



# IMPROVING EMERGENCY SERVICES

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

SHORT-TERM TECHNICAL ASSISTANCE REPORT

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# ACRONYMS

ACLS	Advanced Cardiac Life Support
ATLS	Advanced Trauma Life Support
BLS	Basic Life Support
ED	Emergency Department
IDP	Institutional Development Plan
ITLS	International Trauma Life Support
MoH	Ministry of Health
OR	Operating Room
PALS	Pediatric Advance Life Support
PMC	Palestine Medical Complex

## SECTION I: INTRODUCTION

The Flagship Project is a five-year initiative funded by the U.S. Agency of International Development (USAID), and designed in close collaboration with the Palestinian Ministry of Health (MoH). The Project's main objective is to support the MoH, select non-governmental organizations, and select educational and professional institutions in strengthening their institutional capacities and performance to support a functional 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.

The Ministry of Health is in the process of establishing a Palestine Medical Complex (PMC) in Ramallah, West Bank. The Complex represents four hospitals that will provide specialized services to the Palestinian people. In December 2008, the MoH completed a health system assessment with support from the Flagship Project in which 19 priority areas for intervention were highlighted for immediate action. One of the top priorities identified by the MoH was to create a Center for Excellence at the Palestine Medical Complex. As such, the MoH seeks assistance in operationalizing the PMC in a manner that promotes good governance and transparency in health, equitable and quality services in care, social participation, and cost-effectiveness.

Dr. Tae Kim, MD, FACEP, emergency physician/emergency care specialist, worked in the West Bank from August 17-September 4, 2009 to provide project support in the area of emergency medicine. The objectives of this consultancy included collaboration with MoH staff and Flagship Project leadership to develop a strategy for emergency services for select MoH facilities, which included furthering the formation of the PMC and its activation; assessment of emergency services and protocols at Sheikh Zayed Emergency Hospital in Ramallah, including a written strategy to improve its management and clinical care; and close work with Flagship Project leadership, staff, and MoH personnel to identify key short-term technical assistance (STTA) necessary to help accomplish Flagship Project goals and objectives.

This consultancy contributes to Flagship Project Component 2, Objective 2.1 of the Flagship Project: Improve the quality of essential clinical services for Palestinians; Task 2.1.3 Strengthen the capacity of Palestinian health institutions to provide quality emergency care services; and the following deliverables:

Deliverable 2.1.3.1: Situation analysis and needs assessment regarding MoH emergency departments and emergency preparedness

Deliverable 2.1.3.3 Fellowship Training and Visiting Professor Program to support improved quality of MoH emergency services

This consultancy also contributes to the MoH Institutional Development Plan Module 14: Support MoH Emergency Departments and Emergency Preparedness.

## **SECTION II: ACTIVITIES CONDUCTED DURING TDY**

The consultant was originally tasked with assessing and providing technical assistance for emergency medicine service at the Rafidiah General Hospital in Nablus as well as Sheikh Zayed Hospital in Ramallah. Upon the consultant's arrival in-county, the operationalization of the Sheikh Zayed Hospital became an immediate and urgent priority by the Ministry of Health. As such, and in consultation with USAID, the consultant's scope of work was revised to focus primarily on providing advice and technical assistance to operationalize Sheikh Zayed Hospital as the Emergency Hospital of the PMC as well as advice and technical assistance regarding a five year institutional plan for the emergency hospital.

The consultant also provided advice and technical assistance regarding the PMC Master Plan, the PMC Action Plan, a secondary care hospital assessment tool, Quality Improvement programs, and finally, assessment and recommendations for strengthening the Palestinian emergency care system.

The consultant met with the Minister of Health as well as key members of the MoH, such as Dr. Mohamed Eideh, General Medical Director for Emergency Services at the MoH. He also conducted multiple site visits to Sheikh Zayed Hospital, Ramallah General Hospital, other facilities of the PMC, and MoH and UNRWA hospitals in Qalqilya.

## **SECTION III: FINDINGS, RECOMMENDATIONS, AND NEXT STEPS/ACTION PLAN**

This section presents the findings and recommendations of the consultant with regards to two primary areas:

- Improving operations of Sheikh Zayed Hospital
- Medical Care Training and Education

It also presents next steps for the long-term improvement of emergency services.

### **A. Improving Operations at Sheikh Zayed Hospital**

Sheikh Zayed Hospital, also known as Ramallah Emergency and Trauma center, is a non-profit organization operating one of the largest trauma centers in the Palestinian Occupied Territories. It has served this community since opening March 1, 2001 and its original goals were to provide emergency and trauma services following the second intifada.

A national fund raising campaign was adopted by the governor of the Ramallah & Al- Beireh district to collect the funds necessary to open this center. The Ramallah Federation provided the land the center was built on. The United Arab Emirates represented by Sheikh Zayed Bin Sultan Al Hayan and the Emirates Red Crescent Society funded the center to outfit it with the equipment to run the hospital.

According to the Flagship Project's MoH Institutional Development Plan (IDP), Module 14 (Support MoH Emergency Departments and Emergency Preparedness), activity for 2009 included a national situational analysis of the existing activities in emergency departments as well as a needs assessment of these facilities on behalf of the MoH and other stakeholders.

Given the region's pressing needs for emergency medical care, priority was given by the MoH to incorporate Sheikh Zayed Hospital into the Palestinian Medical Complex as its Emergency Department/Trauma Center. Due to these exigencies the Flagship Project team conducted an analysis for Sheikh Zayed Hospital in greater detail than the other MoH emergency departments in the West Bank.

Tulkarem, Jenin, Rafidia, Nablus Specialized Hospital, Arab Specialized Hospital, and Ramallah Hospital were the hospital emergency departments that underwent a more general analysis. However, somewhat unsurprisingly many of our findings at these hospitals were similar to those of Sheikh Zayed, such as lack of triage area/reception, lack of emergency protocols, absence of pediatric-specific training and equipment, variance in document reports, duplication of services provided with the regional unavailability of certain specialties, etc. Given the similarity of needs many of the recommendations that the Flagship Project can make at Sheikh Zayed Hospital can be generalized to these other care centers. Many of the recommendations below may already have been anticipated and planned by the current administrators; they are included here for the sake of completeness.

## **AI. Findings**

### **Provision of Services**

The number of patients accessing the Emergency and Trauma Center's services has increased markedly to the extent that patients now include those from outside the Ramallah governorate. The center's emergency services, in addition to its surgery, radiology, and in-patient clinic are utilized the most. The Emergency and Trauma Center now also provides medical services that other area facilities lack such as ear, nose and throat surgery.

### **Facilities and Units**

The center consists of three floors: the basement, ground floor, and an unfinished first floor. The area of each floor is 1300m. While the first two floors are functioning, the first floor remains under construction. The center's five administrative departments include:

- Medical Department
- Administration Department
- Financial Department
- Nursing Department
- Registration and Admission Department

The main clinical unit, the Medical Department, is comprised of the following:

- Emergency unit containing 12 beds, a splint room, an endoscopy suite, and a 2 bed ICU/resuscitation room
- In-house patient unit with a total capacity of 16 beds throughout the 7 rooms
- Two-room surgical suite for major and minor operations
- Sterilization unit
- Laboratory
- Radiation department with: CT scan, Ultrasound, regular and colored x –ray.
- Pharmacy

The current floors in active use contain the following:

(1) The basement, also known as the service floor:

- C.S.S.D.
- Kitchen/Nutrition Services
- Maintenance Department
- Inpatient Pharmacy
- Warehouse
- Medical Records (archive)
- Administration, Finance

(2) The ground floor:

- Emergency Department
- Inpatient Rooms
- Laboratory
- Radiology
- Surgical suite (2 ORs)

There are plans in development to house in the first floor several clinical units:

- Comprehensive Diabetes Center
- Burn Unit
- Intensive Care Unit
- Surgical Suite with 2 ORs and a sterilization unit

The original intent of the Sheikh Zayed Hospital was to provide emergency services only; however, over time it was privatized and began to provide general medical and surgical admissions, as well as elective operations. The figures below represent the census of patients for 2008.

**Fig. 1 Emergency Department Report 2008 (approx. 56 pt/day) Mortality I I**

	Med	Card	Ped	ENT	Orth	Ur	HBO	HBS	G OP	Acci	Oth	Total
Total	4220	2767	2329	1901	1874	730	420	322	1862	1475	2764	20664
%	20.4	13.4	11.3	9.2	9.1	3.5	2.1	1.5	9	7.1	13.4	100

**Fig. 2 ICU Report 2008**

	Admission	Discharge	Mortality	Total
Total	325	291	30	501
Rate			Occupancy rate	86.60%

**Fig. 3 Detailed ICU Report 2008**

Month	Admission	Discharge	Total	Mortality
Jan	23	16	52	5
Feb	33	31	49	1
March	30	26	56	4
April	28	24	56	3
May	31	28	31	2
June	27	25	27	2
July	30	29	30	0
August	28	25	28	3
September	26	24	26	2
October	18	20	48	0
November	23	17	45	2
December	28	26	53	6
Total	325	291	501	30
Rate	I</D	I</D	68.60%	9.00%

**Fig. 4 Inpatient Ward Report 2008**

	Admission	Discharge	Total	Mortality
Total	1924	1748	3058	2
Rate/day	5	4	Occupancy R	52.40%

**Fig. 5 Detailed Inpatient Ward Report 2008**

Month	Admission	Discharge	Total	Mortality
Jan	162	146	323	0
Feb	143	161	328	1
March	184	161	280	0
April	150	131	189	0
May	185	167	250	0

June	17	169	236	0
July	185	163	283	0
August	148	135	235	0
September	159	134	291	0
October	134	127	211	0
November	159	131	244	1
December	138	123	188	0
Total	1924	1748	3058	2
Rate	5	4	52.40%	

**Fig. 6 OR Report 2008 with Total Medical and Surgical Cases**

	S Major	Major	Moderate	Minor	M Minor	Total						
Total	80	131	368	304	56	939						
%	8.5	14	39.2	32.3	6	2-3D						
ED												
Date	Med	Car	Ped	ENT	Orth	Uro	HBO	HB	OP	Ac	Oth	Tot
Jan	298	211	202	87	117	64	50	31	168	59	117	1404
Feb	248	206	183	148	138	66	19	21	220	71	180	1500
Mar	374	322	245	161	172	56	32	12	133	53	191	1751
Apr	381	319	219	156	142	82	35	18	102	40	56	150
May	434	346	273	199	176	82	37	31	15	48	49	1830
Jun	430	342	277	203	182	82	41	29	149	55	58	158
Jul	380	211	285	215	155	95	65	38	147	61	102	1754
Aug	460	320	139	220	200	30	40	30	290	250	19	1998
Sep	391	346	196	125	143	45	53	54	214	177	35	1779
Oct	273	53	73	94	122	37	25	21	101	263	628	1690
Nov	283	41	62	113	165	46	10	17	83	168	511	1499
Dec	268	50	175	180	162	35	13	20	100	230	818	2051
Total	4220	2767	2329	1901	1874	730	420	322	1862	1475	2764	20664
Per %	20.4	13.4	11.3	9.2	9.1	3.5	2.1	1.5	9	7.1	13.4	100

**Fig. 7 OR Report 2008 Detailed by Month**

Month	S Major	Major	Moderate	Minor	M Minor	Total
Jan	6	12	38	31	6	93
Feb	11	5	30	22	4	72
Mar	8	21	27	32	4	92
Apr	7	10	42	24	5	88
May	6	9	15	18	7	5
Jun	3	10	28	30	6	77
Jul	8	14	42	23	6	93
Aug	7	15	38	29	3	92
Sep	8	7	23	27	1	66
Oct	7	8	34	21	5	75
Nov	3	12	28	25	2	70
Dec	6	8	23	22	7	66
Total	80	131	368	304	56	939
Rate						2-3D

## A2. Recommendations

Recommendation particular to Sheikh Zayed Hospital's operations include the following:

- *Paint interior, hang new curtains, add corner guards and chair rails throughout.*

- *Aggressively advertise in the community the closure of Ramallah General Hospital's emergency department and the transition of service to Sheikh Zayed Hospital as the new Emergency Hospital of the Palestinian Medical Complex.* Publicly inaugurating this first service to the community of the PMC as a new Palestinian institution will increase its prestige and also direct patients to seek care at the Emergency Hospital rather than at Ramallah General's closed department. (Proposed date of first service at Emergency Hospital of PMC 31 Jan. 2010.)
- *Increase clinical space in the current Sheikh Zayed Emergency Department.* Rooms 13 and 14 currently house an endoscopy suite and administrative office, respectively; convert these rooms back to care spaces in order to maximize the number of available beds for patients. Once Ramallah General Hospital closes its ED the current high volume of patients seen in that facility will be directed to Sheikh Zayed as the PMC emergency hospital which necessitates increasing the amount of available patient care space.
- *Designate an Isolation Room.* Convert either room 13 or 14 to an isolation room in order to appropriately and safely care for immunocompromised patients or infection control risks.
- *Move the current endoscopy suites to a room one hallway over.*
- *Convert the hallway rooms to include a "Fast Track"/urgent care space.* Many patients are admitted to emergency departments with non-acute or sub-acute needs. Rather than turning these patients away or discouraging them from seeking care we can view this population as presenting with an opportunity to provide needed assistance for the community and a source for increased revenues. Even though they may offer only a very thin margin of yield increasing the volume by which these patients are seen will compensate for this fact. Opening an urgent care/low acuity area when the main ED beds are full with high acuity cases will increase efficiencies to improve yields and also increase patient satisfaction of care, thereby also enlarging the PMC's reputation in the community as a Center for Excellence.
- *Convert the main hospital entrance as "ambulance only", change the driveway to one-way only ambulance traffic and eliminate all non-ambulance parking and pedestrian use.* Doing so reserves this space for use by high-acuity patients arriving by ambulance and increases pedestrian safety.
- *Convert the current side waiting area to an ambulatory-care entrance with a triage and registration areas.* Reserving a space for ambulatory patients increases pedestrian safety. When patient volumes are high in the main ED and bed space is not immediately available triage, performed by either an experienced nurse or physician, can screen for potentially unstable patients, initiate care (e.g. antipyretics) and predetermined protocols (e.g. chest pain evaluations with triage-ordered ECGs, chest roentgenograms, etc.).
- *Convert one ground-floor OR to a pediatric emergency care area, stocked with pediatric equipment and code cart.* The introduction of the PMC Children's Hospital will undoubtedly increase the volume of child patients. A pediatric-specific emergency space will not only increase the reputation of the PMC's ability to care for its youngest patients, it will also improve patient safety by ensuring that at least one area of the ED will always be stocked with appropriately sized pediatric equipment and medication doses, thereby decreasing the potential for errors.

Given the potential for political unrest in the region it is prudent to adjoin this space to the main ED in order to allow for overflow adult patients as needs demand, and vice versa.

- *Update signage throughout the hospital to reflect these changes.*
- *Establish at a minimum universal BLS and first aid training and certification for all employees involved in patient-care, including physicians of all levels, nurses, therapists, paramedics, etc.* Given the volatile nature of regional politics, as well as the reported possibility of earthquakes and other natural disasters, it can be difficult to predict the frequency and incidence of mass casualty incidents. Although this standard is clearly an ambitious one, establishing universal training in BLS and first aid will ensure that this institution will be prepared for times of extraordinary need when the entire community will turn to the PMC as a leader for healthcare.
- *Hire key administrators, including a department chair and medical director.* As leaders of the emergency department, these individuals should be well-experienced in emergency medicine and respected members of the medical community with a demonstrated interest in academics including teaching and research. A nursing director who is also well-experienced and respected is a necessary member of the administrative team.
- *Plan to staff the emergency department such that a senior physician is physically present and overseeing all care 24 hours a day.* Overnight, weekend and holiday duty is an onerous part of one's vocation, particularly as one advances in seniority. However, studies bear out that successful resuscitation increases in likelihood with the experience level of the physician giving care, and for the sake of patient safety in a facility that strives to earn its title as a Center for Excellence around-the-clock staffing with senior physicians is necessary. Ideally, these physicians are those who are committed to emergency care, well-respected by their peers, not only maintain current certification in BLS, ACLS, ITLS, ATLS and PALS but are also able to instruct these courses, and have a minimum of four years of post-licensure clinical experience.
- *Hire a physician staff with the intent that it will eventually serve as an academic faculty.* One of the Flagship Project's recommendations for the PMC as it develops into a Center for Excellence is to establish an academic affiliation. Critical to the success of the PMC as a national center for healthcare excellence is the professional and career development of its staff. Ensuring that physicians, nurses, and other staff members keep current in all recent advances in their chosen discipline of emergency medicine will help them maintain leadership positions in this field, improve the satisfaction and fulfillment they find in their careers, and secure the PMC's role as premiere health provider in the West Bank. Advanced training will ensure that the healthcare delivered at the PMC is of international standards of quality. Fellowship training in emergency medicine at prominent medical centers both in the region and abroad will not only keep staff current in their fields but also allow them to establish positions of prominence in the international scholarly advancement of their specialties. Visiting professorships will welcome talented scholars from other Centers for Excellence who can share their knowledge and abilities with the PMC staff and also let them experience the warm Palestinian hospitality. The eventual goal of the PMC and particularly the Emergency Hospital should be to establish emergency medicine as a recognized medical specialty in the Palestinian territories with a residency training program to promote excellence in care for those most acutely in need.

- *Consider long-term plans for the first floor.* Current plans include the construction of a comprehensive diabetes center and a burn unit on the second floor of the Emergency Hospital. Given the acuity of need to address these conditions, particularly as the PMC establishes itself as a Center for Excellence, it is understandable that for the sake of expediency these units will be housed in the Emergency Hospital. We recommend, however, that the future plans for the PMC include relocating these disciplines in their respective specialty hospitals as space becomes available and the staffing at each branch develops. The comprehensive diabetes center may best be administered in the Ramallah General Hospital where internists can direct care, nutritionists can advise patients about their diets, experienced nursing staff can establish long-term relationships with their patients, etc., rather than at the Emergency Hospital, where care will be episodic and acute in nature.

Also, the inclusion of a burn unit at the PMC is both forward-thinking and evidence of the aspirations of the MoH to meet this critical need of the Palestinian people. Certainly, burn treatment has traditionally been a part of the discipline of trauma care and the specialties have a great deal to share with and offer to each other. However, burn treatment has a special set of infection control issues, and housing the burn center in the Emergency Hospital, which will treat all emergencies, may expose patients to a more varied spectrum of pathogens despite the pains being taken to place the unit on the second floor. Furthermore, given the long-term and convalescent needs of burn patients, including multiple repeated surgeries such as debridements and skin grafts, we recommend that future plans for the burn center include relocation to the Surgical Specialty Hospital where these patients can have greater access to repeated treatments in the ORs and skilled specialty nursing treatment in the Surgical ICU.

Suggested future options for the first floor of the Emergency Hospital include an expanded Intensive Care Unit for patients too unstable to move to another inpatient ward; a Rapid Admission holding unit for patients awaiting inpatient bed placement, which would clear space in the emergency department for new patients awaiting evaluation; an Observation Unit for patients predicted to have a less than 24-hour stay (e.g. low-risk chest pain patients undergoing serial cardiac marker testing to rule-out myocardial infarction followed by provocative testing); outpatient surgical suite with observation unit.

- *Plan for the long term when installing new technologies.* The current plan to install an MRI machine and 64-slice CT scanner at the PMC with all expediency is congruous with an agenda to serve the nation's highest needs with the best technology available. However, the PMC's planners must carefully consider the placement of these machines to gain the most efficient use and benefit from these technologies; although availability of space is always at the forefront of the minds of administrators we encourage the PMC's board to consider placing the MRI and CT machines where they will be most efficiently employed. There are very few emergencies that require MRI technology, however, a great many of them benefit from high resolution CT scans, while surgical subspecialties often use MRI to diagnose and plan for interventions. We therefore recommend that the PMC board prioritize space for the CT machine at the Emergency Hospital and the MRI scanner at the Surgical Hospital.

## B. Medical Care Training and Education

Recommendations regarding emergency medical care training and education are as follows:

- *Establish at a minimum universal BLS and first aid training and certification for all employees involved in patient-care, including physicians of all levels, nurses, therapists, paramedics, etc.* Given the volatile nature of regional politics, as well as the reported possibility of earthquakes and other natural disasters, it can be difficult to predict the frequency and incidence of mass casualty incidents. Although this standard is clearly an ambitious one, establishing universal training in BLS and first aid will ensure that Palestinian healthcare providers will be prepared for times of extraordinary need.

The Flagship Project is currently coordinating with the Juzoor organization to plan for a one-year scope of work in training staff at the PMC as well as primary health clinics and secondary hospitals in Nablus, in Basic Life Support (BLS). This program will not only establish a standard of resuscitation education for primary, secondary and tertiary care health professionals, but will also identify those providers with the potential to become faculty of future training courses who will maintain BLS education programs in the Palestinian territories.

The Flagship Project will also work with Juzoor to investigate and obtain the ability from ILCOR to certify and recertify providers and trainers in BLS.

- *Plan to staff the PMC emergency department such that a senior physician is physically present and overseeing all care 24 hours a day.* Overnight, weekend and holiday duty is an onerous part of one's vocation, particularly as one advances in seniority. However, studies bear out that successful resuscitation increases in likelihood with the experience level of the physician giving care, and for the sake of patient safety in a facility that strives to earn its title as a Center for Excellence around-the-clock staffing with senior physicians is necessary. Ideally, these physicians are those who are committed to emergency care, well-respected by their peers, not only maintain current certification in BLS, ACLS, ITLS, ATLS and PALS but are also able to instruct these courses, and have a minimum of four years of post-licensure clinical experience. These senior physicians will be able to provide acute medical care education for trainees working in the ED while preserving patient safety.
- *Hire a physician staff with the intent that it will eventually serve as an academic faculty.* One of the Flagship Project's recommendations for the PMC as it develops into a Center for Excellence is to establish an academic affiliation. Critical to the success of the PMC as a national center for healthcare excellence is the professional and career development of its staff. Ensuring that physicians, nurses, and other staff members keep current in all recent advances in their chosen discipline of emergency medicine will help them maintain leadership positions in this field, improve the satisfaction and fulfillment they find in their careers, and secure the PMC's role as Palestine's premiere health provider. Advanced training will ensure that the healthcare delivered at the PMC is of international standards of quality. Fellowship training in emergency medicine at prominent medical centers both in the region and abroad will not only keep staff current in their fields but also allow them to establish positions of prominence in the international scholarly advancement of their specialties. Visiting professorships will welcome talented scholars from other Centers for Excellence who can share their knowledge and abilities with the PMC staff and also let them

experience the warm Palestinian hospitality. The eventual goal of the PMC and particularly the Emergency Hospital should be to establish emergency medicine as a recognized medical specialty with a residency training program to promote excellence in care for those most acutely in need.

- *Standardize training for EMS drivers/crews with periodic recertification.* These “first responders” are in positions to perform the earliest life-saving interventions; universally training EMS providers in at minimum BLS, ITLS and AED deployment would go far to providing early critically necessary care for the emergency patients and also towards the population’s emergency preparedness.
- *Establish Emergency Medicine as a recognized, board-certified specialty with residency training programs in the Palestine territories.* Emergency departments in the Palestinian territories are currently staffed by courageous, dedicated, and intellectually ambitious general practitioners whose contributions to emergency care in the country cannot be understated. However, emergency medicine is a recognized specialty of many mature healthcare systems and has international academic standing; furthermore, if any country would benefit from specialists in medical emergencies, given the realities of daily life here, the Palestinian territories stands among them. Senior physicians who have expressed interest and dedication to the field of acute care medicine should be strongly encouraged and supported to assemble, form relationships and share experience and knowledge; these individuals should be identified and charged with the task of shepherding the specialty of emergency medicine in to the Palestinian healthcare system. These physicians can form local interest groups which can then attend international meetings in the region, such as the annual Mediterranean Emergency Medicine Congress. By having affiliations with academic institutions, such as those that we are encouraging at Centers for Excellence such as the PMC, they can have the foundations from which they can attend fellowships in emergency medicine in nearby countries in which emergency medicine has already been established, such as Jordan. These academic ties can also accommodate visiting professorships from other academic centers so recognized leaders in the field can share their gained knowledge with Palestinian emergency practitioners and also experience this country’s warmth and hospitality. A marker of a mature specialty is the establishment of emergency medicine residency programs that will train the generations to follow in the art and science of emergency care.

### **C. Next Steps for Improving System of Emergency Care**

Recommendations that are applicable to the state of emergency care include longer-term, systems-oriented goals to improve the health of the population as a whole and are as follows:

- *Prioritize and devote ambulance resources for EMS/prehospital emergency care and transportation.* Ambulances are currently used in a patchwork-fashion for not only emergency prehospital transportation to hospitals, but also as administrative vehicles, non-emergent patient transportation from hospital to discharge or from home to outpatient clinics, interfacility transportation, etc. In order to expediently care for the critically ill we recommend that ambulances and their crews be assigned specifically for prehospital care and transportation to emergency departments. Certain vehicles may still be assigned for administrative transportation, interfacility critical care transportation, non-emergent outpatient services, etc., but mandate emergency vehicles exclusively for emergent needs. This designation ensures that ambulances are routinely available for EMS transportation and also conditions

the general population to the idea that a vehicle marked “emergency” truly has a critically ill patient in it. Of course, given the possibility of mass casualty events in the region a certain degree of flexibility in the event of these incidents is necessary, however, given their infrequency relative to the daily needs of emergency patients dedicated emergency service designation is appropriate and necessary.

- *Standardize training for EMS drivers/crews with periodic recertification.* These “first responders” are in positions to perform the earliest life-saving interventions; universally training EMS providers in at minimum BLS, ITLS and AED deployment would go far to providing early critically necessary care for the emergency patients and also towards the population’s emergency preparedness.
- *Improve communications between EMS providers and receiving hospitals.* Making communications between ambulance crews and their receiving hospitals a routine event would aid preparations to care for potentially unstable patients. EMS crews may currently be reluctant to do so out of fear of disapprobation or worse, diversion away from the facility. These healthcare professionals should be treated as respected members of a team which provides a continuum of care from the prehospital environment to the inpatient ward and emergency department personnel should be instructed not to mistreat or turn away ambulance crews, reminding them that any communication from EMS is to the benefit of the ED and not vice versa.
- *Streamline the referral process.* A frequent observation of patients in emergency departments is that many consist of non-emergent or sub-acute patients who self-refer to the ED for referral to a specialty clinic. This phenomenon is not the fault of these patients but is rather symptomatic of an unmet need. Streamlining primary healthcare referrals to specialty clinics has the potential to decrease the numbers of these patients and also to encourage counter-referrals (follow-up) with the primary care clinics. However, if a patient presents to an ED for referral, simply ignoring this problem does not actually address the patient’s need. A streamlined referral system from the ED to the specialty clinics as well as encouragement to establish continuity-care with a primary provider will improve the long-term health of patients as well as increase their satisfaction with their care and of the government that provides it. One suggested system to improve the process of referrals from the ED to clinics includes providing a standardized form with the patient’s identifying information, the provisional diagnosis, the clinic requested, and the primary clinic the patient should return to for follow-up care, and then assigning to a trained nurse the task of making these arrangements during routine business hours.
- *Assemble caches of medical supplies for disasters and collect them in secured, regionalized, off-site locations as part of a larger national emergency-preparedness plan.* The potential for mass casualty events in the region has been mentioned several times in this document and in others. Prudence dictates the foresight to collect caches of materials such as medications, dressing supplies, etc., in amounts appropriate for at the minimum continued operation for a 72 hour period. Given the geopolitical limitations to mobility, regionalizing these caches would ensure that barriers to movement would not prevent much-needed supplies from reaching the medical facilities that require them for operation. Establishing protocols for their distribution and use lies in the collaborative efforts between local public health officials and civil authorities. It is incumbent upon governmental authorities to form a unified

national emergency preparedness plan to which the MoH can contribute advice and leadership regarding medical care and relief.

- *Establish Emergency Medicine as a recognized, board-certified specialty with residency training programs in Palestine. See discussion above.*

## ANNEX A: TERMS OF REFERENCE

### MEMORANDUM

**TO:** Taroub Faramand, MD ([tfaramand@flagshipproject.org](mailto:tfaramand@flagshipproject.org))  
*Chief of Party, Flagship Project*  
Damianos Odeh, MD ([dodeh@flagshipproject.org](mailto:dodeh@flagshipproject.org))  
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*Assistant Vice President for Global Outreach*  
*Associate Director, Global Health Institute*  
*Palestine Project Director, Loma Linda University*

**DATE:** July 1, 2009

**SUBJECT:** STTA Request for Approval for Tae Kim, MD

**COPY:** Flagship PMU ([FlagshipPMU@chemonics.com](mailto:FlagshipPMU@chemonics.com)), Hadeel AlQassis ([halqassis@flagshipproject.org](mailto:halqassis@flagshipproject.org)), Sandra Assman ([sassman@llu.edu](mailto:sassman@llu.edu)), Allison Hurlow ([ahurlow@llu.edu](mailto:ahurlow@llu.edu)), Mo O'Reilly ([moreilly@llu.edu](mailto:moreilly@llu.edu)), Tae Kim, MD ([tjkim@llu.edu](mailto:tjkim@llu.edu))

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1. **Request:** Loma Linda University requests approval for Tae Kim, MD to travel to the West Bank, Palestine to provide short-term technical assistance (STTA) to the Palestinian Health Sector Reform and Development Project (“the Flagship Project”) for the period of August 16, 2009 to September 5, 2009.
  2. **Background:** Loma Linda University (LLU) has been requested to assist with capacity building and training staff in partnership with the Flagship Project at Ministry of Health facilities throughout the West Bank. Priority will be given to management support and training and improving the quality of care.
  3. **Purpose of Proposed Visit:** To provide project support in the area of Emergency Medicine.
  4. **Scope of Work:**
    1. To work with MoH staff and Flagship leadership to develop a strategy for emergency services for select MoH facilities.
    2. To work with Flagship and MoH personnel to assess the Emergency Medicine service at the Rafidiah General Hospital in Nablus, West Bank.
    3. To structure involvement at the Rafidiah General Hospital in such a manner that improvements to the management and quality of emergency clinical care can be exported and adopted at other MoH facilities—if needed.
    4. To work with Flagship leadership and appropriate MoH staff on the processes necessary to further the formation of the Palestinian Medical Complex (PMC) – to be activated only if working at the PMC is approved.
    5. Assess emergency services and protocols at Sheik Zayed Emergency Hospital, Ramallah, West Bank – to be activated only if working at the PMC is approved.

6. To develop a written strategy to improve the management and clinical care in Emergency Medicine at Sheik Zayed Emergency Hospital, Ramallah, and Rafidiah General Hospital, Nablus, West Bank – to be activated only if working at the PMC is approved.
  7. To work closely with Flagship leadership and MoH personnel to identify key STTA needed to help accomplish Flagship goals and objectives.
5. **Logistics:** Depart Ontario or Los Angeles, California on August 15, 2009 on a U.S. flag air carrier compliant with the Fly America Act to Tel Aviv, Israel and will return via the same route on September 5, 2009. Transportation from/to the Tel Aviv airport will be provided by the Flagship Project. Housing will be provided in the West Bank.
6. **Funding:** Travel, per diem, salary, fringe benefits, and approved expenses will be charged to the following subcontract if approved: 294-C-00-08-00225-00-LLU.
7. **Action:** Please reply via e-mail to the attention of Jerry Daly, LLU Palestine Project Director at [jdaly@llu.edu](mailto:jdaly@llu.edu). Please send copies to Sandra Assman at [sassman@llu.edu](mailto:sassman@llu.edu), Mo O'Reilly at [moreilly@llu.edu](mailto:moreilly@llu.edu), and Allison Hurlow at [ahurlow@llu.edu](mailto:ahurlow@llu.edu).

## **ANNEX B: CONSULTANT CV**

### **Tae Eung Kim, MD, FACEP**

11234 Anderson St. A108  
Loma Linda, CA 92354  
Work: 909.558.4344  
Fax: 909.558.0121  
tjkim@llu.edu

#### **FACULTY APPOINTMENT:**

Loma Linda University School of Medicine, Loma Linda, California  
Assistant Professor of Emergency Medicine

#### **EDUCATION:**

June 2000	Medicine	M.D.	University of Michigan, Ann Arbor
June 1996	English	B.A.	University of California, Los Angeles

#### **RESIDENCY/FELLOWSHIP TRAINING:**

July 2003 to June 2004	Fellow, International Emergency Medicine, Loma Linda University Medical Center
July 2000 to June 2003	Resident, Emergency Medicine, Loma Linda University Medical Center

#### **LICENSURE AND CERTIFICATION:**

June 30, 2004	Certificate, International Emergency Medicine, Loma Linda University Medical Center
June 18, 2004	Diplomate, American Board of Emergency Medicine
Dec. 14, 2001	Physician and Surgeon, Medical Board of California

#### **HONORS AND DISTINCTIONS:**

Fellow of the American College of Emergency Physicians, 2007  
B.A. Magna Cum Laude, 1996  
Phi Beta Kappa Honors Society, 1995  
Golden Key Honors Society, 1993  
Korean American Scholarship Federation Recipient, 1993

**PROFESSIONAL SERVICE:**

Emergency Medicine representative, Clinical Sciences Advisory Council, Loma Linda University School of Medicine, 2008 to present  
Cal-EMRA President, July 2002 to June 2003  
Cal-ACEP Board Member, July 2002 to June 2003

**PROFESSIONAL SOCIETIES:**

Cal-ACEP, Member  
ACEP, Member  
SAEM, Member

**ADMINISTRATIVE RESPONSIBILITIES:**

Medical Director, Medical Response to Bioterrorism Senior Medical Student Course, Loma Linda University Medical Center, Dept. of Emergency Medicine, Feb. 2007 to present  
Medical Director, Disaster Services, Loma Linda University Medical Center, Feb. 2007 to present  
Medical Director, International Trauma Life Support, Loma Linda University Medical Center, Dept. of Emergency Medicine, Feb. 2007 to present  
Chief Resident, Emergency Medicine Residency, Loma Linda University Medical Center, Dept. of Emergency Medicine, July 2002 to June 2003

**EMPLOYMENT:**

Asst. Prof./Attending Staff, Loma Linda Univ. Med. Center, Dept. of Emergency Medicine, July 2004 to present  
Instructor/Lecturer, Crafton Hills Community College, Nov. 2007 to present  
Clinical Instructor/Attending Staff, Loma Linda University Medical Center, Dept. of Emergency Medicine, July 2003 to June 2004

**INTERNATIONAL CONSULTANT EXPERIENCE:**

Lecturer, Continuing Medical Education series, Kabul, Afghanistan, Apr. 2006  
Physician, Cambodia, Feb. 2006  
Physician, Nepal, Feb. 2006  
Physician, Konduz, Afghanistan, Oct. 2005  
Physician, Kenya, Apr. 2005  
Physician, Czech Republic, May 2004  
Physician, Kenya, Apr. 2004  
Physician, Thailand, Nov. 2003  
Physician, Kenya, Sep. 2003  
Physician, Konduz, Afghanistan, Jun. 2002  
Physician, Dushanbe, Tajikistan, Nov. 2000

**MAJOR RESEARCH INTERESTS:**

International emergency medicine

Ethics  
Telemedicine  
Patient safety

## **BIBLIOGRAPHY:**

1. Daniel-Underwood L, Kim TE. Psychosis and psychotropic medication. *Adams, Emergency Medicine* 2008.
2. Kim TE, Smith DD. Thoracic aortic dissection in an 18 year-old female with no risk factors. *Journal of Emergency Medicine*. Accepted for publication Aug. 2, 2007.
3. Butler-Hall I, Kim TE. Case of the Month: Abdominal Aortic Aneurysm. *Cal-ACEP Lifeline* Aug. 2007.
4. Hurt T, Thomas T, Kim TE, Washke D. The Things Kids Bring Home From Abroad: Evaluating The Returning Child Traveler With Fever. *Pediatric Emergency Medicine Practice* Nov./Dec. 2006.
5. Klanduch F, Kim TE. Case of the Month: Inferior Vena Caval Thrombosis After Prolonged Travel. *Cal-ACEP Lifeline* Nov. 2000; 7-8.

## **LECTURES, RESIDENT PHYSICIAN AND STUDENT TEACHING:**

Clinical teaching with resident and student physicians, June 2003 to present.

Mar. 2009 – Pediatric ITLS course, Loma Linda

Feb. 2009 – Paramedic students lecture, Crafton Hills Community College

Feb. 2009 – Shock, San Bernardino County Paramedics Refresher Course, Loma Linda

Oct. 2008 – A new medical ethics, New Speakers Forum, ACEP Scientific Assembly, Chicago, IL

Sep. 2008 – Paramedic students lecture, Crafton Hills Community College

Sep. 2008 – Pulmonary physiology, mechanical ventilation, and difficulty airway adjuncts, Resident lecture, Loma Linda

Aug. 2008 – Emergency radiation injury management, Resident Lecture, Loma Linda

Jul. 2008 – Senior Medical Student Medical Response to Bioterrorism course, Loma Linda

Jun. 2008 – Faith and Medicine, Loma Linda Faculty Retreat, San Diego, CA

May 2008 – Senior medical Student Medical Response to Bioterrorism course, Loma Linda

Apr. 2008 –ITLS course, Loma Linda

Feb. 2008 – Paramedic students lecture, Crafton Hills Community College.

Jan. 2008 – Local anesthesia/regional blocks, Resident lecture, Loma Linda

Nov. 2007 – Paramedic students lecture, Crafton Hills Community College

Aug. 2007 – Nutrition disorders, Resident lecture, Loma Linda

Jul. 2007 – Simulation Lab, Resident lecture, Loma Linda

Apr. 2007 – Alternative airway management, Resident lecture, Loma Linda

Aug. 2006 – Pediatric mock code, Resident lecture, Loma Linda

May 2006 – LLU International EM Fellowship, Presentation, 3<sup>rd</sup> Annual New York Symposium on International Emergency Medicine

Apr. 2006 – Acute care topics. Resident and CME lecture series, Kabul, Afghanistan

May 2005 – LLU Project in Kabul, Afghanistan, Presentation, 2<sup>nd</sup> Annual New York Symposium on International Emergency Medicine

Sep. 2004 – Overuse Syndromes. Resident lecture, Loma Linda  
Apr. 2004 – Medical Jeopardy. Resident lecture, Kabul, Afghanistan  
Apr. 2004 – Acute care topics. Resident and CME lecture series, Kabul, Afghanistan  
Feb. 2004 – Pediatric resuscitation. Resident, CME and nursing lecture, David, Panama  
Oct. 2003 – Medical Jeopardy. Resident lecture, Manipal, India  
Oct. 2003 – Update on AHA/ACC Guidelines. Resident lecture, Manipal, India

**TELEVISION/VIDEO:**

*Venom ER, Episode 1.* Appearance.

**COMMUNITY ACTIVITIES AND INTERESTS:**

Dec. 30, 2007: Quoted in Inland Valley Daily Bulletin article regarding injuries related to celebratory gunfire.  
May 2, 2006: Interviewed in Redlands Daily Facts article about missions trip to Kabul, Afghanistan, in April of 2006.  
Aug. 22, 2005: Quoted in San Bernardino County Sun article regarding heat-related illnesses.

**VOLUNTEER SERVICE:**

Vice President, Christian Medical/Dental Society, Univ. of Michigan, 1997-1998  
College Ministry President, Grace Korean Church, 1995-1996  
College Ministry Treasurer, Grace Korean Church 1994-1995  
Community Outreach Program Coordinator, Grace Korean Church, 1993-1995  
Bible study leader, Grace Korean Church, 1993-1996  
UCLA Peer Helpline telephone counselor, 1993-1996  
Alternative Spring Break, “Skid Row” Project, Los Angeles, CA, Mar. 1993  
Coordinator/Speaker, “Glow of Love” Christian Summer Retreat, Southern California, 1992- 1996, 1997, 2002; St. Petersburg, Russia, 1997; Atlanta, GA, 1999

**HOBBIES/INTERESTS:**

- Active involvement at church
- Reading and writing (particularly essays, travelogues, and poetry)
- Arts and literature
- Guitar and recorder
- Film and animation
- Computers, communication and technology

## **ANNEX C: BIBLIOGRAPHY OF DOCUMENTS COLLECTED/REVIEWED**

- Law establishing Palestinian Medical Complex
- Ministry of Health, Health Planning Unit, “National Strategic Health Plan, Medium Term Development Plan, (2008-2010),” January 2008
- USAID, “The Palestinian Health Sector Reform and Development Project, (The Flagship Project): Year 1 Annual Implementation Plan,” (Draft, November 2008).
- USAID, “The Palestinian Health Sector Reform and Development Project,” (The Flagship Project) Health System Assessment Report (Draft, December 2008).
- USAID, Health Systems 20/20 report.

## **ANNEX D: LIST OF ASSESSMENT TOOLS, TRAINING MATERIALS/ETC. DEVELOPED OR UTILIZED DURING TDY**

The following documents were produced during the TDY:

- Emergency Hospital Situation Analysis and Needs Assessment
- PMC Emergency Hospital Five-Year Development Plan
- Emergency Medical Care Development Plan
- Emergency Medical Care Training and Education Recommendations
- Health Reform Emergency Services Scope of Work (Education/Training)
- PMC Master Plan
- PMC Action Plan
- PMC Action Plan Gantt Charts
- Quality Improvement Program for Hospitals