

# THE SITUATION OF EMERGENCY MEDICINE & CRITICAL CARE IN ASIA

**Babak Mahshidfar, M.D.**

Assistant Professor of Emergency Medicine

Pre-hospital & Environmental Emergencies (EMS & Wilderness Medicine)

Iran University of Medical Sciences (IUMS)

Fellow of Iranian Society of Emergency Medicine (ISEM)

# CHARACTERISTICS OF EM DEVELOPMENT AS A SPECIALTY

Specialty Systems	Underdeveloped	Developing	Mature
National Organization	No	Yes	Yes
Residency Training	No	Yes	Yes
Board Certification	No	Yes	Yes
Official Specialty Status	No	Yes	Yes

# CHARACTERISTICS OF EM DEVELOPMENT AS A SPECIALTY: ACADEMIC EM

Specialty Systems	Underdeveloped	Developing	Mature
Specialty Journal	No	Yes	Yes
Research	No	Yes	Yes
Databases	No	No	Yes
Subspecialty Training	No	No	Yes

# CHARACTERISTICS OF EM DEVELOPMENT AS A SPECIALTY: PATIENT CARE SYSTEMS

Specialty Systems	Underdeveloped	Developing	Mature
ED Physicians	House staff/Other physicians	EM Residency trained	EM Residency trained
ED Director	Other physician	Emergency physician	Emergency physician
Prehospital Care	Private car/taxi	BLS/EMT ambulance	Paramedic/physician ambulance
Transfer System	No	No	Yes
Trauma System	No	No	Yes

# CHARACTERISTICS OF EM DEVELOPMENT AS A SPECIALTY: MANAGEMENT SYSTEMS

Specialty Systems	Underdeveloped	Developing	Mature
Quality Assurance	No	No	Yes
Peer Review	No	No	Yes

Country	National Society	Residency Training	Specialty Journal	Specialty Board	Official Specialty
United States	1968	1970	1972	1980	1979
Canada	1978	1972	1983	1982	1980
Australia	1984	1984	1988	1986	1993
Philippines	1988	1988		1991	1991
South Korea	1988	1989	1990	1996	1996
Hong Kong	1985	1994	1994	1997	1997
Taiwan	1990	1989	1990	1993	1998
China	1987	1996	1990		
Bosnia	1987	1994			
Jordan		1989			
Israel	1993				
Nicaragua	1995	1993			
Turkey		1994			
Armenia		1995			

# PAN-ASIAN RESUSCITATION OUTCOMES STUDY (PAROS)

- Emergency medical services (EMS) systems
  - Single-tiered
  - Public (vs private)
  - Fire-based (Thailand, Malaysia, Singapore, Taiwan, Japan, Korea)
- Ambulance personnel
  - Emergency medical technicians (EMTs) & paramedics, except for Thailand & Turkey (nurses & physicians)

# PAROS (CONTINUED)

Site	Regions	Population base of Participating Sites	EMS System Type	Number of Participating Hospitals	Level of Providers
<p>1. ALS = Advanced life support.            2. *Based on a survey of all participating EMS systems.</p>					
Korea	6	20 million	Single tier	232	<ul style="list-style-type: none"> <li>• Basic and intermediate life support</li> <li>• Basic life support</li> </ul>
Singapore	1	5 million	Single tier	7	<ul style="list-style-type: none"> <li>• Intermediate life support</li> </ul>
Taiwan	3	8 million	Single tier	45	<ul style="list-style-type: none"> <li>• Intermediate life support</li> <li>• ALS</li> <li>• Basic life support</li> </ul>
Japan	3	24 million	Single tier	346	<ul style="list-style-type: none"> <li>• Emergency Life-saving Technician (ALS)</li> <li>• Basic life support</li> <li>• ALS</li> </ul>
Thailand	9	10 million	Single tier	13	<ul style="list-style-type: none"> <li>• Basic life support</li> <li>• ALS</li> </ul>
Malaysia	10	10 million	Single tier	10	<ul style="list-style-type: none"> <li>• Basic life support</li> <li>• Basic life support</li> </ul>
Australia	1	6 million	Two tier	119	<ul style="list-style-type: none"> <li>• Advanced life support (intensive care paramedic)</li> </ul>
Turkey	1	4 million	Single tier	47	<ul style="list-style-type: none"> <li>• Basic life support</li> </ul>
United Arab Emirates	1	2 million	Single tier	11	<ul style="list-style-type: none"> <li>• Basic life support</li> <li>• ALS</li> </ul>



# PAROS (CONTINUED)

Site	Bystander	PAD*	EMS Response	ALS*	Post Resuscitation Care	Reported OHCA
	CPR (%)		Times (Minutes)		Hypothermia/ECMO*	Survival, %
Singapore	20.6 <sup>13</sup>	Rare <sup>14</sup>	10.4 <sup>13</sup>	Rare	Rare	2.0 <sup>13</sup>
Korea	1.5 <sup>15</sup>	Rare	6 <sup>15</sup>	Rare	Moderate	2.3 <sup>15</sup>
Taiwan	4.2 <sup>16</sup>	Rare <sup>17</sup>	4.89 <sup>18</sup>	Moderate	Moderate	6.0 <sup>16</sup>
Japan	36 <sup>19</sup>	Wide <sup>11</sup>	5 <sup>20</sup>	Moderate	Wide	2.6 <sup>19</sup>
Thailand	—	—	12.6 <sup>21</sup>	Rare	—	7.7 <sup>21</sup>
Malaysia	8.7 <sup>22</sup>	—	25.6 <sup>23</sup>	—	—	—
Australia	36.7 <sup>12</sup>	Moderate	8 <sup>12</sup>	Wide	Wide	3.8 <sup>12</sup>
Turkey	1.7 <sup>24</sup>	—	11.3 <sup>25</sup>	Rare	—	11.2 <sup>24</sup>
United Arab Emirates	—	Moderate	11.5	Wide	—	—

1. Rare, moderate, and wide refer to the degree of implementation in the study participant areas.

2. ALS = advanced life support; CPR = cardiopulmonary resuscitation; ECMO = extracorporeal membrane oxygenation; EMS = emergency medical services; OHCA = out of hospital cardiac arrest; PAD = public access defibrillation; PAROS = Pan-Asian Resuscitation Outcomes Study.

3. \*Based on a survey of all participating EMS systems.

# ISSUES HAVE BEEN ADDRESSED

- Emergency departments (EDs) coverage by specialist emergency physicians (EPs)
- Residency programs
- National board organization
- Seminars & congresses
- Communities, associations, journals, etc.
- Subspecialty fellowship programs

# START OF EM RESIDENCY TRAINING

- Australia 1984
- Philippines 1988
- South Korea 1989
- Taiwan 1989
- Jordan 1989
- Turkey 1994
- Hong Kong 1994
- China 1996
- Malaysia 1998
- Iran 2001
- Pakistan 2004
- India 2009

# ISSUES TO BE ADDRESSED

- Different geographical, national, economic, & cultural characteristics
- Disproportion of population density, economic status, distance, available resources, & access to facilities
- Undergraduate vs postgraduate training

# INTENSIVE CARE UNIT (ICU) IN ED (EICU)

- Why?
  - Long stay of critically ill patients in the ED (in need of ICU bed)
  - Shortage of access to necessary devices, regularly prescribed medications, nursing care, paraclinical tests, etc.
  - Exposed to the others
  - Deprived of beds suitable for long care
  - Being visited by different physicians with different points of view
  - Need of more specialized measures beyond EM

## WHY AN EICU?

- A lower turnover rate in other ICU beds
- Addressing the needs of ED
- Considering the beds as a backup for ED, not the others

# PROBLEMS

- Legal issues
- Insurance
- Claims of anesthesiologists & intensivists
- Consulting experts (other specialties & subspecialties)
- Secondary dispositions
  - Discharge home
  - Referral to other ICUs
  - Referral to other wards

ANY COMMENT

