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TECHNICAL ASSISTANCE IN DELIVERY OF HOSPITAL SERVICES

**PALESTINIAN HEALTH SECTOR REFORM AND DEVELOPMENT
PROJECT**

SHORT-TERM TECHNICAL ASSISTANCE REPORT (FINAL)

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ACRONYMS

CPAP	Continuous Positive Airway Pressure
IV	Intravenous Fluids
M&E	Monitoring and Evaluation
MOH	Ministry of Health
NICU	Neonatal Intensive Care Unit
SOW	Scope of Work
STTA	Short-Term Technical Assistance
USAID	United States Agency for International Development

ABSTRACT

This consultancy took place during two separate periods: April 6 – July 14, 2011, and September 11 – 23, 2011. Its primary purpose was to assist in enhancing capacities of professionals at select Ministry of Health (MOH) hospitals, but in fact most activity during the consultancy took place at the Neonatal Intensive Care Unit (NICU) of Rafidia Hospital in Nablus.

The areas of professional capacity that were addressed were improving knowledge and skills in neonatal care, including proper use of specialized equipment; professionalism; and adhering to best practices and high standards of care.

Several formats were used to accomplish the objectives:

- Monitoring and Evaluation (M&E) of current practices and skills in order to design appropriate activities for improvement;
- Facilitating and assisting in implementation of formal trainings in proper use of incubators; neonatal resuscitation; communication skills; and a Pulmonary Medicine Scientific Day Conference;
- Coordinating activities of local physician and nurse consultants in neonatology; and
- Assisting in development of teaching aids, protocols, and clinical guidelines.

The most successful of these activities were the efforts of the local consultants who provided bedside, hands-on teaching and mentoring in select skills and practices in the NICU. Early indications were that these activities were leading to enhanced capacities of the physician and nursing staffs. However, this and some other of the planned activities were not able to be completed because the consultancy was terminated early, due to financial considerations.

Recommendations from this consultancy, summarized in the next section, include continuing efforts by the Project team to continue to pursue these objectives.

SUMMARY OF RECOMMENDATIONS

The following recommendations are for the Project, unless specified as MOH.

Within the next three months:

- As circumstances allow, continue to use local consultant physician and nurse specialists in neonatal care to provide ongoing guidance, mentoring, teaching, and coaching to the NICU staff. These consultants will model professional behaviors and practices as well as provide the technical assistance.

Within the next six months:

- Develop and install teaching aids and clinical guidelines to encourage and reinforce professional practices; for example, hand hygiene, communication skills, and temperature management.
- Procure and/or assist MOH in the procurement of needed equipment.
- Coach and mentor Rafidia Hospital and MOH personnel in “inventory management”; i.e., how to identify needs ahead of time and understanding the system to fill the needs.
- Provide workshop in Risk Communication: Developing Relationships and Effective Communication with Families.
- Provide training in a neonatal resuscitation program or course.

Within the next year:

- When budgetary and other constraints permit, complement the work of local consultants with international consultants in the same fields.
- With MOH and Rafidia Hospital staff, develop a limited set of agreed-upon competencies and standards of care, and then design activities that will ensure assimilation of the competencies and standards.
- Provide educational resources for staff, e.g., audio-visual aids, lectures, journals access.
- Develop selected guidelines, policies, and/or care manuals and train on utilization.

SECTION I: INTRODUCTION

The Palestinian Health Sector Reform and Development Project is a five-year initiative funded by the U.S. Agency for International Development (USAID), designed and implemented in close collaboration with the Palestinian Ministry of Health (MOH). The Project's main objective is to support the MOH, selected non-governmental organizations, and selected educational and professional institutions in strengthening their institutional capacities and performance to support a functional and democratic Palestinian health sector able to meet its priority public health needs. The Project works to achieve this goal through three components: (1) supporting health sector reform and management, (2) strengthening clinical and community-based health, and (3) supporting procurement of health and humanitarian assistance commodities.

One of the areas for the Project's activities directed toward strengthening institutional clinical capacities has been services in Pediatrics and Neonatology in select MOH hospitals. The primary focus of these activities during the Project's years two and three was at the NICU at Rafidia Hospital in Nablus.

During this period, Project activities included the following:

- Providing frequent onsite collaborative assistance and support of Rafidia Hospital personnel.
- Providing expert consultation in optimizing the physical facilities for neonates.
- Procuring equipment necessary for best-practice NICU care: respiratory equipment, incubators, cardio-respiratory monitors.
- Providing training, coaching, and mentoring in proper use of the procured equipment.
- Providing ongoing expert support and advice for maintenance of equipment.
- Providing consultancy visits by experts in neonatology (physician, nurse, and respiratory therapist), clinical pharmacy, and pediatric intensive care with the purpose of strengthening the capacities of healthcare professionals.
- Providing expert consultation and coaching in nursing care, standards, and quality.
- Procuring newest edition textbooks in pediatrics, neonatology, and pediatric and neonatal nursing.
- Facilitating and supporting educational activities including Pediatric Grand Rounds and workshops.

Previous short-term technical assistance (STTA) consultants noted some improvements in services at Rafidia Hospital NICU, but also noted continuing deficits in care and practice. For example, some of the equipment was not being used or not being used properly; expertise in certain technical areas was weak; the overall approach to patient care and interactions among health care team members lagged behind expectations; and there were no efforts to sustain educational activities that consultants had initiated.

The purpose of this consultancy was to follow up, re-invigorate, and capitalize on the previous activities, and implement new strategies to carry forward. The scope of the consultancy included the following:

- Collecting objective evidence and data about the current care, practices, and use of equipment at Rafidia;
- Using that information to determine where improvements were needed;

- Planning interventions and activities that could provide what is needed through mentoring, coaching, and/or training;
- Coordinating a group of local consultants to assist in implementing the activities in order to ensure sustainability of the interventions.

The consultancy began on April 6, 2011. The timeframe for the consultancy was originally planned to be approximately eight months (April – December 2011), with intermittent activity during that time to comply with a Level of Effort of up to 90 days. The first period of consultant activity was April 6 – July 14, 2011. A second period was planned to occur from September 11 – 29, 2011; however, during that period funding levels for the Project were altered, and it was necessary to terminate the consultancy early on September 23, 2011.

SECTION II: ACTIVITIES CONDUCTED

The scope of work (SOW) for the consultancy enumerated several objectives including the following:

- Mentoring physicians in learning, adapting to, and troubleshooting new technologies in Pediatrics that the Project is providing;
- Mentoring MOH physicians in understanding and adapting best practices in certain selected patient care practices;
- Objectively measuring the impacts of Project activities and efforts in Pediatrics/Neonatology through Monitoring and Evaluation (M&E);
- Participating as needed in training residents of the Emergency Medicine Residency Program.

Owing to Project priorities, activity in Pediatrics at Rafidia Hospital had been somewhat curtailed during Project Year Three quarters one and two, so it was necessary to determine the current care and practices at the Rafidia NICU, i.e., the “baseline” for this consultancy activity.

The Project’s Hospital Support and M&E teams worked together to develop the forms to collect the data of interest. The primary focus was on the use of equipment and technologies, but also included general observations about staff activities, behaviors, and practices.

Direct, “spot-check” observations in the NICU were carried out at random times during different shifts, over a period of approximately three weeks. It was determined that at least five to seven separate observation times would provide valid results within the constraints of available resources. The form that was used to record observations, which was developed based on selected indicators (see Annex E1 and Annex E2).

In addition, onsite, confidential, one-on-one interviews of NICU patients’ families were conducted by a member of the M&E team. The interviews were conducted in Arabic. The form used to record these results (see Annex E3).

A third method of data collection was reviewing the information recorded in the health information system (HIS) which had recently been launched in the Rafidia NICU. Initial reviews of the HIS records indicated that medical documentation by staff in the NICU is weak. Allowing for some period of adaptation to this new technology, it still appeared that staff members, both physicians and nurses, would benefit from further instruction in medical record keeping and documentation. Therefore, use of the HIS system became another indicator for this activity.

The collected data revealed several practices that did not meet best practice standards and would be appropriate target areas for activities and interventions. They are detailed in Section III below. The problematic areas were grouped into three categories:

1. Understanding and proper use of the equipment provided by the Project;
2. Select care and practices, including hand hygiene, thermoregulation, documentation using HIS, and continuing education;
3. Professionalism and approach to patients and families.

Identifying these deficits led to the major activities of the consultant, as follows.

Mentoring

It was determined that activities and interventions directed toward practice standards and professionalism would best be facilitated by local technical expert consultants whose continuing presence could help ensure continuity and sustainability.

This consultant worked with the Project Hospital Support team to identify candidates for these consultancies, recruit them, and hire them. The consultant then took the lead in directing their activities.

A neonatologist was recruited for the position. His SOW for the consultancy was developed by this consultant and was focused on two primary areas: use of equipment and respiratory management of NICU patients. The neonatology consultant attended the Rafidia Hospital NICU for two to three days per week and rapidly developed rapport and credibility with the team of physicians and nurses. During his consultancy, he issued written reports of his work and progress. These reports were reviewed by this consultant and discussed with him to agree upon next steps.

Results of his work are summarized in the “Findings” section below.

A local neonatal nurse specialist was also recruited for consultation, but financial considerations of the Project prevented him from beginning his work.

Teaching

This consultant also participated in planning and implementation of several teaching activities.

At the beginning of the consultancy, the Project’s Procurement Team arranged for a two-day in-service at Rafidia Hospital by a neonatal nurse practitioner from the United Kingdom. This in-service provided instruction in thermal regulation of newborns and proper use of incubators. This consultant attended the in-service and remained in contact with the nurse practitioner in order to ensure follow-up to her teaching.

The consultant also worked with the Project Knowledge Management Team to develop a teaching aid to enforce good hand hygiene in the NICU. The team developed transparent stickers to be placed on each incubator to remind all staff and visitors to wash their hands before touching or having contact with the neonate.

A third activity of this consultancy was the planning and implementation of a Pulmonary Medicine Scientific Day. This activity was conceived to provide much needed academic, didactic education on a topic that causes much morbidity and mortality in the region - pulmonary medicine. The occasion also took advantage of several Project consultants available in the region at the same time - a pulmonary medicine/critical care physician, a neonatologist, an emergency medicine physician, and a non-consultant respiratory therapist.

The Pulmonary Medicine Scientific Day was coordinated with the MOH. The target audience was physicians and nurses in pediatrics, NICU, emergency medicine, and ICU/Critical Care Unit departments at Rafidia Hospital, Ramallah Hospital in Ramallah, Alia

Hospital in Hebron, and Al Makassed Hospital in East Jerusalem. Invitations were sent to the Directors, Medical Directors, and Heads of Departments at all of these hospitals. The event was coordinated by the Project staff.

The program was intended to be cross-cutting for these various disciplines with which the Project has been working. It was an opportunity for the Project to further its goal of enhancing professional capacities, as well as to display its broad range of activities in improving health care. Approximately 60 persons attended the event, including the Minister of Health and the Deputy Minister for the Hospital Directorate (see Annex E4).

The consultant further supported the Project's technical team with follow-up field visits for one of their Project's grantees, Holy Family Hospital, on their Pediatric Residency Program.

SECTION III: FINDINGS, CHALLENGES, RECOMMENDATIONS, AND NEXT STEPS

A. Findings

I. Direct Observations

The consultant and a member of the Project's M&E team spent approximately seven to eight hours in the NICU over a three week period at randomly selected times, on two shifts, observing NICU physicians and nurses in the course of their work. Approximately 14 of the 21 staff nurses and four physicians were observed (see Annex E1 and E2). The observers sat in the NICU in a location that did not interfere with any patient contact or with staff duties. In general, there was no conversation between staff members and observers other than polite greetings. Whereas the time allocated for this observational exercise was limited, it reflects areas of weakness that can be addressed in future Project or MOH administrative activities, and should not be taken to generalize staff actions.

The findings are summarized according to the three focus areas noted above.

Equipment:

- a. There was very limited utilization of the cardio-respiratory monitors procured by the Project during the observation periods. Other devices were used to monitor patients' heart rates and respiratory rates. Blood pressure monitoring was not performed during the periods.
- b. Incubators procured by the Project were used, but were used improperly frequently.
 - Doors were opened for patient handling, instead of using portholes.
 - "Thermal shield" feature was not used during exposure of patients.
 - Controls were not set properly.
- c. Continuous Positive Airway Pressure (CPAP) or high frequency ventilator procured by the Project was not used during the observation periods.
- d. Two patient discharges were observed and on both occasions, cleaning of the incubator was undertaken immediately and appeared to be thorough.
- e. Alarms of monitors, incubators, and oxygen were responded to inappropriately.
 - During the observations there were always three to four devices alarming continuously. On only two occasions did a nurse walk to the alarming device, and in only one case was an action taken. A physician did not respond to an alarm during the observations.
 - Based on the patients' status as observed, it appeared that alarm limits were sometimes set inappropriately; for example, an alarm sounded for a heart rate that was within normal limits.

Care and Practices:

- a. During the hours of observation involving approximately 14 nurses and four physicians and approximately 70 patients, only six instances of hand washing were observed before contact with a patient. One instance involved a physician, the others were nurses. One physician was observed to use hand gel on one occasion. In

other words, the vast majority of contacts with patients were made without practicing hand hygiene of any kind.

b. During one observation period, the six nurses in the NICU were observed continuously for one hour. Therefore, this represented 360 person-minutes of nursing. During the 360 minutes,

- Nurses spent 31 minutes (8.6%) at a patient's bedside
- Nurses spent 12 minutes (3.3%) with a parent
- A nurse spent 19 minutes (5.3%) using HIS
- Nurses spent 35 minutes (9.7%) cleaning incubators
- Nurses spent 36 minutes (10.0%) out of the NICU
- Nurses spent 227 minutes (63.1%) sitting in the nurses' station (performing unclear activities)

c. During the observation periods, four physicians were observed in the NICU. Two were specialists and two were residents. During these observations, physicians' total time in the NICU was 123 minutes. Forty-six minutes of physician time were spent at the computer using HIS. Two of the physicians made no contact with patients during the observations. Only one of the physicians spoke with parents during the observations.

Interactions with Patients and Families:

a. During the observations, approximately 20 parents were present in the NICU. Unfortunately, no staff members, physicians, or nurses approached the parents to speak with them during that time. Two parents asked the physician who was present to speak with them about their child. Some other parents asked nurses for information about their children.

b. The interactions that were observed between parents and staff were brief, the longest lasting ten minutes.

Interviews:

Nine interviews were conducted in the NICU lobby where parents were waiting. A member of the Project's M&E team introduced the purpose of conducting this interview as a measure of determining parent satisfaction about the services provided at the unit in order to serve as a means for supporting the provision of improved services.

The interview was divided into sections to assess different aspects of parent-provider interactions. These sections were:

- Receiving Information
- Care and NICU Environment
- Staff Professionalism
- Parents' Role

The original plan was to administer a questionnaire and reflect quantitative values of satisfaction responses to the statements put forward to the parents to agree or disagree. However, due to limited time and the limited number of parents available to answer the questionnaire, it was decided to reflect a more qualitative analysis of the interaction with the parents, especially since most parents felt the need to say more than just agree or disagree with a statement. The findings are as follows:

Information: Most parents felt they had received adequate information about their child's condition and medical care needed. However, some parents noted that they initiated the request for information and the information is not otherwise shared freely with them. All parents said that they have met the physicians caring for their babies and have noted that physicians keep changing and they refer to more than person. Most parents agree that the information they receive is not complicated and easy to understand and that they have been introduced to the regulations of the unit. The head nurse was queried about what regulations are in place and she referred to a poster on the entrance of the NICU highlighting hygiene practices for parents. When asked about hand washing, parents said they were instructed to wash hands before handling the baby.

Care and Environment: Parents all agreed that the NICU is generally clean and comfortable and that the incubators are kept clean. They think that the monitors are necessary for the wellbeing of their child but think that the continuous sounding alarms are very annoying. When asked if the staff is responsive to the alarms they said that they may check it once, but not always.

Professionalism: Parents agreed that the staff is organized and collaborative as a team. However, some parents noted that some staff, though not all, are disrespectful towards parents and that they do not show empathy towards the psychological needs of the parents.

Parents' Role: Parents agreed that they were encouraged to visit the baby, but only during feeding hours and were asked to leave when finished. Parents said they are not encouraged to stay with the baby beyond feeding hours. All parents agreed that staff have encouraged them to breastfeed their babies.

During the interviews with parents, it was noted that most of their concerns and comments regarding the NICU services revolved around the lack of empathy of some nurses towards them as parents. Some were annoyed at the fact that grandparents are not allowed into the NICU to see the baby and said that some nurses do not understand the psychological needs of the parents, while their babies are in the NICU. Some parents also noted that if parents were compliant with what the nurses say, the nurses would be responsive, but if some parents demanded more information the nurses would not be very cooperative.

HIS Records:

As noted, reviews of the entries being made in the HIS system by physicians and nurses indicated several deficiencies in the approach to documentation.

- a. Documentation in the form of progress notes by physicians is inconsistent. Notes are usually present, but are very brief and typically report facts only, such as the intravenous fluids (IV) or antibiotics being administered. It is difficult to surmise the physician's impression or assessment of the patient's condition, status, or prognosis. In one instance, a patient died but there was no indication anywhere in the record of the cause of death or the events that led to it.

- b. Nurses' notes are generally better than physicians', but are also predominantly factual without the nurse's assessment of the patient's status.
- c. Changes in patient condition were sometimes, although inconsistently, noted. When noted, usually no comments were made about possible cause(s) of the change or whether the care plan should be or will be changed. Little information is provided that would be useful to another caregiver.
- d. Parent visits, interactions, questions, or concerns were never noted.

Activities of Neonatal Consultant:

The local neonatology consultant was made aware of these findings described above. He was tasked to concentrate his efforts primarily in the following areas:

- Use of equipment, specifically the CPAP device procured by the Project, and
- Standards of care and practice in respiratory management.

The consultant made noticeable progress with his activities.

- A new enthusiasm was noted among physicians and nurses in the Rafidia Hospital NICU regarding their care of patients with respiratory disease.
- Following the mentoring of the consultant, the NICU staff quickly began to implement use of CPAP on their own with much greater regularity and according to correct practice and standards.
- NICU staff became more interested in reading textbooks procured by the Project, and asked the consultant for the latest literature reports about respiratory management.
- Staff were noted to respond more quickly and more expertly to emergency situations in the NICU.
- During the period of this consultancy, documentation in the medical records on the HIS system showed improvement, becoming more comprehensive and timely.

The consultant identified areas needing improvement in infection control within the NICU. He began to make investigations into the microbial pattern in the hospital and NICU and procedures of the microbiological laboratory. However, these activities in infection control were halted when financial constraints of the Project brought an early termination to his consultancy.

B. Challenges

Despite considerable progress made at the Rafidia Hospital NICU, several challenges remain in the following general categories.

Professionalism:

One factor having a deleterious effect on the status of care and services at the Rafidia Hospital NICU, attested from all sources, is the overall approach to patient care and to problem-solving. Problems have been noted among all disciplines – administrative and support staff as well as medical and nursing. Enhancing professional capacities of NICU physician and nursing staff will partially address this need, but this is not primarily a matter of acquiring new skills or knowledge. The improvement that is needed is in attitude, commitment, and caring. Examples noted by consultants include the following:

- Despite knowing the critical importance of hand hygiene, physicians and nurses rarely practice it.

- Similarly, staff does not enforce the wearing of cover gowns by persons entering the NICU.
- Alarms on monitors, incubators, and respiratory support equipment sound constantly and are ignored by staff.
- Situations were frequently observed in which patients were in poor condition (respiratory distress or hypothermia) and no action was taken.
 - Procedures are frequently done at the convenience of the staff without proper attention to maintaining the patient's temperature or oxygen status.
 - Patients who are critically ill do not receive a level of attention commensurate with their critical condition.
 - Abnormal vital signs are sometimes ignored; i.e., no action is taken and the physician is not notified.
 - Physicians are rarely present in the unit. Nurses leave the unit frequently for extended periods.
 - Parents and family members are not attended to promptly.
 - Some members of the staff do not treat each other courteously or respectfully.
 - Some members of the physician staff believe that their knowledge is complete and they do not need to participate in educational opportunities.
 - Rather than confront challenges and seek solutions, staff "re-defines" a situation for convenience. The prime example is obtaining water for humidification – rather than take the steps necessary to correct the problem, some staff declare that humidification is not important.
 - Project procured monitors go unused because staff does not pursue the steps necessary to acquire the ancillary supplies that are needed for their use.

Material Resources:

- Although the NICU space is adequate and functional, some critical elements are lacking; for example, sufficient sinks for hand washing, dispensers for gel disinfectant to ensure hand hygiene, and a consistently adequate supply of cover gowns.
- The NICU space is adequate to provide care for 15-20 patients. To "force" a higher census is ill-advised because it will increase the risk of infection and provide inadequate nurse: patient care.
- Supplies necessary for use of Project procured cardio-respiratory monitors (O2 sat sensors, leads) are not available months after the monitors were procured. Without the supplies, the monitors go unused, which represents a substantial waste of resources and deprives patients of the benefits.
- Certain supplies important for best practice neonatal care are not available, including the following:
 - Oxygen blenders for administration of supplemental oxygen
 - Percutaneously Inserted Central Catheters for intravascular access
 - Umbilical catheters, intravascular access catheters, nasal cannulae in sizes suitable for premature babies
 - Blood gas machine
 - Scales to weigh diapers for accurate monitoring of patients' fluid status
 - Sterile water for humidification of incubators and respiratory equipment is not readily or consistently available

- Refrigerator/freezer to store breast milk
- Hospital grade breast pump

Human Resources:

Rafidia Hospital NICU is currently challenged by a shortage of persons to lead and assist in bringing about the needed improvements. Three of the pediatric physicians are in Israel in specialty training programs (neonatology, intensive care/anesthesia/cardiology). They will not return to duties at Rafidia Hospital until late 2011 or early 2012. Their return will greatly improve the situation, but until that time their absence adds to the challenges. Of the remaining staff of pediatricians, only two are currently working in the NICU; the others only work in general pediatrics.

Residents are present at Rafidia Hospital but they are not motivated in becoming effective change agents because of uncertainties and limitations in their status imposed by financial constraints of the MOH.

Care and services at Rafidia Hospital NICU are affected and impacted by administrative persons at Rafidia Hospital and in the MOH. No improvements can be expected without their active support and engagement; however, it is imperative that administrative persons recognize that their authority must sometimes defer to medical personnel about certain medically-related decisions. For example, decisions or policies about admission of patients to NICU must be primarily a medical, not an administrative decision.

Standards of Practice and Care:

Care and services at Rafidia Hospital NICU are affected by the lack of specially trained neonatal physicians and nurses. Some of the physicians and nurses have many years' experience in caring for neonates and this is helpful, but it cannot be considered to be sufficient or satisfactory, especially because circumstances have prevented these persons from improving or upgrading their knowledge and skills. There are some opportunities for the Project to help improve this situation, listed in the next section.

C. Recommendations

Given the above findings and challenges, there are opportunities to focus on within the intervention at this NICU, given that several of the younger staff are eager to learn and improve services if guided accordingly, and need to be empowered to do so.

Professionalism:

- Deploy local consultant physician and nurse specialists in neonatal care to provide ongoing guidance, mentoring, teaching, and coaching to the NICU staff. These consultants will model professional behaviors and practices as well as provide the technical assistance.
- Develop and install teaching aids and clinical guidelines to encourage and reinforce professional practices; for example, hand hygiene, communication skills, and temperature management.

Material Resources:

- Procure or assist MOH to procure the needed equipment identified above.

- Coach and mentor Rafidia Hospital and MOH personnel in “inventory management”, i.e., how to identify needs ahead of time and understanding the system to fill the needs.

Human Resources:

- When budgetary and other constraints permit, complement the work of local consultants with international consultants in the same fields

Standards of Practice and Care:

- Provide workshop in Risk Communication: Developing Relationships and Effective Communication with Families.
- With MOH and Rafidia Hospital staff, develop a limited set of agreed-upon competencies and standards of care, and then design activities that will ensure assimilation of the competencies and standards.
- Provide training in a neonatal resuscitation program or course.
- Provide educational resources for staff; for example, audio-visual aids, lectures, journals access.
- Develop selected guidelines, policies, and/or care manuals.

D. Next Steps

- Coordinate ongoing trainings and/or in-services to ensure sustained optimal use of incubators, monitors, and respiratory equipment. Consultants and/or company representatives should perform the trainings and in-services. Pre- and post-testing should be done to document that personnel have been successfully trained.
- Encourage and facilitate accelerated interest and involvement of bioengineers in maintaining equipment to ensure its optimal use.
- Prepare list of additional needed equipment, in the event Project’s Year Four budgeting provides possibilities for procurement.
- Project team members collaborate with MOH and Rafidia Hospital Quality Assurance personnel to ensure more vigorous surveillance of best practices in the NICU, such as hand hygiene.
- Prepare or identify already available Behavior Change Communication resources to use to encourage and enforce good practices in the NICU; for example, hand hygiene.
- Upon return of the Rafidia Hospital physicians who are receiving specialty training in Israel, establish relationships with them to encourage professionalism in the NICU.
- Work with MOH officials and consultants to identify possible areas for institutional collaborations in providing specialty care (for example, neurosurgery) and referral of patients.
- Project technical team to recommend modifications to system to streamline or improve medical documentation.
- Work with HIS team to ensure hospital staff is consistently and properly using the system to obtain maximum benefit from it.
- Offer assistance to Palestine Medical Council and MOH to develop local neonatology training program OR find ways to let physicians and nurses go abroad to receive training. This has precedent because MOH made possible

the specialty training now being received in Israel by three Rafidia pediatricians.

- Encourage and facilitate professional exchanges with other facilities; for example, Al Makassed Hospital or Holy Family Hospital.

ANNEX A: SCOPE OF WORK

Short-Term Consultancy Agreement Scope of Work

SOW Title: Medical Advisor/Neonate and Pediatric

Work Plan No: Technical , D. 09.

SOW Date: 3/1/2011

SOW Status: FINAL

Consultant Name: Harry Gunkel, MD

Job Classification: Short-Term US Expatriate Consultant

Reporting to: Issa Bandak .

I. Flagship Project Objective

The Flagship Project is a five-year initiative funded by the U.S. Agency of International Development (USAID), and designed in close collaboration with the Palestinian Ministry of Health (MOH). The Project's main objective is to support the MOH, select non-governmental organizations, and select educational and professional institutions in strengthening their institutional capacities and performance to support a functional, democratic Palestinian health sector able to meet its priority public health needs. The project works to achieve this goal through three components: (1) supporting health sector reform and management, (2) strengthening clinical and community-based health, and (3) supporting procurement of health and humanitarian assistance commodities.

The Flagship Project supports the MOH in implementing health sector reforms needed for quality, sustainability, and equity in the health sector. By addressing key issues in governance, health finance, human resources, health service delivery, pharmaceutical management, and health information systems, the MOH will strengthen its dual role as a regulator and main health service provider. The Flagship Project also focuses on improving the health status of Palestinians in priority areas to the MOH and public, including mother and child health, chronic diseases, injury prevention, safe hygiene and water use, and breast cancer screening for women.

II. Specific Challenges to Be Addressed by this Consultancy

The quality of Palestinian health services has been compromised by fragmentation among health service providers, resulting in multiple and varying clinical standards and norms. There has been little citizen participation and feedback solicited by the MOH, resulting in a gap between citizen expectations and MOH delivery of services. Improvement of pediatric services in MOH hospitals is a priority of the MOH and Flagship staff is committed to help initiate change and necessary reforms to deliver better secondary health care services to the Palestinian people.

Two areas of particular need that have already seen substantial activity by MOH and Flagship Project are hospital services in Pediatrics/Neonatology and the Emergency Medicine Residency Training Program (EMRTP). Substantial time and resources have already been invested in these areas. This consultancy will provide the needed medical technical expertise to assist in the ongoing activities, and assist in developing and implementing the next phases of activity to support continued growth of the programs and assure the maximum benefit of previous efforts in these areas. The consultant will provide local, 'on the ground' communication and liaison support for all stakeholders; provide technical medical expertise as needed; and collaborate with other stakeholders and partners in planning for the future activities in Pediatrics and EMRTP. The current system lacks proper monitoring on utilization of new technologies, and adaptation of best practices in certain areas of patient care. There needs to be evaluation on the impact of certain interventions, specially the Flagship project activities and efforts in Pediatrics and Neonatology.

This consultancy will focus on enhancing the skills of healthcare professional at multiple levels. It will assist the medical and nursing neonatal staff at Rafidia and potentially other hospitals in enhancing their skills in providing neonatal care. This will be conducted through training on proper equipment utilization supplied by the project for the neonatal department. In addition, it is provide training to the staff in neonatal care. Such intervention will contribute to the greater role of the project in enhancing the quality of servicers at MOH hospitals.

III. Objective and Result of this Consultancy

The objectives of the consultancy are:

1. Mentoring MOH physicians in learning, adapting to, and troubleshooting new technologies in Pediatrics that Flagship Project is providing.
2. Mentoring MOH physicians in understanding and adapting best practices in certain selected patient care practices.

3. Objectively measuring the impacts of Flagship Project activities and efforts in Pediatrics/Neonatology through Monitoring and Evaluation.
4. Optimizing communication and harmony among the several stakeholders and partners in the EMRTP.

These objectives are consistent with Flagship Project Objective: Improve the Quality of Essential Clinical Services for Palestinians.

Achieving the objectives will be measured by

- Documented proper use of equipment
- Data describing effects of use of equipment on selected outcomes; for example, staff satisfaction and clinical measures.
- In-services and trainings occurring
- Smooth continuity of EMRTP and successful completion of its goals
- Written report/s describing examples of improvements in the designated areas

IV. Specific Tasks of the Consultant

Under this Scope of Work, the Consultant shall perform, but not be limited to, the specific tasks specified under the following categories:

A. **Background Reading Related to Understanding the Work and Its Context.** The Consultant shall read, but is not limited to, the following materials related to fully understanding the work specified under this consultancy:

- Work Plans for year 1-3, highlight Y3.
- MOH Institutional Development Plan (IDP) (and any updates)
- Flagship Contract Section C
- Performance Management Plan
- Annual report from year 1,2
- Most recent quarterly report
- Related STTA consultants' reports.

B. **Background Interviews Related to Understanding the Work and Its Context.** The Consultant shall interview, but is not limited to, the following individuals or groups of individuals in order to fully understand the work specified under this consultancy:

- Kirk Ellis, Acting COP
- Dr. Jihad Mashal, Acting DCOP and Focus Area C Director
- Andrea Uribe, Acting DCOP -Operations
- Rebecca Sherwood, Comp 1 Director/ Focus Area A Director
- Yasir Harb, Focus Area B Director
- Dr. Daoud Abdeen, Focus Area C Director
- Issa Bandak, Focus Area D Officer
- Nadira Shibley, Focus Area E Director
- MOH Counterparts.

C. **Tasks Related to Accomplishing the Consultancy's Objectives.** The Consultant shall use his/her education, considerable experience and additional understanding gleaned from the tasks specified in A. and B. above to:

General tasks revolve around the following:

- Provide technical coordination and oversight for developing Clinical Care Protocols for selected areas of need in Pediatric/Neonatal patient care. This will be accomplished through assistance in drafting the Protocols and in facilitating their approval by MOH.
- Provide technical coordination and oversight in planning and implementing staff in-services for the adopted Clinical Protocols in order to see them put in practice in MOH facilities.
- Provide local, 'on the ground' assistance to the EMRTP. This will be accomplished through contact and liaison with the EM Physician Liaison in USA; regular, frequent contact with center EMRTP coordinators; regular, frequent contact with EMRTP partners.
- Mentor proper use of equipment procured by Flagship Project for Rafidia Hospital NICU. This will be accomplished through sustained contact with responsible persons at the hospital and MOH, and in

- assisting in planning and design of staff in-services and trainings.
- Provide technical coordination and oversight for Monitoring and Evaluation of outcomes resulting from use of equipment. This will be accomplished through developing proper instruments for measurement, planning implementation of data collection, and interpreting results.
- Promote and model the interdisciplinary between physicians and nurses in providing patient care and assist in training the nurses in coordination with the nursing intervention of the project.

Specific activities and tasks under the above include:

- Audit the current use of previously procured equipment
 - Provide oversight services in designing a program to train staff in proper use of equipment
 - Provide oversight services in developing instrument(s) to measure and evaluate results of proper use of equipment
 - Participate in trainings of proper use of equipment
 - Facilitate recruiting and monitoring of local experts to assist in the activities
 - Draft Clinical Protocols in selected patient care areas
 - Facilitate adoption of Clinical Protocols by MOH
 - Provide bedside teaching, mentoring in Pediatrics for EMRTP as required.
 - Maintain regular, frequent, in-person contact with local EMRTP stakeholders/partners
 - Provide liaison with EM Physician Liaison in USA
 - Identify remaining gaps and address them through subsequent engagements
 - Promote, model and coach physicians and nurses in working into an interdisciplinary work environment in concert with the nursing intervention of the project.
 - Provide medical expertise support to technical teams working in HIS, Grants, procurement and knowledge management in the area of intervention if needed.
 - Provide progress reports on activities in a consistent manner to support the technical team of the project.
- In the event that new priority tasks are introduced during the consultancy, the consultant will work with the Flagship project staff to revise the tasks and expected products to accommodate for the new priorities.
 - In addition to the above-listed tasks, the Flagship Project welcomes additional contributions and creative ideas in support of the Flagship objectives.
 - The consultant is encouraged to support the identification of additional STTA and scopes of work to help accomplish Flagship goals and objective where possible.
 - Consultant shall not provide advice or carry out activities that are, or could be construed as, the practice of medicine.
 - The consultant is encouraged to support the identification of additional STTA and scopes of work to help accomplish Flagship goals and objective where possible.

V. Expected Products.

Within three days of the consultant's first day of work (unless otherwise specified), the consultant should provide the methodology for successfully completing the work (using Annex I: STTA Methodology). The substance of, findings on, and recommendations with respect to the above-mentioned task shall be delivered by the Consultant in a written report, policy statement, strategy, action plan, etc. for submission to USAID (using Flagship-provided STTA report template provided in the Welcome Packet). A draft of this report is due no later than 3 business days prior to the consultant's departure (unless otherwise specified) and final no later than 7 business days after the consultant's departure. Please note that USAID requires a debrief to be scheduled prior to your departure. You will find a list of debrief topics in the STTA Methodology template to cover with your team leader before you meet with USAID.

1. STTA report in accordance to the Project STTA Template
2. Developed protocol's and guidelines
3. Any other product to be agreed to in writing between the consultant and the project in the event a new priority is identified during the course of this consultancy.
4. Any presentations /lectures developed.

VI. Timeframe for the Consultancy.

The timeframe for this consultancy is on or about 4/1/2011 and will conclude on or about 12/29/2011. The consultant will be working in country. The consultancy will be intermittent and could include multiple visits.

VII. LOE for the Consultancy.

The days of level of effort are estimated to be 3 days for travel; **up to 90** days for work in West Bank; and **up to 4** days for work outside of West Bank and Gaza. Unless otherwise specified, up to two (2) days may be allocated for preparation of the work and up to two (2) days upon conclusion of work in West Bank to complete the assignment.

VIII. Consultant Qualifications.

The Consultant shall have the following minimum qualifications to be considered for this consultancy:

Educational Qualifications

- Medical degree, with specialization in related field or equivalent in experience

Work Experience Qualifications

- Shall be a currently licensed physician in good standing
- Shall be board certified in pediatric critical care
- Minimum of three years of work in pediatric critical care
- Extensive experience in international health and development, with preference of knowledge of the Palestinian Healthcare System.
- Knowledge of Arabic Language is preferred.
- Excellent communication and teaching skills.

VII. Other Provisions.

This Scope of Work document may be revised prior to or during the course of the assignment to reflect current project needs and strategies.

ANNEX B: ASSIGNMENT SCHEDULE

This consultancy took place during two separate periods: April 6 –July 14, 2011 and September 11 – 23, 2011.

Most activity during the consultancy took place at the NICU of Rafidia Hospital, with one visit to Ramallah Hospital and one to Alia Hospital during September 2011.

ANNEX C: CONSULTANT CV

John Harry Gunkel, M.D.

Personal

- Date of Birth _____
- Unmarried, no dependents
- Languages: English (mother tongue); read, speak, write Spanish; conversational Arabic, Palestinian dialect
- USA Passport Issued at National Passport Center;
- Permanent Address:

- email
- US Phone:

Education and Training

- High School Diploma: Alamo Heights High School, San Antonio, TX, 1966
- **B.A.** Summa cum laude (Zoology): University of Texas at Austin, 1970
- **M.D.:** University of Texas Medical School at San Antonio, 1974
 - Pediatric Residency: Columbus Children's Hospital, Columbus, OH, 1974-'75
 - Pediatric Residency: Bexar County Hospital District, San Antonio, TX, 1975-'77
 - Chief Resident 1976-'77
 - Neonatal-Perinatal Medicine Fellowship, Bexar County Hospital District, San Antonio, TX, 1977-'79
- **M.A.P.M.** (Master of Arts in Pastoral Ministry) Episcopal Theological Seminary of the Southwest, Austin, TX; May 2008
- **Certificate** in TESOL/TEFL. International TEFL Teacher Training. December 2010

Professional Experience

- Medical Advisor, Chemonics International, for US AID Palestinian Health Sector Reform and Development Project (Flagship Project), July 2010 – September 2010
- Short-term Consultant, Chemonics International, for US AID Palestinian Health Sector Reform and Development Project (Flagship Project), February – May 2010
- Part-Time Instructor, Bethlehem University Nursing Program in Qubeiba, June 2008 – present
- Volunteer for Mission, US Episcopal Church, assigned to Diocese of Jerusalem, Nov 2007 – Feb 2009
- Retired Status January 2006 – July 2010
- United States Food and Drug Administration, Silver Spring, MD, 2003-2006
 - Medical Officer, Division of Pulmonary and Allergy Products
 - Review, analyze, summarize data relating to the safety and efficacy of pharmaceutical drug products for diseases of the respiratory and allergic systems
- University of Texas Health Science Center, Department of Pediatrics, San Antonio, TX, 1995-2003
 - Associate Professor, Division of Neonatology; Director of Clinical Research
 - Provide clinical care in normal newborn nursery

- Prepare and write grant proposals
 - Direct clinical research projects
 - Teach residents and medical students
 - Committee work, including Institutional Review Board and Admissions Committee
- Ross Laboratories Division of Abbott Laboratories, Columbus, OH, 1985-1995
 - Director of Clinical Research
 - Coordinate and supervise clinical activities related to development of pharmaceutical products
 - Directed multicenter clinical trials in US and Europe
 - Co-authored scientific publications in peer-reviewed professional journals
- St. Francis Medical Center, La Crosse, WI, 1983-'85
 - Director of Neonatal Intensive Care Unit
- Cedars-Sinai Medical Center, Los Angeles, CA, 1979-1983
 - Staff Neonatologist
 - Director of High-Risk Infant Follow-up Clinic

Licensure and Certification

- License E2592, Texas Medical Board, Expires 11-30-2010
- Board Certified, American Board of Pediatrics, 1979
- Sub-board Certified, Neonatal-Perinatal Medicine, 1979

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- Hoekstra RE, Jackson JC, Myers TF, Frantz ID III, Stern ME, Powers WF, Maurer M, Raye JR, Carrier ST, **Gunkel JH**, Gold AJ. Improved Neonatal Survival following multiple doses of bovine surfactant in very premature neonates at risk for Respiratory Distress Syndrome. *Pediatrics* 1991; 88:10-18.
- Liechty EA, Donovan E, Purohit D, Gilhooly J, Feldman B, Noguchi A, Denson SE, Sehgal SS, Gross I, Stevens D, Ikegami M, Zachman RD, Carrier ST, **Gunkel JH**, Gold AJ. Reduction of neonatal mortality after multiple doses of bovine surfactant in low birth weight neonates with Respiratory Distress Syndrome. *Pediatrics* 1991;88:19-28.
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- Zola EM, Overbach AM, **Gunkel JH**, Mitchell BR, Nagle BT, DeMarco NG, Henwood GA, Gold AJ. Treatment investigational new drug experience with Survanta (beractant). *Pediatrics* 1993; 91:546-551.

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- Survanta Multidose Study Group. Two year follow-up of infants treated for neonatal respiratory distress syndrome with bovine surfactant. *J Pediatr*; 1994; 124:962-967.
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- Lotze A, Mitchell, BR, Bulas DI, Zola EM, Shalwitz R, **Gunkel JH**. Multicenter evaluation of Survanta in the treatment of term infants with severe respiratory failure. *J Pediatr*, 1998; 132:40-47.
- **Gunkel JH**, Beavers H, Escobedo MB. Proficiency of Pediatric Residents in Neonatal Endotracheal Intubation. *Pediatr Res* 2000;47:89A (Abstract Platform Presentation)
- Escobedo MB, **Gunkel JH**, Kennedy KA, Shattuck KE, Sánchez PJ, Seidner S, Hensley G, Cochran CK, Moya F, Morris B, Denson S, Stribley R, Naqvi M, Lasky RE; Texas Neonatal Research Group. Early surfactant for neonates with mild to moderate respiratory distress syndrome. *J Pediatr* 2004;144:804-8.

Honors and Awards

- Phi Beta Kappa, 1970, University of Texas at Austin
- Alpha Omega Alpha, 1973, University of Texas Medical School at San Antonio
- Hal Brook Perry Distinguished Alumnus Award, Seminary of the Southwest, September 2010

Volunteer and International Experience

- Volunteer various activities, Occupied Palestinian Territories, February 2009 – February 2010
- Volunteer for Mission, Episcopal Church, USA, November 2007 – February 2009
- Volunteer with San Antonio Metropolitan Ministries (SAMM) homeless shelter, Jan 2007 – Oct 2007
- Volunteer pediatrician, Volunteer Clinic of Austin, TX, January 2007 – October 2007
- Volunteer with Columbus AIDS Task Force, Columbus, OH, 1985-1988
- Work-related Travel to United Kingdom, Sweden, Saudi Arabia, Kuwait
- Personal travel to UK, France, Germany, Italy, Belgium, Netherlands, Austria, Switzerland, Ireland, Greece, Mexico, Kenya, Israel
- Technical Exchange Program, People to People International, to People's Republic of China, South Korea, Japan, Hong Kong.

ANNEX D: BIBLIOGRAPHY OF DOCUMENTS COLLECTED AND REVIEWED

- Work Plans for year 1-3, highlight Y3.
- MOH Institutional Development Plan (IDP) (and any updates)
- Flagship Project Contract Section C
- Performance Management Plan
- Annual report from Year 1,2
- Most recent quarterly report
- Related STTA consultants' reports.

ANNEX E: LIST AND COPY OF MATERIALS DEVELOPED AND/OR UTILIZED DURING ASSIGNMENT

- E1. NICU Nurse Observations Form
- E2. NICU Physician Observation Form
- E3. NICU Parent Satisfaction Interview Form

Notes:

E2. NICU PHYSICIAN OBSERVATION SHEET

NICU – Physician Observation Sheet

Physician ID:

No. of patients:

<p>Morning rounds</p> <p>Examine patients? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Charting? <input type="checkbox"/>Yes <input type="checkbox"/>No</p>	<p>Notes:</p>
<p>Procedures</p> <p>Hand Wash <input type="checkbox"/>Yes <input type="checkbox"/>No (for each patient)</p> <p>Wears Gloves <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Wears Gown <input type="checkbox"/>Yes <input type="checkbox"/>No</p>	
<p>Staff Interactions</p>	
<p>Parent Interactions</p>	
<p>Presence</p> <p>Time in NICU</p> <p>Activity</p>	

E3. NICU PARENT SATISFACTION INTERVIEW FORM

استمارة رضی أهالی اهل الف قسم الخدج

لقسم أول: معلومات عامة

G1	تمت الإجابة على هذا استبيان في قبل: <input type="checkbox"/> أم <input type="checkbox"/> الأب <input type="checkbox"/> الهم <input type="checkbox"/>
G2	الطفل: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
G3	عمر الطفل عند ولادة (أسبوع):
G4	وزن الطفل عند ولادة:
G5	مدة الإقام في قسم الخدج (أيام):

لقسم ثان: لمعلومات

I1	تلقيت معلومات كافية ونهامة من مقدم الرعاية؟	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
I2	حصلت على معلومات كافية عن الرعاية أو الج المطلب وتطور الحمل؟	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
I3	المعلومات التي تلقيتها من مقدمي الرعاية غير مفيدة	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
I4	تم تعريف طبيي بطلقي اسم القويين المتبع	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
I5	تم تعريفني على الطبيب المتقبل على الطفل	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق

ملاحظات:

لقسم ثالث: العلاج والرعاية

C1	يستجيب الطفل بمسرة إلى تغييرات نفسي على الطفل	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
C2	أجزة المراقبة مريحة	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
C3	حافظت طقمي إجراء التنظاف العام داخل قسم	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
C4	الحضرة انتظية	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
C5	قسم الخدج نظيف وشركل عام	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق
C6	قسم الخدج مريح وشركل عام	1. معارض بشدة 2. معارض 3. موافق 4. موافق بشدة 5. لا أعلم/لا ينطبق

ملاحظات:

لقسم لربع: مهنية لطقم لطبي

P1	مقدمو لرعيرة في ضمن في عمل هم	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
P2	يظمر لطقم الطبي لتمام ابلل عتجاه حللة الأطفال	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
P3	في الفتع اون ولن حيين فلر ادا لطقم الطبي	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
P4	مقدمو لرعيرة في ضمن لكون بعلة ترا عتجاه ألي الأطفال	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
P5	يظمر مقدمو لرعيرة عت عطف مع ألي الألف الفبي لقسم	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة

ال ملاحظات:

لقسم لخامس: دور الأهل

R1	شجع ال طقم ال طبي الأهل في زيارة ال طفل	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
R2	شجع ال طقم ال طبي الأهل على تلفة اعل مع ال طفل (تغيير) لفضاضات، إرضاع الطفل	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
R3	قيام ال طقم ال طبي بيشجع في إرضاع ال طفل رضاعة طبيعية	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة
R4	يقوم ال طقم ال طبي ببيت حزيير وتوجيه الألي لفترة مبلعد خروج ال طفل من القسم	1. معارض بشدة 5. لا علم/لا ينطبق	2. معارض 3. موافق	4. موافق بشدة

ملاحظات:

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E4. PULMONARY MEDICINE SCIENTIFIC DAY AGENDA

Pulmonary Medicine Scientific Day

Ramallah/ Caesar Hotel - July 23, 2011

Program

- 8:45 Welcome and Opening Remarks
- 9:00 - 9:45 "Advances in Management of Acute Respiratory Distress Syndrome (ARDS)":
Dr Ragheb Assaly
- 9:45 - 10:30 "The Management of Premature Infants with RDS: Evidence and Recent Recommendations": Dr Hatem Khammash
- 10:30 - 10:45 *BREAK*
- 10:45 - 11:30 "Respiratory Therapy: What Is It?"
RT Donya Adwallah
- 11:30 - 12:15 "Airway Stabilization: To Intubate or Not?"
Dr Bisani Salhi
- 12:15 - 12:30 *BREAK*
- 12:30 - 1:30 Small Group Sessions. Participants Choose One:
1) Adult Pulmonary Disease and Critical Care Case Discussions
2) Neonatal Case Discussions
3) Emergency Care Case Discussions.
- 1:30 *LUNCH*
- 2:30 Closing Remarks and Adjourn.
-

Target group:

Residents: Emergency Medicine, Internal Medicine, Surgical and Anesthesia, Neonatologists and Pediatricians.

Nurses working in EM, NICU, and surgery.

**** This is MANDATORY for Emergency Medicine residents; they will be taking an evaluation exam at end of the day.**