

**COMPARISON OF EMERGENCY
MEDICAL SERVICE SYSTEMS
OF PAN-ASIAN COUNTRIES**

Sang Do Shin, MD

Chair, the Asian EMS Council

**Department of Emergency Medicine, Seoul National University
College of Medicine, Korea**

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INTRODUCTION

Background

- ◎ Pan-Asian EMS systems
 - usually have been underdeveloped and in immature status with a very short historical period.
 - few evidence-based infrastructures for emergency care and few productive discussions in the science of emergency medical service medicine.
 - could have recognized the importance of emergency medicine and EMS system for improving the health status of their peoples in recent.

Background

- ◎ Pan-Asian EMS
 - different from Franco-German Model or Anglo-American Model.
 - No exact definition
- ◎ According to the WHO region territory
 - System operated in countries in the Western Pacific Region (WPR) from Oceania countries, South-Eastern countries, and East Asian countries
 - 2.500 millions of population

Background

- ◎ To roughly summarize Asian EMS systems,
 1. Most of systems are single tiered systems excluding some communities.
 2. Fire-based operations are major, while Australian system is different from other countries.
 3. Service level was not high, from basic to intermediate in most of communities.
 4. Medical direction and oversight was not fully developed except some communities.
 5. Public budget is used for most of countries.

Background

- ① Why do we need for the comparison of EMS systems?
 - Variations in resuscitation outcomes among EMS systems
 - Recognized as a determinant
 - EMS medicine evidence
 - Always not accepted by each system
 - To benchmark or accept the study result, we should know the difference and similarity among EMS systems.

Objectives

- Aim to compare the EMS systems of Pan-Asian countries including population features, service levels, provider characteristics, system operation, budget and finance, and medical direction and oversight.

METHODS

Study design

- Observational and descriptive study

Study participants

- Eligible system “the EMS unit”
- Operated in community of the Western Pacific Regions of WHO.
- Defined as EMS system which is independently being operated.
 - dispatch system, ground ambulance, professional providers, destination emergency hospitals, and service protocol by medical direction.

Inclusion criteria

- ⦿ Dispatch system
 - first activation of EMS
 - Data system recorded in EMS
- ⦿ Ambulance
 - ground ambulance
- ⦿ Professional providers
 - primarily working for EMS
 - recognized in the Act or other EMS legislation

Inclusion criteria

- ⦿ Emergency facility
 - definite emergency care for the emergency patients.
 - designated by the health authority
- ⦿ Service protocol and medical direction
 - basic or advance procedure and relevant service provider eligibility

Survey method and data collection

- Designed questionnaire
- On- and supplementary off- line.
- Through Asian EMS council website (www.asianems.org).

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<http://asianems.org>

Data elements

- ◎ Five category
 - General information of EMS unit (13 items)
 - Structure (24 items)
 - Process- total patients and OHCA patient (41 items)
 - Outcomes- total patients and OHCA patient (13 items)
 - Medical direction and protocol (8 items)
- ◎ Total number of survey items
 - 99 items

Outcomes and analysis

- ⦿ Outcomes will be proportions of answer for each item in some categories, while mean or median values for continuous variables will be described for each EMS unit.
- ⦿ Descriptive statistics will be calculated with confidence intervals. For comparison of EMS systems, we will report the each nation-based demographics.

STUDY STEPS AND PERIOD

Study steps	2009				2010					
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.
Survey data elements	•	•	•	•	•					
Consensus meeting					•					
Construction of web-site		•	•	•	•					
Survey						•	•	•		
Analysis								•	•	•

Preliminary results

General characteristics

Name of EMS agency	Daegu Fire Department	Gwang-ju	Tokyo FD	Seoul 119	Osaka Municipal FD	Narenthorn _Rajavithi hospital
Name of Country	South Korea	Republic of Korea	Japan	Korea	Japan	Thailand
Population	2,480,578	1,400,000	12,984,660	9895217		
Population year	2000		2010,MArch.1	2000		
Service Area	885.6		2,187.65km²	605.25	Osaka city	
Service Area Urbanization	urban	urban	urban , Suburban	urban	urban	Urban
Population density	2801		5,935⁰⁰/km²	16348		

Name of EMS agency	Daegu FD	Gwang-ju	Tokyo FD	Seoul 119	Osaka Municipal FD	Narenthorn_Rajavithi hospital
Level of Service	EMT-Basic	EMT-Basic	EMT-Paramedic	EMT-Intermediate	EMT-Intermediate	Physician
Organization Type	FD	FD	FD	FD	FD	Hospital
Organization Status	Non-Volunteer	Non-Volunteer	Mixed	Non-Volunteer	Mixed	Non-Volunteer
Service Fee	Free and tax based	Free and tax based	Free and tax based	Free and tax based	Free and tax based	Free and reimbursed by public insurance
Ambulance Operation	Fixed	Mixed	Fixed	Fixed	Mixed	Dynamic
Dispatch Center Operation	Fire	Fire	Fire	Fire	Fire	Non-fire and Non-police public
EM Dispatcher	Non-certified	Mixed	Non-certified	Non-certified	Non-certified	Certified
Tiered Response	BLS single	BLS single	BLS+ALS	BLS single	BLS+ALS	BLS+ALS
Survey Year			2008	2008/2009		

Target number of EMS unit

- ◎ Total 13 EMS units
 - Korea 6
 - Japan 2
 - Singapore 1
 - Taiwan 2
 - Thailand 1
 - Malaysia 1

Analysis and Report

- Final analysis will be presented at the 2010 ICEM meeting
 - Demographics and System characteristic
 - Structure and process
 - Outcomes
 - Medical direction

**THANK YOU FOR YOUR
ATTENTION**