family Planning Methods Users Report	
		4. Development of Staffing Norms and Use of WISN in MOH*	*WISN is not a project deliverable but it is included due to its importance to the MOH, documenting all the efforts made to lay out the process, progress and next steps for use of WISN in Jordan.
2	**Strengthen capacity of MOH and RMS hospitals to continue implementing best practices for maternal and newborn care**	5. Protocol for AMTSL to Prevent Postpartum Hemorrhage	Protocol and official letter to the MOH included on CD
		6. Protocol for the use of NB-CPAP in Neonatal Intensive Care Units	Protocol and official letter to the MOH included on CD
		7. Distribution List of Procured CPAP Units	Official letter to the MOH and CPAP receipt forms included on CD
3	**Strengthen capacity of MOH to use data generated from different HMIS to improve decision making and planning**	8. Data Models for FP Services and Maternal / Neonatal Care Report	
		9. Distribution List of Procured IT Equipment	Official letter to the MOH and IT equipment receipt forms included on CD
		10. The JMMSRS Model	Included on CD in both Arabic and English
		11. Preconception Care Model for Jordan	• Report includes premarital and preconception care guidelines and checklists • Guidelines and checklists are also included on CD separately in both Arabic and English
4	**Assist the MOH to improve access to family planning and reproductive health through community base organizations**	12. Development of CBOs Report	
		13. Community Health Committees Assessment Report 2015*	*This report is not a deliverable but it is included due to its importance.