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EMERGENCY MEDICINE IN THE WEST BANK

**PALESTINIAN HEALTH SECTOR REFORM AND DEVELOPMENT
PROJECT (FLAGSHIP PROJECT)**

SHORT-TERM TECHNICAL ASSISTANCE REPORT (FINAL)

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ACRONYMS

ACLS	Advanced Cardiac Life Support
BLS	Basic Life Support
CME	Continuing Medical Education
ED	Emergency Department
EMAP	Emergency Medicine Assistance Program
ESI	Emergency Severity Index
HIS	Health Information System
ICU	Intensive Care Unit
IDP	Institutional Development Plan
MoH	Ministry of Health
NGO	Non-Governmental Organization
PA	Palestinian Authority
PALS	Pediatric Advanced Life Support
PMC	Palestine Medical Complex
STTA	Short Term Technical Assistance
USAID	United States Agency for International Development

ABSTRACT

The consultant, an Emergency Physician and Assistant Professor from Loma Linda University, worked with the Flagship Project from January 29 to June 15, 2010, specifically as related to Task 2.1.3: Strengthen the Capacity of Palestinian Health institutions to Provide Quality Emergency Care Services, which corresponds to Module 14 in the Palestinian Ministry of Health's (MoH) Institutional Development Plan (IDP).

The methodology of addressing this task involved the following:

- (1) Improving systems in select MoH hospitals to deliver improved quality emergency care (i.e. implementing ESI triage systems).
- (2) Investment in emergency personnel (training of emergency physician and nursing staff in BLS, ACLS, PALS).
- (3) Procuring essential emergency equipment necessary for quality emergency care.
- (4) Supporting the Palestinian MoH in establishing institutional and regional disaster preparedness.
- (5) Supporting the Palestinian MoH in implementing the first Palestinian emergency medicine residency training program.

SUMMARY OF RECOMMENDATIONS

Within the next month:

- **Systems:**
 - (1) Continue supporting the implementation of the 5-phase ESI triage system in the three pilot EDs (phases 1, 2, 3).
 - (2) Follow up on assuring that the MoH implements the security in EDs to prevent ED overcrowding and ensure a violence-free workplace.
- **Investment in personnel:**
 - (1) Begin training the ED physician and nursing staff in BLS at 3 pilot hospitals.
 - (2) Recognize and empower ED physician and nursing leadership.
- **Procurement of essential equipment:**
 - (1) Conclude the procurement of medical reference books and textbooks in EDs of three pilot hospitals.
 - (2) Conclude procurement of emergency medicine textbooks for all emergency residents.
- **Disaster Preparedness:**
 - (1) Host stakeholder meeting with key leadership in the MoH, with hospital directors, and with directors of primary health districts. Recruit local/expat consultant/s to support and mentor the process of drafting the frame work of the MoH preparedness plan that would be part of the national plan.
- **Emergency medicine residency:**
 - (1) Continue to work with Palestinian Medical Council to further develop the curriculum.
 - (2) Continue to advocate for the need of a local academic partner to collaborate and ensure sustainability.
 - (3) Continue bedside teaching and coaching of residents.
 - (4) Continue to provide review articles and scholarly journal articles for residents to read.
 - (5) Continue advocating with MoH to revise work hours and professional responsibilities of residents.
 - (6) Continue to host workshops for residents to present case reports and to academically discuss cases.
 - (7) Recruit emergency medicine specialist consultants to do bedside teaching, in addition to focused academic and administrative activity.

Within the next six months:

- **Systems:**
 - (1) Continue to implement the 5-phase ESI triage system in the three pilot EDs (phase 3).

- **Investment in personnel:**
 - (1) Continue to train the ED physicians and nursing staff in BLS at three pilot EDs.
 - (2) Train the ED physicians and nursing staff in ACLS and PALS at three pilot EDs.
 - (3) Continue to recognize and empower emergency department physician and nursing leadership.
 - (4) English language training of emergency residents and ED leadership.
- **Procurement of essential equipment:**
 - (1) Continue to support small reference library of textbook in EDs of 3 pilot hospitals,
 - (2) Facilitate the procurement of small item emergency equipment to three pilot EDs (examples 12-lead ECG machines, otoscopes / ophthalmoscopes, emergency trolleys, cardiac monitors, pulse oximetry sensors), through the Flagship Project (if budget is available) or other donors.
 - (3) Investigate the availability of computers and potential internet connectivity to facilitate access to online scholarly journals at three pilot EDs.
- **Disaster Preparedness:**
 - (1) Continue to host and coordinate stakeholder meetings and advise MoH key leadership on institutional and disaster preparedness.
- **Emergency medicine residency:**
 - (1) Continue to work with Palestinian Medical Council to further develop curriculum.
 - (2) Continue to search for local academic partner to collaborate and ensure sustainability.
 - (3) Continue bedside teaching and coaching of residents.
 - (4) Continue to provide review articles and scholarly journal articles for residents to read.
 - (5) Continue to work with MoH to revise work hours and professional responsibilities of residents.
 - (6) Host and help coordinate protected didactic lecture time for residents (lectures to be given by international consultants, local specialists outside of the field of emergency medicine, and/or by telemedicine if implemented as planned by another donor).
 - (7) Recruit and place in the field emergency medicine specialist consultants to do bedside training, in addition to focused academic and administrative activity.
 - (8) Coordinate with ED physician leadership a textbook reading schedule consistent with yearly lecture schedule divided into teaching modules by subject within the core body of medical knowledge of emergency medicine specialists.
 - (9) Work with Palestinian Medical Council and ED leadership to set up written examination and bedside evaluations tools to appraise residents for promotion.

Within the next year:

- **Systems:**
 - (1) Continue to implement 5-phase ESI triage system (phase 4 and 5).

- (2) Explore the readiness of the three pilot EDs to implement quality measurement tools in the emergency department overseen by ED physician and nursing leadership.
- (3) Work with ED leadership to implement checklists systems to minimize error.
- **Investing in personnel:**
 - (1) Continue to train emergency physicians and nursing staff in BLS, ACLS, PALS.
 - (2) Continue to empower and invest in ED physician and nursing leadership.
 - (3) Set-up program to train ED physician and nursing leadership in management.
 - (4) Help set-up CME system in emergency department overseen by ED physician and nursing leadership and advocate for culture of professional development for physicians and nurses.
- **Procurement of essential equipment:**
 - (1) Continue to support small reference library of textbooks and online journal subscriptions in EDs of three pilot hospitals.
- **Emergency medicine residency:**
 - (1) Continue to work with Palestinian Medical Council to revise curriculum.
 - (2) Continue to search for local academic partner to collaborate and ensure sustainability.
 - (3) Continue bedside teaching and coaching of residents.
 - (4) Continue to provide review articles and scholarly journal articles for residents to read.
 - (5) Continue to work with MoH to revise work hours and professional responsibilities of residents.
 - (6) Host and help coordinate protected didactic lecture time for residents (lectures to be given by international consultants, local specialists outside of the field of emergency medicine, and by telemedicine).
 - (7) Recruit and place in the field emergency medicine specialist consultants to do bedside training, in addition to focused academic and administrative activity.
 - (8) Coordinate with ED physician leadership a textbook reading schedule consistent with yearly lecture schedule divided into teaching modules by subject within the core body of medical knowledge of emergency medicine specialists.
 - (9) Continue work with Palestinian Medical Council and ED leadership to set up written examination and bedside evaluations tools to appraise residents for promotion.
 - (10) International consultants to mentor Palestinian emergency residents in academic research and writing scholarly papers to be submitted to academic journals.

SECTION I: INTRODUCTION

The Flagship 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.

Giacaman, Khatib, et al, described the healthcare infrastructure in the Palestinian Territories with complex challenges including fragmentation of services and communities, acute and constant insecurities, poor governance, and dependence on international aid for resources (Giacaman, Khatib, et al, *Lancet*, 2009). Hospital emergency departments are traditionally the point of access to hospital systems and the safety net for healthcare systems under strain. After reviewing the academic literature, there has not been a bold or sustained effort to develop emergency healthcare infrastructure in the Palestinian Territories with long term sustainability in mind.

Venugopal, Greenough, et al, laid the foundation of emergency medicine infrastructure in 2000-2005 working under a USAID project through CARE International and Johns Hopkins School of Public Health, and published the results of their EMAP (Emergency Medicine Assistance Program) concluding that the emergency healthcare infrastructure of the Palestinian Territories is ill equipped to meet the emergency medical needs of the Palestinian population (Venugopal, Greenough, et al, *Journal of Prehospital and Disaster Medicine*, 2007). Their project was innovative and comprehensive, and addressed needs in implementing triage systems, training emergency physician and nursing staff to improve their clinical skills, and training emergency physician and nursing leadership in management skills. Ultimately much of their work was not sustained for a variety of complex speculative factors including inconsistent leadership and support at/from the MoH, inconsistent funding, and inconsistent collaboration from NGOs and international donors and academic institutions.

The Flagship Project is committed to an integrated approach to healthcare reform, and emergency healthcare development is an essential component to this. EDs are the visible and functional front door to hospitals; they are directly connected to every hospital department and primary healthcare clinic; and in a region of chronic threat of emergency they must be in a constant state of readiness to serve the Palestinian population.

This report contributes to Flagship Project Component 2, Task 2.1.3, Deliverables 2.1.3.1 and 2.1.3.2. This consultancy also contributed to the MoH IDP Module 14, Emergency Medicine.

SECTION II: ACTIVITIES CONDUCTED

The original focus of the consultancy was to support the emergency wing at the Palestine Medical Complex (PMC). However, due to unforeseen challenges to working with the PMC, the Flagship Project refocused the consultancy to supporting emergency medicine healthcare infrastructure at three pilot hospitals in the West Bank: Rafidia Hospital in Nablus, Al Alia Hospital in Hebron, and PMC in Ramallah.

Flagship Project emergency medicine team objectives over last five months have included the following:

1. Systems/Operationalizing EDs
2. Procurement of Essential Emergency Equipment
3. Investing in Emergency Personnel
4. Construction Recommendations
5. Disaster Preparedness Plan
6. Emergency Medicine Residency Training Program

In addition, the consultant also worked, on average, three clinical shifts per week at the three pilot hospitals. These clinical shifts were spent supervising residents in clinical care of emergency patients, gaining understanding of existing healthcare infrastructure and emergency systems in place, and working with emergency department physician and nursing leadership to improve the overall quality of care in MoH emergency departments.

I. Systems/Operationalizing ED

Subsequent to a review of assessments prepared by previous STTAs and this consultant's observations of the three pilot MoH hospitals selected regionally based on their central role as referral centers (Rafidia Hospital, Nablus; PMC, Ramallah; Al-Alia Hospital, Hebron). the Flagship Project and the consultant worked with MoH leadership and MoH hospital leadership with the goal of improving quality of emergency care to implement the systems below:

Triage: Triage is the system by which patients are sorted when they arrive to the emergency department and are prioritized based on the acuity and resources needed to diagnose and treat. Triage nurses are trained to use an algorithm to assess patients rapidly on their need to be seen by a physician immediately, or their ability to wait until resources are available. Our plan to implement the triage system is described by the five phase implementation strategy as outlined below:

- Phase One: Train emergency physician and nursing staff in ESI triage system. ESI triage implementation handbook is available as appendix. This phase is currently underway at the time of this report.
- Phase Two: Implement emergency record. This record is in template form for emergency physicians and nurses and is consistent with the HIS framework so that data can be uploaded into the HIS system and used both for internal quality monitoring and national

public health database. Plan to implement within the next three months.

- Phase Three: Bedside training and maintenance of triage system. Local STTAs from Al Makassed Hospital will do routine site visits to supervise and maintain quality. Plan to implement within next three months.
- Phase Four: Quality measurement, chart review. The goal is to implement measurement tools to ensure proper triage. The goal is to implement within six months.
- Phase Five: Implement triage forms and system at all twelve MoH hospitals. The goal is to implement within one year.

Crowd control: 24-hour security coverage of ED needs to be implemented with a strict policy of only one family member per patient and no weapons. Although there is buy-in on the part of the MoH regarding this, however, challenges arise to timely implementation, including the need to hire additional security staff.

Leadership: Empower physician and nursing leadership to manage systems, staffing, budget, equipment monitoring, ordering, and maintenance, communication with other departments, etc. Al Alia and Rafidia Hospitals recognized a head nurse and physician within the first week of this recommendation in March 2010. In addition, at the time of this report, the PMC is in the process of appointing a head physician and a head nurse.

Protocols: The MoH requested that the Flagship Project provide emergency medicine clinical protocols and guidelines for hospital based emergency departments and community clinics, and also requested that the Flagship Project update the 2003 MoH pre-hospital emergency protocols. These documents were reviewed to ensure that they were to the international standards of care. At the time of this report, one of these two documents was awaiting approval by the MoH, and the second was being appraised for technical competency by international consultants.

2. Procuring Essential Emergency Equipment

An assessment was conducted of each of the three pilot hospital emergency departments, and the consultant, along with the Flagship Project, worked with the emergency physician and nursing leadership to draft a list of essential equipment for daily emergency medical care. This list has been cross referenced with available MoH stock and the Flagship Project is addressing the emergency department equipment needs not being met by other donors. The emergency medicine textbooks and emergency department resource library have been ordered but have not yet been delivered.

3. Investing in Personnel

English language: A locally-based organization assessed the emergency medicine residents and emergency department leadership in their English language skills. English is the leading international language of science and of medicine and for the residents to continually appraise the current literature and research they must have the language skills to do this. Self-directed learning and evidence-based medicine are essential skills for the Palestinian emergency medicine residents to develop so that they can continue to nurture their medical knowledge long after didactic and formal education has ceased. Furthermore, when international clinical consultants begin to routinely come to the field, bedside teaching and didactic lectures will be performed in English. They have been assessed for the English competency skills and are currently awaiting vetting approval so as to begin

English language classes.

Life support education: The Flagship Project is planning to train all emergency physicians and nurses in BLS, ACLS, and PALS, and has been seeking partners to facilitate this objective. A timeline to have all emergency physicians and nurses at the three pilot hospitals has been established, and it is anticipated that training of all emergency physicians and nurses in BLS, ACLS, and PALS will begin in August 2010.

Bedside teaching of physicians and nurses: For approximately three days a week, often as a 24-hour continuous clinical shift, the consultant engaged in bedside teaching. The emergency medicine residency program is discussed below. Overnight shifts are essential to understand the subtle dynamics of the hospital and healthcare system as the quality of medical care varies greatly between days and nights in all countries. Ultimately, workshops and short-term training sessions are limited in their ability to sustainably impact the long term development of the healthcare infrastructure. Bedside education is the most effective way to implement and maintain sustainable culture change. In this process, the consultant worked side by side with emergency physicians and coached them on what they are doing well and where they needed to improve in their core body of medical knowledge, medical procedures, professionalism, communication skills, and medical decision-making, while acting as a role model. Though this process is challenging to measure as an effective tool at driving change, it is the most successful way in implementing long-term change. The consultant worked with the residents side by side in the assessing of trauma patients, medically ill patients, pediatric patients, and gynecology and obstetrics addressing a variety of clinical pathology.

4. Construction Recommendations

The MoH has requested on more than one occasion that the Flagship Project assist the MoH with technical expertise in their plans to rehabilitate or construct emergency departments, and there are efforts to coordinate with other donors to carry out this activity. The Flagship Project gave formal recommendations to the MoH for Beit Jala/Bethlehem emergency department and for Rafidia hospitals. Such formal recommendation documents are available upon request.

5. Disaster Preparedness

A stakeholder meeting was organized by the Flagship Project for May 23, 2010, which included the Flagship Project's IDP module 14 counterparts, heads of MoH hospitals, and heads of MoH primary health districts in order to initiate the dialogue on disaster preparedness. The outcome of the dialogue was for each hospital and primary health district to construct an institutional plan for the next meeting in order to begin the cohesive collaboration of developing a regional plan. The next stakeholder meeting will involve constructing MoH regional disaster plans, and then the following meeting will involve bringing in other NGOs, international organizations, municipalities, and other stakeholders. It is well recognized that the West Bank has a fragmented healthcare system and in the arena of disaster preparedness, the Flagship Project is helping the MoH foster communication and collaboration among stakeholders. Consultants will be recruited to facilitate some of the processes to assure that we enable the MoH team to have the MoH framework plan ready.

6. Emergency Medicine Residency Training Program

On March 3, 2010, the Flagship Project gave a formal presentation to the MoH per the request of the directorate of hospitals of the MoH regarding emergency medicine residency education. The lecture slides from this presentation are included in Annex E. At the conclusion of the presentation, it was recommended that the MoH support the training of Palestinian emergency medicine specialists to be the driving force of sustainability for the emergency medicine healthcare infrastructure. The goal is to help the MoH create emergency medicine specialists who will not only serve in the MoH emergency departments tending to the sick and injured patients, but will also advise the MoH on policy decisions impacting emergency healthcare and disaster preparedness. The MoH responded to this presentation by selecting 15 candidates the very next week, and launching the first Palestinian emergency medicine residency training program on April 1, 2010, despite the fact that the MoH had been advised that Flagship Project would not be ready to fully support the MoH in its bold plans until September of 2010.

- The curriculum for the Palestinian emergency medicine residency training program was designed by the Medical School at An-Najah University in Nablus in collaboration with Lille University in France - see Annex E. It was approved by the Palestinian Medical Council in December 2009. The Flagship Project has been unable to create or maintain any formal collaborative relationships with An-Najah University on this.
- Anecdotally, the consultant has seen marked growth of the emergency medicine residents not only in their clinical skills, but in their administrative maturity.

SECTION III: FINDINGS, RECOMMENDATIONS, AND NEXT STEPS

I. Findings

- Emergency medicine has traditionally not been a major priority for the Palestinian MoH and for various international donors. It is traditionally a place where doctors are sent “to be punished” or where doctors who are not considered good enough for a specialized residency are sent. The current landscape of emergency medicine is similar to that of the United States in the 1960s.
- Emergency departments are poorly invested in as far as systems and resources. No triage systems exist. Currently patients and their family members flood into the open doors of the emergency department and aggressively seek the attention of emergency physicians and nurses to be seen. There is often violence expressed toward emergency physicians and nurses by patient family members when their loved ones are not seen promptly. Vital signs are not checked routinely on every patient. Vital signs are rarely rechecked.
- Emergency departments are understaffed. The PMC is a 17-bed ED with two dedicated fast track beds and has two physicians on duty at any given time. Nursing staffing is similarly poor. There is no utilization of nursing aids.
- There is limited to no communication with pre-hospital personnel either by radio or by giving reports at the bedside. Rafidia Hospital has a VHF radio which is occasionally used but not always.
- There are no systems of checklists to check emergency equipment, emergency pharmaceutical stock, or resuscitation room preparedness. At two of the three hospitals, the consultant discovered expired medications while working on shift. At one of the hospitals the defibrillator was not charging.
- Emergency departments lack critically essential equipment. One hospital lacks a 12-lead ECG machine. Given the rise of chronic disease in the region, the inability to assess for heart disease is a significant handicap. One of the EDs has only one cardiac monitor and no pulse oximetry machine.
- Emergency physicians overly rely on their consultants. They rarely engage in critical medical decision making and make consultations based on chief complaint creating an overall increase burden on the hospital. Surgical and medical consultations are often made after minimum patient exposure.
- Crowd control is a significant problem. Currently patients have many family members at the bedside, occasionally 5 to 10 family members per patient. Given the limited physical space of the ED, such crowds impair doctors and nurses capacities to rapidly assess and care for patients.
- The basic emergency pharmaceutical formulary is lacking. Currently none of the emergency departments give any oral medication other than aspirin for cardiac patients. Antibiotics are routinely not given in the emergency department even in septic patients. Vasopressor drips, nitroglycerin drips, heparin drips, or insulin drips are not started in the emergency department, and care is routinely delayed until the patient can go to the ICU. Narcotic analgesia is rarely given in the emergency department. Advanced airway equipment in addition to advanced medications necessary for induction, sedation and paralysis are lacking.

- There is currently no emergency department leadership in place. Head nurses and head physicians are in charge of scheduling only.
- Lack of proper hygiene is also a concern. Beds and gurneys are not disinfected between patients. The hand washing sink with soap is not centrally located and it is not part of the culture to wash hands between each patient. The Flagship Project is working on facilitating infection control and prevention protocols and measure. Yet more intensive work is needed as part of behavior change.
- There is no formal data gathering system. Hospitals do not have concrete data on their volume, acuity, or descriptive data on patients presenting to the emergency department. This poses a unique challenge on understanding where the problems are and at what depth.
- CT scans and ultrasounds are not available routinely, and never available at night. X-rays are not over read by a radiologist. There are no reference textbooks available for emergency physicians to use to help them interpret x-rays.
- There is no reference library in the emergency department for physicians and nurses to read or reference to take care of patients with obscure or unfamiliar illnesses.
- The emergency medicine residents are clever, resourceful, enthusiastic and eager to learn.
- The hospital leadership at Al Alia hospital (Hebron) and Rafidia hospital (Nablus) are exceptionally supportive of our objectives in improving quality of emergency departments and training of emergency medicine specialists.
- The directorate general of hospitals for the Ministry of Health is exceptionally supportive of the Flagship Project's objectives in improving the quality of MoH hospital emergency departments.

2. Recommendations

- **Emergency systems:**
 - (1) Continue implementation of the ESI triage system in the five phases as listed above.
 - (2) Push for security and crowd control system implementation to make a safer and more efficient work environment.
 - (3) Most importantly, recognize and empower emergency department leadership to advocate for the ED to improve the quality of the emergency department. Implement nurse aids to take some of the nonclinical burden from nurses.
 - (4) Coordinate care with emergency department leadership and other ancillary leadership to improve housekeeping, lab services, radiography services, etc.
- **Investment in personnel:**
 - (1) Train all emergency physician and nursing staff in BLS, ACLS, PALS.
 - (2) Train emergency residents in English and then provide access to both printed and online educational material for them to read and reference.
 - (3) Empower emergency department physicians and nursing leadership to create a culture of continued medical education and professional development. Give them a voice and allow them to speak on behalf of their emergency department staff to hospital leadership.

(4) Once emergency leadership is in place, advocate for giving them the authority to coordinate continued medical education for their emergency staff and administration authority over staffing, budget, and guidelines pertaining to the ED. The Flagship Project has already begun discussing staffing algorithms for emergency physicians and nurses based on number of beds, volume, and acuity with one of the ED's physician leadership.

- **Procurement of emergency equipment:**

(1) Advocate for the empowerment of the emergency department physician and nursing leadership to keep track of their equipment procurement needs and maintenance needs and maintenance needs.

(2) Procure a small reference library in each of the three pilot emergency departments and update it annually with essential emergency physician and nursing reference texts necessary for rapid access of critical information necessary for patient care.

(3) Once infrastructure in emergency department is improved, the recommendation to procure bedside ultrasounds in each of the three EDs is desirable, and training emergency physicians in their use is essential and will be part of the protocols.

- **Disaster Preparedness:**

(1) Continue to bring together key stakeholders and encourage coordination and collaboration.

- **Emergency medicine residency training program:**

(1) Continue to work with Palestinian Medical Council to revise curriculum.

(2) Continue to search for local academic partner to collaborate and ensure sustainability.

(3) Continue bedside teaching and coaching of residents.

(4) Continue to provide review articles and scholarly journal articles for residents to read.

(5) Continue to work with MoH to revise work hours and professional responsibilities of residents.

(6) Host and help coordinate protected didactic lecture time for residents (lectures to be given by international consultants, local specialists outside of the field of emergency medicine, and by telemedicine).

(7) Recruit and place in the field emergency medicine specialist consultants to do bedside training, in addition to focused academic and administrative activity.

(8) Coordinate with ED physician leadership a textbook reading schedule consistent with yearly lecture schedule divided into teaching modules by subject within the core body of medical knowledge of emergency medicine specialists.

(9) Work with Palestinian Medical Council and ED leadership to set up written examination and bedside evaluations tools to appraise residents for promotion.

(10) Investigate for scholarships to send emergency medicine residents to North America, Europe, or the Middle East for additional exposure and education in emergency medicine.

(11) International consultants to mentor Palestinian emergency residents in academic research and writing scholarly papers to be submitted to academic journals.

3. Next Steps

- Emergency department leadership must be recognized and empowered. Without decentralized hospital leadership and empowered emergency department leadership there can be little progress. A lot of work has to be done to try to overcome this challenge, and will be part of strengthening the capacity of the staff.
- Emergency medicine residents must achieve English language competency as soon as possible so that they can begin studying from aggressive textbooks reading curricula and begin to benefit from didactic lectures.
- Emergency physicians and nurses must be trained in BLS, ACLS, and PALS at a minimum. More sophisticated continuing medical education can follow.
- Triage must be implemented according to our 5-phase implementation strategy.
- Security and crowd control should be routine in all MoH emergency departments.
- A closer relationship with the Palestinian Medical Council and local academic medical schools needs to occur to assure the sustainability of emergency medicine as a specialty.

ANNEX A: SCOPE OF WORK

Short-Term Consultancy Agreement Scope of Work

SOW Title: Emergency Care Physician Consultancy
SOW Date: March 29, 2010
SOW Status: Draft
Consultant Name: Jason Prystowsky
Job Classification: Short-Term US expatriate Consultant
Reporting to: Jihad Mashal, MD, 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 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 emergency care 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.

III. Objective of this Consultancy

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 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
- 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
 - Mentor and advise MoH clinical staff while providing on-the-job clinical training for treatment of patients
 - Design and conduct training and/or lecture on relevant emergency medicine procedures and topics
 - Assist the MoH with design and development of an emergency residency program
 - 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
 - Promote teamwork, cooperation, and a coordinated patient care approach among those providing emergency services
 - 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
 - Prepare educational/training materials as needed for recommended training programs
 - 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.

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.

VI. Timeframe for the Consultancy.

The timeframe for this consultancy is on or about April 1, 2010 and will conclude on or about June 16, 2010.

VII. LOE for the Consultancy.

The days of level of effort are estimated to be 1 day for travel; 66 days for work in West Bank; and 2 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

- 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
- Successful involvement and participation in international health and/or development

XI. Other Provisions.

Professional Liability Coverage

The Palestinian National Authority, Ministry of Health shall provide associated practitioners with professional liability (malpractice) coverage that will protect the organizations and individual practitioners from litigation and financial responsibility in the case of human error or uncontrollable circumstances arising from the performance of their duties and practice of medicine.

License to Practice Medicine

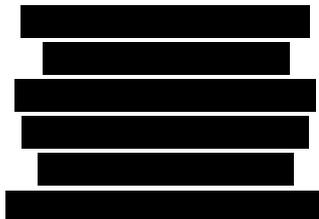
Associated practitioners will be temporarily licensed to practice medicine in the West Bank/Gaza under the auspices of the Palestinian National Authority, Ministry of Health, to work within the scope of their normal duties and responsibilities.

ANNEX B: ASSIGNMENT ACTIVITIES

Detailed in report.

ANNEX C: CONSULTANT CV

Jason J. Prystowsky, MD, MPH



CURRENT EMPLOYMENT

Loma Linda University Medical Center
Department of Emergency Medicine
Kathy Clem kclem@llu.edu
(909) 558-4085
High acuity, tertiary medical center, resident education, moderate blunt/penetrating trauma, 35,000/year
Assistant Professor of Emergency Medicine

8/09 to current
Loma Linda, CA

Santa Barbara Cottage Hospital:
Community academic environment
Mark Richmond markrichmond@cox.net
(805) 569-7872
30% pediatrics
High volume, moderate acuity, moderate blunt/penetrating trauma, 40,000/year
Part time emergency physician

5/07-4/08, 8/09 to current
Santa Barbara, CA

UCLA Ronald Reagan Medical Center
Department of Emergency Medicine
Larry Barraff lbaraff@mednet.ucla.edu
(310)794-0586
High acuity, tertiary/quaternary center, resident education, moderate blunt trauma, 40,000/year
Clinical Instructor of Emergency Medicine

11/09 to current
Los Angeles, CA

EMERGENCY MEDICINE RESIDENCY

Emory University School of Medicine
Department of Emergency Medicine
69 Jesse Hill Jr. Dr. SE
Atlanta, Georgia, 30303
(404)616-6673
(404)616-0191 (fax)

7/02- 6/05
Atlanta, GA

Emergency Departments:

Grady Memorial Hospital ECC: 110,000 patients / year
Hugh Spalding Children's Hospital PECC: 55,000/year
Crawford Long Hospital ED: 36,000/year

Emory University Hospital ED: 24,500/year
Children's Hospital of Atlanta, Egleston ED: 45,000/year

EDUCATION

Emory University

Department of philosophy PhD program 9/05-5/06
(currently on leave of absence prior to degree obtained) Atlanta, GA
Ethics Fellowship Department of Emergency Medicine

Northwestern University Medical School

McGaw Medical Center Doctor of Medicine (MD) 8/98 – 6/02
Chicago, IL
Received: 6/2002

Northwestern University Graduate School

Northwestern graduate school for public health 8/98 – 6/02
Chicago, IL
Emphasis: Guns and Violence & Community Health Master's Thesis:
Community Needs Assessment and Clinic
Operations Measurement for a Medical Mission in an Urban
Community in Nicaragua
Master's Degree in Public Health (MPH)
Received: 12/2002

University of California, Santa Barbara

Emphasis: Philosophy & Biology 9/93- 6/98
Santa Barbara, CA
Bachelor in Arts (BA)
Dean's List 1993-1998
Received with High Honors: 6/1998

WORK EXPERIENCE

Chinle Hospital ED: 25,000/year 7/05-8/05, 1/06, 9/06 to 9/07, 3/09 to 8/09
Navajo Nation, Indian Health Services Chinle, AZ
Single coverage with midlevel at peak hours, rural environment
30% pediatrics, moderate volume of blunt trauma
Emergency Medicine Physician

Doctors without Borders/Medicins Sans Frontiers May 2008-February 2009

New York Office

Phone: (212)679-6800

Fax: (212)679-7016

<http://www.doctorswithoutborders.org/>

Project Physician MSF-Holland, Mission South Sudan, Jonglei State, Pieri

Responsibilities: Management of TB village and DOT program, management of outpatient clinical department, management of operating theatre/trauma, consultant for therapeutic feeding center for severe protein energy malnutrition, consultant for kala-azar treatment program, consultant for inpatient medical department, consultant for high risk obstetrics,

consultant for EPI community outreach immunization program, advocacy for patients and vulnerable populations.

EmCare Central California Lompoc Valley District hospital: 20,000/year Single coverage, community environment 30% pediatrics Fair volume, high acuity, significant blunt/penetrating trauma	1/08 – 4/08 Lompoc, CA
Santa Ynez Cottage hospital: 5,000/year Single coverage, high profile rural environment Low volume, low acuity Emergency Medicine Physician	
Northsound Emergency Medicine Providence Health system: >80,000/year Double to triple coverage 20% pediatrics, high volume, high acuity Emergency Medicine Physician	5/06-6/06 Everett, WA
Emory University dept of Emergency Medicine Clinical Instructor Emergency Medicine	8/05 – 5/06 Atlanta, GA
Rosebud Hospital ED: 15,000/year Sioux Reservation Single coverage, rural environment 30% pediatrics Emergency Medicine Physician	12/05, 9/06 Rosebud, SD
Gallup Indian Medical Center: 30,000/year Navajo Nation Double coverage 30% pediatrics, fair volume blunt and penetrating trauma Emergency Medicine Physician	3/06 Gallup, NM
Kaplan Education Centers Instructor MCAT preparation	11/98 – 6/02 Chicago, IL
American Medical Response West EMT-ID & ALS Transport	6/96 – 6/98 Santa Barbara, CA
UCSB, Dept. of Chemistry and Biochemistry Instructor and course designer “Seminar in Medical Ethics”	3/97 – 6/98 Santa Barbara, CA
UCSB, Department of French Literature Teaching Assistant – French existential literature	4/97 – 6/98 Santa Barbara, CA

PUBLICATIONS

Prystowsky J, "Reflections on my Residency Training: A New Graduate's Perspective on Emergency Medicine," *Annals of Emergency Medicine* March, 2006; 47:289-290.

Frank E, Carrera J, **Prystowsky J**, Kellermann A, "Firearm-related personal and clinical characteristics of U.S. medical students," *Southern Medical Journal*, March 2006, 99(3):216-225.

Prystowsky J, "Burnout, Ideology and Responsibility," *EM Resident*. 2005 Oct/Nov. 32(5): 11.

Trehan I, Piskur JR, **Prystowsky J** "Collaboration between medical students and NGOs: A new model for international health education." *Medical Education*. 2003. 37(11):1031.

Kline J, Michelson E, et. al. "Diagnostic accuracy of bedside D-dimer assay and alveolar dead-space measurement for rapid exclusion of pulmonary embolism: A multi-center study." *JAMA*. 2001. 285: 761-768.

Prystowsky J, Millechap J, Noskin G, Peterson L. "Characterization of mutation in rRNA and comparison of their occurrences in Vancomycin-resistant *Enterococcus*." *Antimicrobial Agents and Chemotherapy*. 2001. 45: 2154-2156.

Textbook Chapters

Rosen and Barkin's 5 minute Emergency Medicine Consult, by Stephen R Hayden, Jeffrey J Schaider, Peter Rosen, Roger M Barkin, Richard E Wolfe, Edition: 3, revised, Lippencott Williams & Wilkins, 2006

- Foreign Body, Esophageal, page 422, **Jason J Prystowsky**
- Foreign Body, Rectal, page 426, **Jason J Prystowsky**
- Transfusion complications, page 1140, **Jason J Prystowsky**

Written Popular Media

Prystowsky J, regular columnist for HipCompass online travel magazine

- June 2009, "What a traveler needs to know about sunscreen"
- September 2009, "What a traveler needs to know about insect repellent"

PRESENTATIONS

"Medical Students and NGO's – Forging a Unique Partnership" 3/2002
Conference for International Medical Education Havana, Cuba
Poster presentation

"Using Literature to Understand the Human Side of Medicine: 4/2004
How doctors are portrayed in literature and poetry" Atlanta, GA
Emory Dept. of Emergency Medicine Conference
Grand Rounds Lecture

"Doing Good versus Doing Right: ethics in the ER" 10/2004, 11/2005

Emory Dept. of Emergency Medicine Conference Grand Rounds Lecture	Atlanta, GA
“Taser Gun Injuries” Emory Dept. of Emergency Medicine Resident Lecture Series	10/2004 Atlanta, GA
“High Yield Toxicology Review” Emory Dept. of Emergency Medicine Conference Resident Lecture Series	11/2004 Atlanta, GA
“Trauma radiology: What you can’t afford to miss” Emory Dept. of Emergency Medicine Conference Resident Lecture Series	5/2005 Atlanta, GA
“Summer Safety: How to avoid a trip to the ER” Grady High School Presentation to High School Sophomore and Junior class	6/2005 Atlanta, GA
“Community Acquired Pneumonia” Emory Dept. of Emergency Medicine Conference Resident lecture series	10/2005 Atlanta, GA
“Street Drugs you need to know about” Grady High School – health class Interactive lecture and small group discussion focused on making educated choices about drug use	10/2005 Atlanta, GA
“From Rural Clinics to the Grady ER: Health Disparities among Georgia's Immigrants” Emory University School of Medicine	1/2006 Atlanta, GA
“Immigration and Health Care conference: <i>impact on emergency medicine</i> ” Grady Memorial Hospital	3/2006 Atlanta, GA
“Impact of undocumented immigrants on emergency health services and public health” Georgia Social Work Conference on Immigrant Health	3/2006 Atlanta, GA
“Torture Methods and Manifestations” Human Rights Week: <i>Helping Torture Victims at Home Workshop</i> Physicians for Human Rights (PHR), Atlanta Torture Asylum Network Emory University	3/2006 Atlanta, GA
“Making Educated Choices about Alcohol” Grady High School – health class Interactive lecture and small group discussion focused on	4/2006 Atlanta, GA

making educated choices about alcohol	
<p>“Acute coronary syndrome” Mbarara University of Science and Technology Medical School House staff lecture series</p>	<p>7/2006 Mbarara, Uganda</p>
<p>“Pulmonary Embolism – diagnosis and treatment” Mbarara University of Science and Technology Medical School Grand rounds lecture, internal medicine</p>	<p>7/2006 Mbarara, Uganda</p>
<p>“Genetic immunoglobulinopathies” Mbarara University of Science and Technology Medical School Medical student lecture series</p>	<p>8/2006 Mbarara, Uganda</p>
<p>“Principles and Practice of medicine in the Developing World” Emory University- physicians assistant school Guest speaker series</p>	<p>10/06 Atlanta, GA</p>
<p>“Principles and Practice of medicine in the Developing World” Emory University School of Medicine Guest speaker series</p>	<p>11/06 Atlanta, GA</p>
<p>“Case Presentation: 19 year old girl with vomiting and diarrhea” Chinle Comprehensive Health Care Facility Noon conference</p>	<p>9/07 Chinle, AZ</p>
<p>“Current trends in diagnosis and treatment of community acquired pneumonia in the United States” Shastin Hospital Grand Rounds</p>	<p>10/07 UlanBaatar, Mongolia</p>
<p>“An introduction to western medical ethics” Choibolson Regional Hospital</p>	<p>10/07 Choibolson, Mongolia</p>
<p>“Notes from the field; the relationship between extreme Poverty and health” Guest lecturer Undergraduate course: Medicine for the Undeserved University of California at Santa Barbara</p>	<p>2/08 Santa Barbara, CA</p>
<p>“Tumbling over a failing safety net; emergency medicine For the underserved” Guest lecturer Undergraduate course: Medicine for the Undeserved University of California at Santa Barbara</p>	<p>2/08 Santa Barbara, CA</p>
<p>“Starved for Attention; the neglected global crisis of Malnutrition in children”</p>	<p>3/09 Atlanta, GA</p>

Speaker CARE advocacy workshop	
“Tales from the Field; stories and images of providing medical Humanitarian aid in conflict zones” Invited Speaker University of California, Santa Barbara	4/09 Santa Barbara, CA
“Tales from the Field; stories and images of providing medical Humanitarian aid in conflict zones” Invited speaker “Duke Conversations” Duke Global Health Institute Duke University	4/09 Durham, NC
“Starved for Attention: the global crisis of malnutrition in Children” Invited Speaker Texas Tech School of Medicine Sponsored by international medicine club	8/09 Lubbock, TX
“Starved for attention: the global crisis of malnutrition in Children” Invited speaker – representative of MSF 3 rd Annual Iowa Hunger Summit Des Moines, Iowa	10/09 Des Moines, Iowa
“Taking the first steps to a career in healthcare and applying to medical school” Invited speaker – Health Professionals Association University of California Santa Barbara	11/09 Santa Barbara, CA
“Humanitarian aid in conflict zones” Invited speaker, resident conference series Grand Rounds University of California Los Angeles	12/09 Los Angeles, CA

VOLUNTEER EXPERIENCE

Street Medicine – Santa Barbara Volunteer physician providing free medical care for the Homeless community of Santa Barbara	9/09 to current Santa Barbara, CA
Grady High School – health class Guest lecturer, member of advisory board Contribute to set up professional lecture series and student mentorship network with community health care providers	8/05 to 5/06 Atlanta, GA

Open Door Community – Harriet Tubman Clinic Faculty advisor, medical director Oversee a medical student run primary care clinic serving a homeless community http://www.opendoorcommunity.org/	9/04 – 5/06 Atlanta, GA
Atlanta Torture Asylum Network Expert witness helping victims of torture and political persecution seek asylum in the United States	2/05 – 5/06 Atlanta, GA
Education Development Committee Develop strategies to improve education in the Emergency Care Center of Grady Memorial Hospital and affiliated hospitals	12/03 – 6/04 Atlanta, GA
Grady Memorial Hospital – Committee member	Atlanta, GA
Emergency Care Center (ECC) throughput committee ECC leadership committee ECC Pain committee Medical Ethics Committee	10/04 – 6/05 1/05 – 6/05 1/05 – 6/05 8/05 – 5/06
Emory University Hospital – Committee member Medical Ethics Committee	Atlanta, GA 10/05 – 5/06
Community Health Clinic Volunteered in primary care clinic for the underserved Conducted medical exams in Spanish	9/98 – 6/02 Chicago, IL

INTERNATIONAL EXPERIENCE

Medicins Sans Frontieres/Doctors without Borders South Sudan. See job description.	4/08 to 2/09
Mongolia (F.I.R.E. Flagstaff International Relief Effort) http://www.fireprojects.org Worked as volunteer physician consultant on clinical rounds in 4 district hospitals and multiple clinics, provided bedside teaching, didactic lectures, and wrote grants to obtain medical supplies distributed among rural neighborhood clinics	10/07 Mongolia
Thomonde, Haiti http://www.projectmedishare.org Worked as volunteer physician oversaw medical students Collaborated with local NGOs and professionals Associated with Project Medishare, Miami	3/06, 3/07 Haiti

Quark Polar Expeditions http://www.quarkexpeditions.com/ Expedition team physician Antarctica	12/06, 11/07
Uganda (DGH- Doctors for Global Health) www.dghonline.org Consultant and visiting professor Accident & emergency, internal medicine, and community medicine MUST (Mbarara University of Science and Technology)	7/06 – 9/06 7/06 and 9/06 Mbarara
Consultant and acting director of inpatient pediatrics Kisoro District Hospital	8/06 Kisoro
San Lucas Tolimán, Guatemala Worked as volunteer physician and oversaw medical students in central clinic and in rural fincas Associated with Guatemala society of Minnesota	4/03 Guatemala
Northwestern Alliance for International Development (NUAID) Organized medical students and attending physicians Assisted in the collection of pharmaceutical and medical supplies Opened and ran a primary care clinic in rural Nicaragua Collaborated with local NGOs and medical facilities	9/00, 6/02 Nicaragua

AWARDS AND HONORS

Certificate of recognition for outstanding service, Chinle Service Unit, May 2007
Alpha Omega Alpha (AOA), Medical Honors Society, Emory Chapter, 2005
Chief Resident, Emory Dept. of Emergency Medicine, 2004-2005
Outstanding resident teacher of medical students, Emory Dept. of Emerg. Med., 2005
Outstanding resident teacher of junior residents, Emory Dept. of Emerg. Med., 2005
Award for academic excellence, Emory Department of Emergency Medicine, 2005
Outstanding Resident in Toxicology, Emory Dept. of Emerg Med, 2004

PROFESSIONAL ORGANIZATIONS - Membership

American College of Emergency Physicians (ACEP)
Alpha Omega Alpha, Emory Chapter (AOA)
Doctors for Global Health (DGH)
Medicins Sans Frontieres (MSF) – active association member
Physicians for Social Responsibility (PSR)
Physicians for Human Rights (PHR)
Santa Barbara Street Medicine/Doctors Without Walls – member of board of directors

CERTIFICATIONS

Emergency Medicine Board Certified (ABEM)	expires 2017
Advanced Cardiac Life Support (ACLS)	expires 5/2011
Advanced Pediatric Life Support (PALS)	expires 5/2011

Advanced Trauma Life Support (ATLS)

expires 2/2011

LICENSURE

Georgia State Medical License

expires 2/28/11

Washington State Medical License

expires 2/4/11

California State Medical Licensure

expires 2/28/11

HOBBIES AND INTERESTS

Reading (literature/philosophy), community service, boxing, fitness, travel, camping/hiking/backpacking, astronomy, writing

REFERENCES

Available upon request

ANNEX D: BIBLIOGRAPHY OF DOCUMENTS COLLECTED AND REVIEWED

1. Giacaman R, Khatib R, Shabaneh L, Ramlawi A, Sabri B et. Al: Health Status and health services in the occupied Palestinian territory. *Lancet* 2009, 373:837-49.
2. Mataria A, Khatib R, Donaldson C, Bassert T, Hunter D, Alsayed F, Moatti JP: The health-care system: an assessment and reform agenda. *Lancet* 2009, 373:1207-17.
3. Venugopal R, Greenough PG, Ehrhardt D, Brahmabhatt D, Oweis F: State of emergency health in the Palestinian Territories. *Prehosp Disast Med* 2007;22(1):9–14.

ANNEX E: LIST AND COPY OF MATERIALS UTILIZED DURING ASSIGNMENT

1. An Najah curriculum
2. ESI Triage Implementation Handbook
3. Health Status and Health Services in the Palestinian Territories
4. Palestinian Emergency Medicine PowerPoint
5. Proposal for Emergency Medicine Residency Program
6. State of Emergency Health in Palestinian Territories 2007

-Documents Available Upon Request-