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Emergency Medicine Residency Training Program

**PALESTINIAN HEALTH SECTOR REFORM AND DEVELOPMENT
PROJECT**

SHORT-TERM TECHNICAL ASSISTANCE REPORT (FINAL)

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ACRONYMS

ACLS	Advanced Cardiovascular Life Support
ATLS	Advanced Trauma Life Support
ED	Emergency Division
EKG	Electrocardiogram
EM	Emergency Medicine
ESI	Emergency Severity Index
ICU	Intensive Care Unit
MOH	Ministry of Health
PALS	Pediatric Advanced Life Support
SOW	Scope of Work
STTA	Short-Term Technical Assistance
USAID	United States Agency for International Development

ABSTRACT

The consultant, an Emergency Physician and Assistant Professor from Northshore /LJ University Hospital, (recruited through Loma Linda University) worked with the USAID Palestinian Health Sector Reform and Development Project from March 4 to March 31, 2011 to provide technical assistance in bedside coaching and curriculum development to the Emergency Medicine (EM) Residency Program. This assistance took place at Ramallah Hospital in Ramallah, Alia Hospital in Hebron, and Rafidia Hospital in Nablus.

The methodology of addressing this task involved the following:

- (1) Supporting the EM Residency Training Program by:
 - a. Providing bedside coaching to the EM Residents.
 - b. Providing evidence-based articles on various EM topics.
 - c. Establishing a daily morning report program at Alia Hospital.
- (2) Reviewing and monitoring the Emergency Department/Division processes established by the prior Short-Term Technical Assistance (STTA) consultants in EM.
- (3) Reviewing and making recommendations regarding the delivery of care for Emergency Division (ED) patients.

SUMMARY OF RECOMMENDATIONS

In the recommendations found below, those in “*italics*” signify that previous consultants have made the same recommendations, but they have not been completed yet.

Within the next 3 months:

- EM Residency Education and the Project
 - Institute and create accountability system for a brief 15-minute “Morning Report” each weekday morning at all sites
 - Communication between the Palestine Medical Council and Ministry of Health (MOH), in order to design and administer annual board-style examination.
 - This information must be communicated with the residents in a timely manner to allow time for study and preparation
 - Consider purchase of study guides for residents
 - Improve communication channels between the Project and hospitals
 - Create clear leadership at all sites with scope of work and hierarchy laid out for program directors and coordinators
 - *Standardize the equipment, medications, and supplies that are stocked in the three ED’s.*
 - Ensure that Otoscope/Ophthalmoscope and other basic equipment is continually available at all sites

- ED Logistics and Development
 - *Assure all ED patients have full initial vital signs obtained upon ED arrival, regardless of complaint.*
 - *Implement 24 hour security at Rafidia Hospital in Nablus and Alia Hospital in Hebron to monitor and control patient flow/crowd control through the ED.*
 - *Work closely with hospital radiology at Alia Hospital in Hebron to ensure that all radiology within the hospital is labeled with time, patient name, and laterality (right vs. left).*
 - *Work closely with Alia and Rafidia hospitals to establish standards for cleanliness and hygiene within the ED.*
 - Personal protection (particularly gloves for any procedure) must be emphasized.

Within the next six months:

- EM Residency Education and the Project
 - *Create “Mock Codes” to improve clinical understanding of code guidelines.*
 - Procure Biphasic Defibrillators with equipment teaching and pacers.
 - Establish educational system to stop the ordering of unnecessary films and x-rays and antibiotics and instead, improve teaching of communication with patients.
 - *Hire new group of residents for next class.*
 - *Provide a procedure lab to assess and develop skills for the following critical care procedures (particularly at Rafidia and Alia hospitals where clinical experience does not always cover these procedures):*
 - *Endotracheal intubation*
 - *Pericardiocentesis*
 - *Central line placement*

- *Chest tube placement*
 - *Intraosseous line placement*
 - *Alternative airway techniques.*
 - *Identify another local physician for continued support for direct bedside coaching.*
 - *Create and implement a reading, lecture, exam, and clinical rotation schedule that are consistent with the curriculum.*
 - *Empower the ED residency coordinators at each site to oversee and control resident schedules, to monitor resident performance, and to be responsible for resident remediation with minimal intervention from hospital administration and MOH.*
- **ED Logistics and Development**
 - *Continue training in pain assessment and appropriate management for all ED personnel.*
 - *Procedural pain management with lidocaine, etc., should be emphasized*
 - *General pain management guidelines for surgical and medical cases should be highlighted.*
 - *Assure that all ED nurses and ED attending physicians and residents have successfully completed life support training and are aware of current 2010 Advanced Cardiovascular Life Support (ACLS), Pediatric Advanced Life Support (PALS), Advanced Trauma Life Support (ATLS) guidelines.*

Within the next year:

- **EM Residency Education and the Project**
 - *Ultrasound Education should be instituted as a mechanism to improve ED flow and outcomes.*
 - *Rotations outside ED must be ensured for appropriate resident exposure*
 - *Weekly lecture series could be developed to create a better EM residency model.*
- **ED Logistics and Development**
 - *Establish clinically-appropriate protocols and hospital-wide teaching on modern techniques*
 - *Ensure availability of appropriate medications and equipment at all times*
 - *Ensure that residents and nurses have appropriate schedules and work hours.*

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, select non-governmental organizations, and select 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.

As the Palestinian Health Sector Reform and Development Project are committed to an integrated approach to healthcare reform, they immediately recognized that emergency healthcare development is an essential component to strengthen the Palestinian Healthcare system. Emergency Departments serve as the "safety net" for patient care and are the visible and functional front door to hospitals. The MOH supported the recommendation to develop an Emergency Medicine Residency training program so as to have physician specialists that can help sustain the emergency medicine healthcare infrastructure including disaster preparedness.

This consultancy is a continuation of the plan for STTAs to provide bedside coaching and lectures to emergency medicine residents at Rafidia Hospital in Nablus, Alia Hospital in Hebron, and Ramallah Hospital in Ramallah.

This report contributes to the Project Focus Area D, Task D1: Provide technical assistance in bedside coaching and curriculum development to the Emergency Medicine Residency Program in three hospitals.

SECTION II: ACTIVITIES CONDUCTED

This consultancy consisted of clinical bedside coaching in the emergency rooms at three different emergency medicine residency programs in the West Bank:

- 1) Rafidia Hospital in Nablus
- 2) Alia Hospital in Hebron
- 3) Ramallah Hospital in Ramallah

The consultant's primary activities focused on the following:

- 1) Providing bedside coaching to residents
- 2) Providing lectures to residents
- 3) Attending and mentoring morning report activities at Alia Hospital in Hebron
- 4) Completing formal written evaluation of the residents enrolled in the EM program
- 5) Providing input and expertise during meetings
- 6) Providing recommendations to improve the EM residency training program.
(See Annex B for assignment schedule)

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

A. Findings

I. General ED Systems

a. Staff

- There are many intelligent and motivated nurses working at each hospital and they have been playing an important role in the team. Interactions between nurses and residents, and communication seemed to be excellent at all sites.
- ED beds are inconsistently cleaned, sheets are rarely changed between patients, and supplies are often improperly cleaned and stored before re-use.
- Many procedures are done without gloves. There is a misperception that there are no communicable diseases of concern (HIV, Hepatitis C) in the Middle East so gloves and hygiene are not important.
- There are EM residents and other rotating residents, as well as general practitioners working at any given hospital. Their schedules are evolving and changing weekly creating confusion, anxiety, and disorganization.
 - At Ramallah Hospital, the schedule changed twice during this STTA and the residents were put on bizarre and inequitable shifts.

b. Triage System

- The Emergency Severity Index (ESI) system seems to be working effectively at differentiating patients who are seen in fast track and those seen in the main ED in Ramallah Hospital and Rafidia Hospital.
- The current hospital system encourages patients to go to the ED to bypass clinic wait times and appointments and to obtain chronic care and follow-up in the ED. This leads to ED overcrowding with excessive non-emergent cases.
- At all three hospitals, the culture is that patients and family members immediately enter the ED and walk directly to the doctors or nurses. They often crowd at the desk waving their forms and once they get someone's attention, they are seen.
- There is little to no security ensuring that patients wait at the bedside or limit the number of family members at the bedside, especially at Rafidia and Alia hospitals.
- Impatient family members often tend to crowd at the desk and occasionally yell and scream. There is no security until after this escalation.
 - Doctors and nurses are unable to work and have little desk space considering this distraction.
 - Patients and families continually walk to the desk. , The working environment is chaotic and encourages the ED physician to make hasty decisions that are not always medically sound or beneficial to the patient in order to decompress the ED.

c. ED Logistics

- Essentially, the whiteboards for patient flow that are placed in each ED are not used in Rafidia and Alia hospitals, and occasionally at Ramallah Hospital.
 - The patient flow is often too fast for relevance of the white board
- Necessary equipment, supplies, and medications are missing at all departments

- Otoscope/ophthalmoscope in the Ramallah Hospital ED is not available, and results in many of the neurological and ear, nose, and throat exams are being skipped entirely.
- Packing material for abscess are not available at any of the three hospital, so procedures are limited
- Silk sutures are the only ones readily available. This is an antiquated material that should essentially be unavailable in lieu of the safer (decreased reaction and decreased infection) nylon and chromic gut sutures
- Medications listed in the World Health Organization/MOH essential list are not all present. Medications that are antiquated and have no place in the ED (aminophyllin) are readily available and too often used;
 - Consultants and advisors from other departments add to this phenomenon by ordering some of these antiquated materials or mis-educating the residents about side effect profiles, etc.
- Biphasic defibrillators with pacer functions are not available, creating a dangerous place for many of the patients with heart block or bradycardias.
- Communication and Leadership
 - Lacking.

2. Hospital Specific Findings

a. Ramallah Hospital

- Emergency Residency Program
 - Residents are receiving excellent coverage of medical and surgical cases.
 - Residents have essentially no pediatric education or experience
 - Residents are receiving good teaching in procedural skills from an Emergency Medical Technician STTA.
 - Their skills with intubation, thoracostomy, and other observed procedures is good.
 - Residents had good electrocardiogram (EKG) interpretation and medical assessment skills.
 - ED resident schedule is disorganized and illogical; 3pm-3pm shifts are not done in EM, so residents find themselves switching amongst themselves.
 - Because there are only three residents, they are not always present in the ED, so finding times that the consultant could teach a resident or give lectures was difficult.
- Individual Resident Assessment (See Annex E)

b. Rafidia Hospital in Nablus

- General ED findings
 - The layout of this hospital makes the crowd control issues more expedient than at the other hospitals
 - The new Health Information System started during the consultancy. It had some hiccups, but most are adjusting well.
- Emergency Residency Program

- The new coordinator of the ED is Dr. Ehab who is a general surgeon and has been working as director for only three weeks. It does not seem that there was much turnover of information from the previous director. Dr. Ehab does not want to be the ED director and will likely leave this post as soon as he can. He spends very little time in the ED.
- The residents do not see any medical cases and have little to no exposure to medical issues.
- The residents' knowledge of lecture material on medical issues and EKG interpretation was very low.
- The residents' procedural skills are minimal because they do not have the opportunity to practice.
- All the residents here are very willing to learn and want to get more experience. More than any other hospital, these residents are willing to take advice and work consistently well with the consultant.
- Individual Residents Assessment, (See Annex E)

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c. Alia Hospital in Hebron

- Emergency Systems
 - The ED layout was changing during the consultancy and this will likely lead to a better triage system. As it is now, the patients are most likely to enter and because there is no security, walk straight towards the doctors' desk. Though this hastens their care, it creates chaos if there are too many patients.
 - The nursing here is excellent and efficient.
- Emergency Residency Program
 - Dr. Murad, as coordinator, is consistently in the ED, and is most in touch with the residents. He is aware of the problems and is committed to the program.
 - The clinical cases are primarily pediatric or low acuity. There are few ESI, four to five cases, but they do present. There is a good mix of surgery and medicine.
 - The general clinical management of cardiac arrest/high acuity patients is poor. There is disorganization and ignorance of ACLS/ATLS treatment guidelines.
 - Residents are generally a bit too comfortable asking for surgical/medical consults rather than performing tasks themselves.
- Individual Residents Assessments, (See Annex E)

Of note, the interns in Alia and Rafidia hospitals are very interested in learning and were a pleasure to work with. The residents and attending physicians take very little interest in them and therefore, do them a disservice.

B. Challenges

The primary challenge with this residency program is that, as generally defined, this is not yet a fully functioning residency program. There are no didactics outside of the poorly organized program by consultants (of which many residents cannot attend), there is no leadership at the hospitals that advocate for better education, there are no guidelines on what should be read, and there are no clinical rotations for exposure to different fields. The exam for graduating onto year three of the program has not been written, let alone scheduled.

There are three main challenges to improving this system:

- Leadership at the hospitals needs to have power and legitimacy. The residents have no advocate and there is little coordination of the residency program. There needs to be regular feedback sessions both to the Project and Loma Linda for effective continuation of the project.
- As there is only one resident beginning in the incoming class, there is no plan for sustainability of the system. Without continuation, this program will flounder and fail. Having one residency class in four years is an enormous waste of resources that could be used for greater good if there were more residents. Additionally, having one set of residents is in no way a sustainable way of creating an “EM System.” There needs to be more discussion of this issue.
- ED Logistics need to be addressed. Nearly every consultant that has written an STTA report has noted the lack of equipment, medications, and staffing. They have all noted with concern the crowding and poor patient flow but these do not seem to have been addressed. These basic issues require some improvement for the systems in general to improve. Beyond this, the consultants’ consistent presence and regular evaluations will, over time, gradually improve the management and clinical skills of the residents and therefore improve the emergency health system.

C. Recommendations

- Residency Program
 - Set up clear directorship at each site with whom to regularly communicate with all parties
 - In communication with the Palestine Medical Council and MOH, design and administer annual board-style examination.
 - This spring, this information must be communicated with the residents in a timely manner to allow time for study and preparation
 - Consider purchase of study guides for residents
 - Improve communication channels between the Projects and the three hospitals
 - Create clear leadership at all sites with scope of work and hierarchy laid out for directors and coordinators
 - Institute and create accountability system for a brief 15 minute “Morning Report” each weekday morning at all sites
 - Create “Mock Codes” to improve clinical understanding of code guidelines and management of critically ill patients
 - Procure Biphasic Defibrillators with equipment teaching and pacers
 - Establish educational system to stop ordering unnecessary films and x-rays and antibiotics and instead, improve teaching of communication with patients

- Hire new group of residents for next class
- Provide a procedure lab to assess and develop skills for the following critical care procedures (particularly at Rafidia and Alia hospitals where clinical experience do not always cover these procedures):
 - Endotracheal intubation
 - Pericardiocentesis
 - Central line placement
 - Chest tube placement
 - Intraosseous line placement
 - Alternative airway techniques.
- Identify the local physicians for continued support for direct bedside coaching.
- Create and implement a reading, lecture, exam, and clinical rotation schedule that are consistent with the curriculum.
- Empower the ED residency coordinators at each site to oversee and control resident schedules, to monitor resident performance, and to be responsible for resident remediation with minimal intervention from hospital administration and MOH.
- Institute Ultrasound Education and use as a mechanism to improve ED flow and outcomes.
- Ensure rotations outside ED for appropriate resident exposure.
- Develop weekly lecture series to create a better EM residency model.
- ED Logistics and Development
 - Assure all ED patients have full initial vital signs obtained upon ED arrival, regardless of complaint.
 - Standardize the equipment, medications, and supplies that are stocked in the three EDs.
 - Ensure that Otoscope/Ophthalmoscope and other basic equipment is continually available at all sites.
 - Procure Biphasic Defibrillators with pacer settings for each ED.
 - Supply appropriate suture material (Ethicon, nylon and chromic gut, rather than the current silk) in multiple sizes.
 - Ensure that medications such as adenosine, etc. are available at all sites (currently only in Ramallah General Hospital).
 - Implement 24-hour security at all three sites to monitor and control patient flow/crowd control through the ED.
 - Work closely with hospital radiology at Alia Hospital in Hebron to ensure that all radiology within the hospital is labeled with time, patient name, and laterality (right vs. left).
 - Work closely with Alia and Rafidia hospitals to establish standards for cleanliness and hygiene within the ED.
 - Personal protection (particularly gloves for any procedure) must be emphasized.
 - Continue training in pain assessment and appropriate management for all ED personnel.
 - Procedural pain management with lidocaine, etc. should be emphasized.
 - General pain management guidelines for surgical and medical cases should be highlighted.

- *Assure that all ED nurses, ED attending physicians, and residents have successfully completed life support training and are aware of current 2010 ACLS/PALS/ATLS guidelines.*
- *Establish clinically appropriate protocols and hospital-wide teaching on modern techniques.*
- *Ensure availability of appropriate medications and equipment at all times.*
- *Ensure that residents and nurses have appropriate schedules and work hours.*

D. Next Steps

- Firstly, continue to discuss challenges with the Director General of Hospitals to find appropriate ways of implementing the recommendations.
- Secondly, create and administer an evaluation exam to assess their improved knowledge and skills so they are able to identify gaps and focus on areas that will enable them to graduate to the next year level as per Palestine Medical Council regulations.
- Thirdly, the residency program needs to address the sustainability of beginning a training program and then not continuing it with more residency classes. The emphasis of clinical rotations must be brought forward continuously.
- Beyond these larger issues, the local ED issues and logistical issues need to be addressed expediently.

ANNEX A: SCOPE OF WORK

Short-Term Consultancy Agreement Scope of Work

SOW Title: Emergency Medicine Residency Coordinator and Physician Consultancy

SOW Date: 05 March 2011

SOW Status: Final

Consultant Name: Rohini Haar, MD

Job Classification: Short-Term US Expatriate Consultant

Reporting to: Dr. Jihad Mashal, Director of Clinical and Community-Based Health

I. Flagship Project Objective

The Flagship Project is a five-year initiative funded by the U.S. Agency for 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 will support the MOH implement 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 Ministry will strengthen its dual role as a regulator and main health service provider. The Flagship Project will also focus on improving the health status of Palestinians in priority areas to the Ministry 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 West Bank has unique emergency medicine needs. It is a region vulnerable to both natural disasters (earthquakes) and man-made disasters (war). Historically, physicians working in emergency rooms have been poorly trained, with limited hospital support, no triage systems in place, poor access to emergency equipment, a limited pharmaceutical formulary, with fragmented pre-hospital emergency services, and in an austere medical environment. Other projects predating the Flagship Project have specifically recognized the need for emergency physicians to be trained as specialists to emerge as the leaders in a sustainable Palestinian emergency healthcare infrastructure. The Palestinian emergency medicine curriculum was created by An-Najah National University in collaboration with Lille University/ France and later approved by the Palestinian Medical Council in December, 2009. The Palestinian Ministry of Health is currently in the process of implementing this curriculum. The newly implemented emergency residency program faces the challenge that no certified emergency specialists are available in the MOH system; currently there are only 2 emergency certified specialists in the West Bank. To assure the proper procedures, standards, and protocols of emergency medicine are adhered to based on international standards requires qualified personnel to harness a high caliber residency program and mentor the residents and emergency care teams at the emergency rooms. The consultant will face the additional challenges posed by the lack of training, equipment, and support staff. Overcoming these challenges will be key to ensuring that the residency program is sustainable and high quality.

III. Objective of this Consultancy

The Consultant will serve as an expert in carrying out the emergency residency program. The Consultant will focus on improving emergency care services at the MOH secondary health care level and will serve as a clinical mentor working alongside Palestinian counterparts to help build capacity of the emergency care professional staff at MOH hospitals. The Consultant will collaborate with the MOH to further develop the design and implementation of a structured program of training and education leading to the successful credentialing of physicians as internationally-recognized board-certified specialists in Emergency Medicine.

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:
- Previous Loma Linda University Flagship Project technical reports relating to Emergency Medicine
 - Loma Linda University GHI Consultant Orientation Guide
 - Previous Flagship Project technical reports, Work Plan, etc.
 - MOH National Strategic Health Plan
 - USAID Flagship Project Quarterly Reports
 - USAID Needs Assessment Report, December 2008
 - USAID MOH Institutional Development Plan
 - Selected paper on status of emergency medicine in Palestinian Territories to be provided to the consultant prior to entry into the field or during orientation upon entry into the field.
 - The Flagship Project Year 2 and 3 Work Plan as relating to emergency services and deliverables to USAID
 - Palestinian Medical Council approved curricula for emergency residency program, and additional materials related to curriculum development in emergency training.
- 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:
- Chemonics Project Management Unit (PMU), if appropriate
 - Chemonics Field Office Staff, as needed
 - Appropriate MOH Staff and others appropriate
 - Hospital Emergency Staff and others as appropriate
 - LLU-Palestine Project leadership.
- 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:
- Work closely with MOH hospital staff to create ways to improve emergency services and the standard of care at MOH facilities and select NGOs.
 - Assist the MOH and relevant stakeholders, with design and development of an emergency residency program and promote to creating, implementation, and maintenance of emergency medicine as a specialty.
 - Serve as a facilitator in the implementation, integration, and maintenance of international standards, knowledge, and skills in emergency medicine in designated hospitals in the West Bank.
 - Conduct mentoring, coaching, and modeling, providing on-the-job clinical training and/or lecture on relevant emergency medicine procedures and topics
 - Promote teamwork, cooperation, and a coordinated patient care approach among those providing emergency services.
 - Prepare educational/training materials as needed for recommended training programs.
 - Work no more than 3 clinical shifts per week. During the clinical shift, the consultant will perform bedside teaching, modeling, coaching and focusing on ACGME core competencies in emergency medicine education: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, System-Based Practice. Special emphasis should be placed on medical decision making and evidence-based medicine practice.
 - Provide or coordinate no more than 1-2 didactic lectures per week. These lectures will follow a two year lecture curriculum and topics will be provided for consultants prior to their arrival.
 - Contribute and support the MOH and Palestinian Medical Council to create an assessment tool to measure resident competency, core medical knowledge, professionalism, and progress that can be utilized in a question bank for the specialization residency program test of residents upon completion of the program.
 - Serve as liaison with those in the medical community that are involved in the delivery of emergency services.
 - Contribute to the ongoing review, recommendation, and development of emergency care policies, procedures, guidelines, and orientation materials.
 - Carry out field visits to MOH emergency departments in different districts as needed and prepare assessments reports.
 - 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.
 - The consultant is encouraged to support the identification of additional STTA and scopes of work to help accomplish Flagship goals and objective where possible.
 - In addition to the above-listed tasks, the Flagship Project welcomes additional contributions and creative

ideas in support of the Flagship objectives.

V. Expected Products.

Within three days of the consultant's arrival (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 tasks shall be delivered by the Consultant in a written report, policy statement, strategy, action plan, etc. for submission to USAID (using Annex II: the Flagship-provided STTA report template). 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 10 business days after the consultant's departure.

In addition, reports are required for the following:

- Lecture materials and notes (including participation lists)
- Collection/compilation of questions for physician assessment to serve as part of the question bank for developing the emergency residency program accreditation test.

VI. Timeframe for the Consultancy.

The timeframe for this consultancy in the West bank is from on or about March 5th, 2011 to on or about 31 March 2011.

VII. LOE for the Consultancy.

The days of level of effort are estimated to 3 days for travel, 23 days for work in the West Bank (6 day work week if needed), and 4 days for work outside of West Bank and Gaza for either preparatory work or report writing. Unless otherwise specified, up to two (2) days may be allocated for preparation of the work. The consultant will have 10 days after completion of the assignment to submit a report as outlined in the contract.

VIII. Consultant Qualifications.

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

Educational Qualifications

- Shall be a currently licensed physician in good standing
- Shall be board certified in Emergency Medicine

Work Experience Qualifications

- Minimum of three years of work as an Emergency Physician
- Background in medical education and work; experience in a teaching hospital environment is desired
- Successful involvement and participation in international health and/or development is also desired

ANNEX B: ASSIGNMENT SCHEDULE

DATE	LOCATION	ACTIVITY/ AGENDA	CLINICAL	ATTENDEES/NOTES
3/6/2011	Ramallah and Hebron	Introductory Meeting with the Project staff. Afternoon: orientation to Alia Hospital		The Project, Dr. Salhi, Dr. Amal
3/7	Ramallah	Introduction to Ramallah Hospital		Dr. Salhi, Dr. Amal,
3/8	Nablus	Introduction to Rafidia Hospital		Noor, Dr. Salhi, Dr. Amal,
3/9	Hebron	Lecture on EKG Interpretation	Alia Hospital	
3/10	Hebron		Alia Hospital	
3/11	Hebron		Alia Hospital	
3/13	Ramallah		Ramallah Hospital	Evacuation to Ramallah secondary to violence
3/14	Ramallah	Lecture on EKG Interpretation	Ramallah Hospital	
3/15	Ramallah	Lecture on Dermatologic Emergencies	Ramallah Hospital	
3/16	Ramallah		Ramallah Hospital	
3/17	Ramallah		Ramallah Hospital	
3/18	Ramallah		Ramallah Hospital	
3/20	Nablus		Rafidia Hospital	
3/21	Nablus	Lecture on EKG Interpretation	Rafidia Hospital	
3/22	Nablus	Lecture on Dermatologic Emergencies	Rafidia Hospital	
3/23	Nablus	Lecture on Shock	Rafidia Hospital	

3/24	Nablus	Case Presentation Lecture on Pericardial Tamponade	Rafidia Hospital	
3/25	Nablus		Rafidia Hospital	
3/27	Hebron		Alia Hospital	
3/28	Hebron	Preparation of STTA report		
3/29	Hebron	Lecture on Shock	Alia Hospital	
3/30	Hebron/Ramallah	Lecture on Dermatologic Emergencies; Final Presentation to Flagship Project Staff	Alia Hospital	
3/31	Ramallah		Ramallah Hospital	

ANNEX C: CONSULTANT CV

ROHINI JONNALAGADDA HAAR, M.D.

210 Park Place, Apt 1B
jrohini@gmail.com
Brooklyn, NY 11238
732-668-9259

EDUCATION

- | | |
|--|-------------------|
| Columbia University, New York, NY | May 2010- present |
| <ul style="list-style-type: none">- MPH. Mailman School of Public Health. Department of Population and Family Health. Forced Migration Track.- Expected completion in 2012. | |
| University of Chicago. Chicago, IL | 2001 - 2005 |
| <ul style="list-style-type: none">- M.D., Pritzker School of Medicine | |
| University of Chicago. Chicago, IL | 1997 – 2001 |
| <ul style="list-style-type: none">I. B.A. in Political Science with General HonorsII. Special Honors in Biological Sciences | |

POST-DOCTORAL TRAINING AND CLINICAL EXPERIENCE

- | | |
|--|-----------------------|
| Fellow, International Emergency Medicine, Northshore/LIJ Medical Centers. Manhasset, NY | May 2010- present |
| <ul style="list-style-type: none">- Clinical Instructor and Physician at Northshore and LIJ Hospitals- Emergency medicine development in Malaysia- 1 year fellowship program with focus on EM research and development | |
| Kings County Hospital Center. Brooklyn, NY | May 2010- present |
| <ul style="list-style-type: none">- Per Diem Clinical Instructor and Physician , Department of Emergency Medicine | |
| St. Vincent's Hospital. New York, NY | Jul 2009 – April 2010 |
| <ul style="list-style-type: none">- Emergency Department Staff Physician, Department of Emergency Medicine | |
| New York University/Bellevue Hospitals. New York, NY | Jul 2005- June 2009 |
| <ul style="list-style-type: none">- Intern and Resident in Emergency Medicine | |

RESEARCH

- Lives and Livelihoods in Post Earthquake Haiti, Northshore/LIJ** June 2010-present
- I. Obtained IRB approval to compare private and public sector physicians' livelihoods in Haiti
 - II. Conducted validated survey in Port-Au-Prince, August 2010 in coordination with International Medical Corps, Haiti office.
 - III. Currently writing paper for peer-reviewed publication.
- Management Capacity in the Millennium Villages, Earth Institute, Columbia University** August 2010- present
- IV. Writing evidence based guideline for scaling up management capacity in the expanding Millennium Villages Project.
- International Rescue Committee, New York, NY** June 2010- present
- V. Reviewing evidence-based improvements to Child Case Management Program that supports village health workers' treatment of malaria, diarrhea and pneumonia in 6 African countries
 - VI. Writing educational tools and protocols for management and accountability of field work.
- Rapid HIV in the Emergency Department, NYU/Bellevue** Jan 2006 – June 2006
- VII. Obtained IRB approval to assess the utility and impact of Rapid HIV detection in Emergency Departments.
 - VIII. Presented findings to Department.
- Impact Assessment of Wilderness Medicine Education, NYU/Bellevue** Sept 2007 – June 2008
- IX. Obtained IRB approval to assess the impact of the NYU/Bellevue wilderness medicine course
- Laboratory of Dr. Ben Abella, Emergency Medicine, University of Chicago** Feb 2004 – June 2004
- X. Evaluated case studies of hypothermia management for neurological improvement in patients post cardiac arrest
- Laboratory of Dr. Janis Burkhardt, Immunobiology, University of Chicago** Apr 1999 – June 2000
- XI. Researched actin polarization in T cells
 - XII. Completed honors thesis on fluorescent staining of actin in T cells
- Laboratory of Dr. Barton Kamen, Cancer Institute of New Jersey** July 1998 – Sept 1998
- XIII. Researched pediatric leukemia and anti-folate compounds

PUBLICATIONS

- Jonnalagadda, R. "Emergency Medicine and Pre-hospital Needs Assessment** March 2008

**of a Millennium Village Health Program.” Millennium Villages Project,
Senegal**

Jonnalagadda, R and Johnston, G. “Hand Infections,” *eMedicine*, February 2008
<http://www.emedicine.com/EMERG/topic224.htm>

Jonnalagadda, R. Lemery, J. “Scorpion Stings Case and Management” January 2008
Wilderness Medical Society Educational Committee. wms.org

TEACHING EXPERIENCE

Simulation (Sim-Man) Co-Chair, Emergency Medicine, NYU/Bellevue July 2008 – June 2009
XIV. Lead simulation sessions for residents and medical students
XV. Develop curriculum and scenarios for simulation-based education

Morning Report Presenter, Emergency Medicine, NYU/Bellevue July 2008 – June 2009
XVI. Present educational cases and lead Socratic discussions

ACLS Instructor, Emergency Care Institute, NYU/Bellevue July 2007 – June 2008
XVII. Teach life support protocols to residents, nurses and paramedics

Lecturer, Departmental Conference, NYU/Bellevue Sept 2006 – June 2007
XVIII. Case study of healthcare in Massachusetts
XIX. Acute Renal Failure
XX. Pericardial Tamponade
XXI. Morbidity and Mortality

**Teaching Assistant, Cellular and Molecular Biology, Genetics, and
Organismal Biology, Biological Sciences, University of Chicago** Sept 1999 - June 2001
XXII. Organized and led laboratory section of honors level courses
XXIII. Taught review sessions and tutored students

INTERNATIONAL AND HUMAN RIGHTS EXPERIENCE

**International Medical Corps, L'Hopital Universite d'Etat d'Haiti. Port-Au
Prince, Haiti** May 2010

XXIV. volunteered in post-Earthquake Haiti at the General Hospital for
Port-Au-Prince

XXV. worked closely with other volunteers and local staff to treat
patients with diverse traumatic, surgical and medical conditions.

SidHARTE Program, Columbia University. Kintampo, Ghana. December 2009

XXVI. Clinically advised and taught courses for program to develop
Emergency Medicine at the district level

XXVII. Wrote sections for a curriculum on trauma and triage education

Guyana Watch Medical Outreach Program, Georgetown, Guyana	July 2009
XXVIII. 10 day medical outreach program in rural areas on the Guyanese coast	
XXIX. Provided basic medical care and medications to over 2500 children and adults	
University of Ghana/NYU Emergency Medicine Partnership, NY/Ghana	June 2008 - June 2009
XXX. Wrote initial questionnaire for baseline data collection	
XXXI. On-site research and instructional course in January 2009 in Accra	
Millennium Villages, Earth Institute, Columbia University, New York, NY	Jan 2007 – June 2008
XXXII. Created database of national medical guidelines for twelve African nations	
XXXIII. Compile consensus guidelines for emergency medicine development in the Millennium Villages	
Millennium Villages, Potou, Senegal	March 2008
XXXIV. Conducted needs assessment in rural villages in the Louga district	
XXXV. Evaluated mechanisms to improve medical delivery and presented findings to staff in Senegal and New York offices	
Human Rights Program, University of Chicago, Chicago, IL	Oct 2002 - June 2003
XXXVI. As Internship Coordinator, assisted twenty students in obtaining international internships in human rights and humanitarian sectors	
XXXVII. Planned and organized academic events for students and faculty	
Moroccan Association of Human Rights, Rabat, Morocco	June 2002 - Sept 2003
XXXVIII. Awarded University of Chicago Human Rights Internship Grant	
XXXIX. Worked with local NGO and Amnesty International to create a health and human rights syllabus for Moroccan medical and nursing schools	
International Rescue Committee (IRC), Addis Ababa, Ethiopia	June 2000 - Aug 2001
XL. Awarded University of Chicago Human Rights Internship Grant	
XLI. Assisted IRC's Ethiopia program targeting war and drought refugees	
XLII. Carried out assessments, and reported on the activities of the United Nations and NGOs in refugee camps	

LEADERSHIP

Representative, Committee of Interns and Residents (CIR-SEIU), Bellevue	Sept 2006 - June 2007
XLIII. Represent residents in labor relations and contract negotiations	
XLIV. Organize and lead discussion of Presidential healthcare reform plans	
XLV. Represent Bellevue residents at national conferences	

- President, Wilderness Medicine Society, NYU/Bellevue** Sept 2007 - June 2008
- XLVI. Organize educational wilderness medicine trips for residents
 - XLVII. Integrate wilderness medical education into residency training
- Board Member, Human Rights Program, University of Chicago** Oct 2001 - June 2002
- XLVIII. Student representative on the board that creates courses and curriculum
 - XLIX. Interviewed fellowship and student internship applicants
- Co-founder and Chair, Chicago Health Initiative, University of Chicago** Oct 2002 - Apr 2003
- L. Organized debates between Richard Epstein and Quentin Young on national health insurance (2003) and Richard Epstein and Arnold Relman on pharmaceutical patents (2004)
- Founder and President, Student Chapter of Physicians for Human Rights, University of Chicago** Jan 2002 - June 2003
- LI. Promote awareness and action for public health globally and locally through lectures, panels, discussions, and publicity
 - LII. Organized trainings for physicians to compose affidavits for torture survivors seeking asylum in the United States

INVITED PRESENTATIONS

- “Promoting Human Rights through Medicine,” Chicago, IL** June 2008
- LIII. Invited to speak at the University of Chicago to students and alumni about human rights opportunities in the medical profession
- “International Medicine in Residency,” New York, NY** May 2008
- LIV. Invited to speak at the NYU/Bellevue and Northshore/LIJ Symposium on International Emergency Medicine about opportunities and directions for residents interested in international health
- “National CPC Competition Case (Lithium Toxicity),” Washington, DC** May 2008
- LV. Awarded Second Place at the National CPC Competition at the Society for Academic Emergency Medicine Conference

AWARDS AND GRANTS

Milton D. Rosenbluth Foundation Medical Travel Grant, March 2008
Human Rights Internship Grant, June 2000
Human Rights Internship Grant, June 2002
Golden Stethoscope Award for Community Service, Indian American Medical Association, Oct 2002
Sheila Putzel Outstanding Future Physician, University of Chicago, June 2001
Maroon Key Society, University of Chicago, May 2000
Sigma Xi Scientific Research Society, March 2000

LICENSES AND CERTIFICATIONS

Board Certified, American Board of Emergency Medicine
New York State Medical License
ACEP/SAEM Guidelines for Emergency Ultrasound
American Heart Association Healthcare Provider
Advanced Cardiac Life Support
Advanced Trauma Life Support
Pediatric Advanced Life Support
Basic Life Support

PROFESSIONAL MEMBERSHIPS

Physicians for Human Rights
Physicians for a National Health Program
Society for Academic Emergency Medicine
American College of Emergency Physicians
Medical Society of the State of New York
Wilderness Medicine Society

ANNEX D: BIBLIOGRAPHY OF DOCUMENTS COLLECTED AND REVIEWED

1. Recommended lists and inventory of essential ER medications and ER equipment and supplies (listed in Dr. Montana's report).
2. STTA reports of Dr. Prystowski, Barcega, Montana, Salhi, and others.

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

1. Individual EM Resident Assessment
2. Power Point Presentation
 - EKG Interpretation
 - Dermatologic Emergencies
 - Lecture on Shock

*All materials developed during consultancy are available at the Project office.