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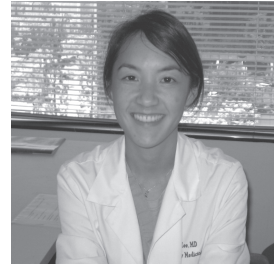
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Disaster Management and Emergency Medicine in Malaysia

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This year, one of the newest members of the University of California, Irvine (UCI) emergency medicine department joined us from Malaysia. Dr. Rosidah Ibrahim heads the Emergency and Trauma department at Hospital Serdang, located in Selangor, Malaysia, approximately 15 miles from the Malaysian capitol of Kuala Lumpur. She is the newest International Disaster Medical Sciences fellow at UCI. She holds many leadership positions in Malaysia's Ministry of Health and is a member of the Steering Committee for the Emergency Medical Services, head of the committee on Pre-hospital care services, head of the technical committee for the government development of emergency services system, and head of the disaster management committee. I had a chance to ask her about her experiences as a Malaysian emergency medicine physician and her international disaster management experiences.

Please describe the health care system in Malaysia. What are some of the health care problems that the country faces?

Malaysia has a very comprehensive range of the health services and is divided into private and public sectors. Healthcare in Malaysia is mainly under the responsibility of the government's Ministry of Health, which offers quality health care through wide varieties of nationwide networks of clinics and hospitals. Primary care services are delivered at the government clinics by a team of family medicine physicians, nurses and assistant medical officers. Patients need to be referred for specialist care.

There is still, however, a significant shortage in the medical workforce, especially of highly trained specialists; thus, certain medical care and treatments are available only in large cities. The Ministry of Health tries to overcome this by improvements including the refurbishment of existing hospitals, building and equipping new hospitals, expansion of the number of polyclinics, and improvements in training and expansion of telehealth.

A major problem with the health care sector is the lack of medical centers in rural areas, which the government is trying to counter through the development of and expansion of a system called "tele-primary care." With the

development of this system, there would be an improvement in the referral system and delivery of care particularly to the rural areas.

There has also been the recent successful establishment of "1 Malaysia Clinics" in 2010, which operate nationwide and offer medical treatment for common illnesses such as fever, flu and colds. They have received encouraging responses from patients, thus reducing the number of patients at Government Hospitals.

What is training for physicians and specifically for emergency medicine physicians in Malaysia?

Following completion of undergraduate studies, candidates undergo a two-year internship (or housemanship) training at identified hospitals with mandatory rotations of four months duration in medicine, surgery, pediatric, orthopedic, obstetric/gynecology and emergency medicine. Physicians are required to perform two years of housemanship and two years of government service with public hospitals.

The Emergency Medicine Master Program, a four year training program, was first established in 1998. Candidates are eligible to apply upon completion of their housemanship. The training consists of two years in emergency medicine and two years in various specialties including general medicine, cardiology, general surgery, neurosurgery, orthopedic, obstetric/gynecology, pediatric, anesthesiology, radiology, ophthalmology, etc. After successfully completing the postgraduate training, they undergo a compulsory gazettement (or probationary) period of six months to two years under the direct supervision of a Consultant Emergency Physician before they are registered as specialists. Specialists have less than five years of working experience, Consultants have five to seven years of experience, and Senior Consultants have more than seven years in the specialty.

Please describe your emergency medicine department at Hospital Serdang and your typical patient population.

Hospital Serdang is a 620-bed hospital that became operational in 2004 and is affiliated with the University Putra Malaysia. We have two emergency physicians, four emergency medicine trainees, and ten service medical officers with a supporting work force of 45 nurses and assistant medical officers. Our current patient load is 400 patients per day ranging in all ages. 40% of our patients are trauma victims and about 75% of the trauma patients are caused by motor vehicle accidents.

The emergency department (ED) is divided according to clinical zones based upon our Malaysian triage system. Our triage system is a three-tier system where the cases are categorized by acuity. Critical cases or resuscitation cases (red zone) are about 10-15% of the total number of patients. We have seven total resuscitation bays including one dedicated pediatric bay. All cases are attended to immediately by a dedicated resuscitation team comprised of a minimum of one resuscitation doctor, one nurse, and one assistant medical officer. 20-30% of total number of patients seen are semi-critical cases (yellow zone). All cases are attended to within 30 minutes of arrival by a dedicated ED yellow zone team comprised of a minimum of one ED doctor, one nurse, and one assistant medical officer. 45-70% of the total number of patients seen are non-critical cases (green zone). A minimum of two ED doctors are dedicated to run this area

We have an established "One Stop Crisis Center" located in the Green zone of the ED for abused children and victims of domestic violence or sexual assault. We also have an observation ward, which consists of 16 beds, four of which are critical beds. The standard policy for observation is up to six hours after which patients are admitted by the ED physicians directly to the appropriate wards.

Please describe the pre-hospital care system in Malaysia. What is the training of EMS personnel?

Pre-hospital care services in Malaysia are managed by the emergency departments of the hospitals. Ambulance services are mainly run by government hospitals and clinics (90% ambulances are run by the Ministry of Health). They also receive support from agencies including Red Crescent, St. John's ambulance and the Civil Defense. All EDs have emergency coordinating call centers with control of the ambulances. In 2008, a universal call system or "999" system was begun in central Malaysia equipped with Computer Assisted Dispatching and emergency dispatches through a Medical Emergency Coordinating Center (MECC).

Tell me about your disaster management experiences in the 1993 Highland Towers condominium collapse in Kuala

Lumpur. (The collapse caused the death of 48 people after a landslides led to the collapse of a 12-story building)

I managed and coordinated the condominium collapse both at the site and at the hospital for two weeks until stand down was declared. The largest issues during this experience were the many untrained and eager personnel volunteering to go to the site and the increased stress experienced by medical personnel during the incident. The human resource coordination was much more difficult than equipment management. Coordination and proper deployment was crucial so as not to compromise ED services.

You were also involved in coordinating the medical response team sent from Malaysia to help during the 2004 Tsunami in Aceh Indonesia. (The disaster led to over 200,000 deaths after a 9.1 magnitude earthquake caused a series of tsunamis in the Indian Ocean). Tell me about your experience.

Our team had to respond within 12 hours by order of our National security council. We had several roadblocks and issues. First the disaster occurred over the holidays and many staff was on leave. The majority of medical personnel did not have a valid passport. We had to coordinate mobilizing medical personnel from various hospitals urgently. We had inadequate stockpile of equipment and medications and had to pool our resources from several hospitals and clinics to meet the sudden demand. Deployment briefing had to be done at the airport and on the plane. However, post deployment post mortem was done which included psychological assessment.



Figure. Hospital Serdang, located in Selangor, Malaysia is approximately 15 miles from the Malaysian capitol of Kuala Lumpur.