



# Research in OHCA – Past Developments & Current Research in Thailand

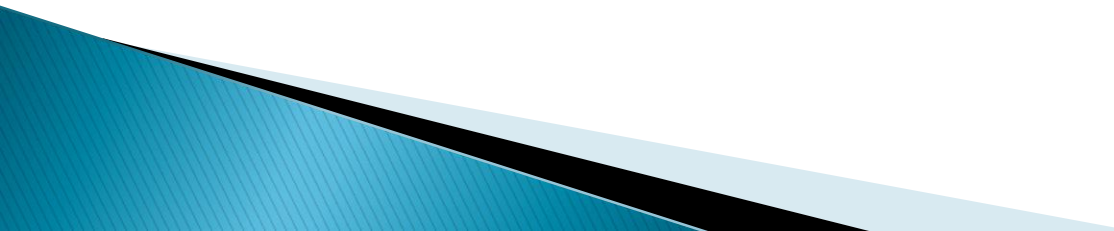


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**THAILAND**

# Thailand



Surface area : 513,000 km<sup>2</sup>  
Population : 66 million  
Pop.Density : 122 / sq.m.  
Ethnicity : Thai 78% Chinese  
14%





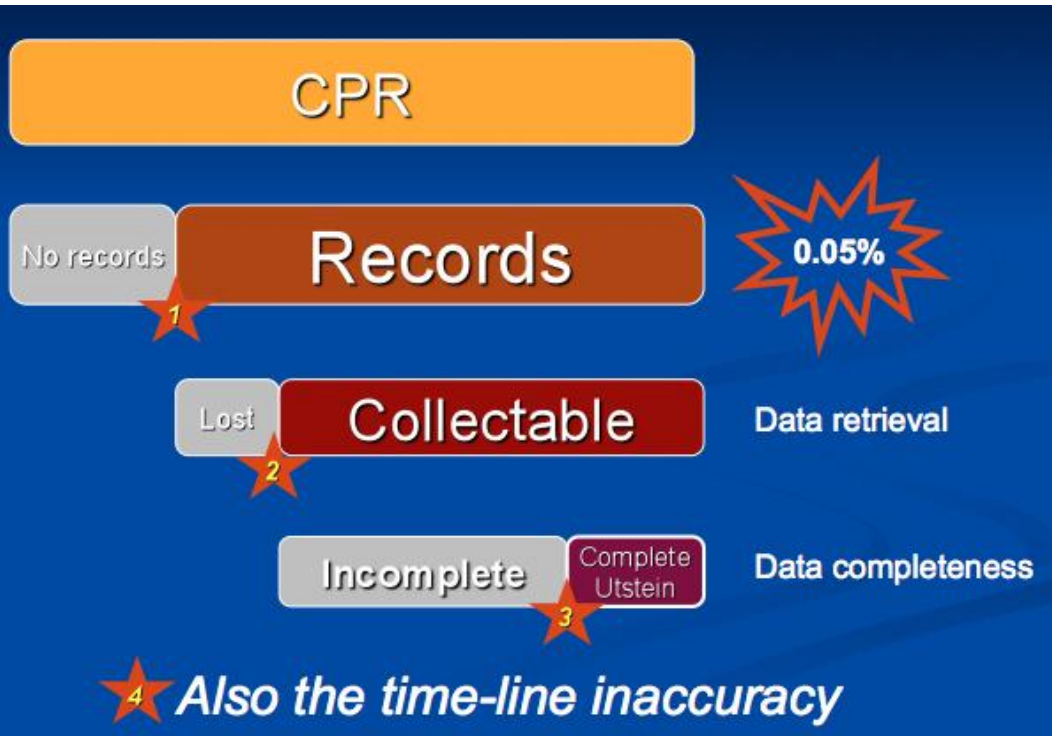
# EMS system in Thailand

- ▶ 1989 : Beginning of EMS system
- ▶ 1995 : Beginning of EMS transportation
- ▶ 2003 : emergency medicine was recognized as specialty in nationwide's need.
- ▶ 2004 : Start residency program
- ▶ 2007 : Publication in local Emergency medicine literature.



# 1<sup>st</sup> study in OHCA in Thailand :

2006 : Developing the realtime computer-based record during CPR in Rajavithi hospital.



## *Problem in the past :*

- Physician recorded the history and findings but the data was unable to do the retrospective study and fill Utstein-style template.
- lack of prehospital information.
- Nurse recorded only medications, not timeline , dynamic of patient's clinical after treatment

First implementation of Utstein-style template for OHCA in Thailand.



## 2<sup>nd</sup> study in OHCA in Thailand :

*2007 : Out of hospital cardiac arrest outcome report -using Utstein template.*

Thammasat Medical Journal - ธรรมศาสตร์เวชสาร, Vol.8 No.3 July-September 2008

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### Out of hospital cardiac arrest outcomes report - using Utstein template

Pongsakorn Atiksawedparit, Yuwares Sittichanbuncha, Rapeeporn Rojsaengroeng

#### Abstract

Emergency Medicine service and training system in Thailand are in its developing stage. Cardiac arrest and result of cardiopulmonary resuscitation is one of the most important indicator in ED. Improvement of those need standardized and reliable database. Aim of this study is to initiate using Utstein template for collecting out of hospital cardiac arrest and outcome data in ED Ramathibodi hospital.

From April 1, 2006 to April 30, 2007. All medical records of Out-of-Hospital cardiac arrest (OHCA) patients who were sent to Emergency room Ramathibodi Hospital were reviewed. Core element data (according to Utstein definition) were recorded. Ninety-Six Out-of-Hospital cardiac arrest patients were sent to ED. 30 files were lost. 51 OHCA patients were suspected cardiac cause of cardiac arrest and completed CPR. The majority of OHCA occurred at home. Only 4 patients got pre-hospital resuscitation. Six patients showed shockable rhythm as the first monitored rhythm. Twenty patients had returned of spontaneous circulation (ROSC) but nobody survived to discharge. Sex and kind of the first monitored rhythm do not affect to result of outcome.

Full Text: [Full text in Thai](#)

#### Findings :

- retrospective analysis.
- Center of Bangkok
- Most common : presumed cardiac cause, occur non witness at home
- Very few got pre-hospital resuscitation
- Most : nonshockable EKG
- 20% ROSC but none survive to discharge

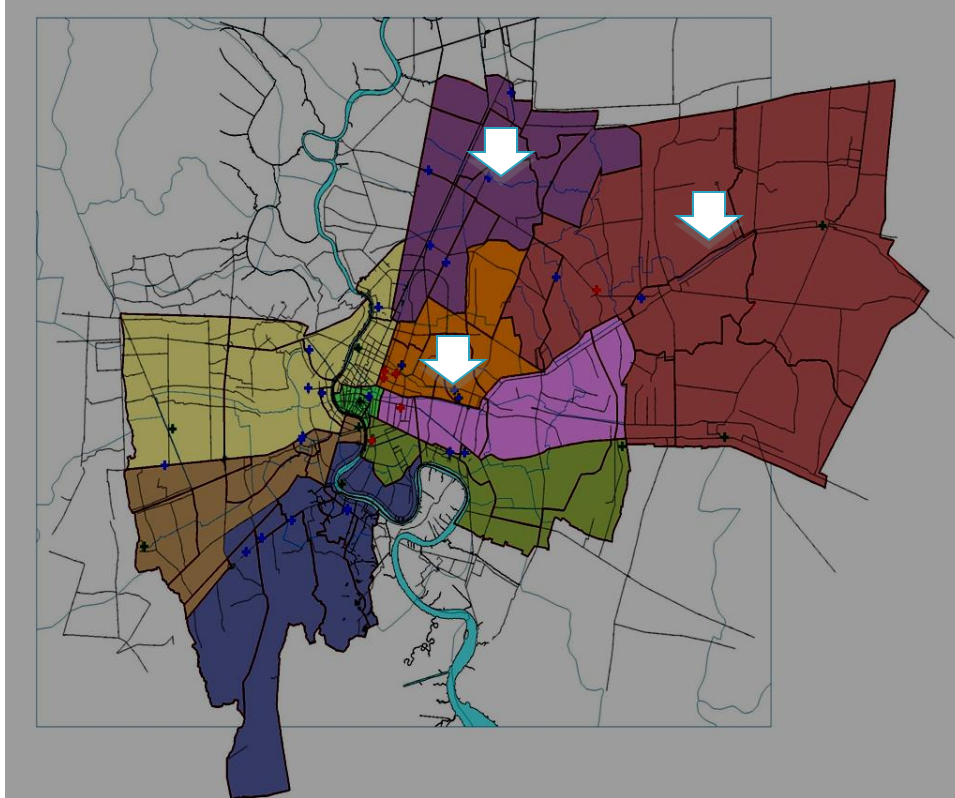
Only one out of 40 emergency medicine clinical study in 2007 that use Utstein template for OHCA

Atiksawedparit P , Sittichanbuncha Y , Rojsaengroeng R ; *Out of hospital cardiac arrest outcomes report – using Utstein template , Ramathibodi hospital ; Thammasat Medical Journal Vol 8. No.3*



## 5 more studies in OHCA in Thailand :

*2008 : 3 for adults OHCA in Bangkok metropolitan area , 1 for adult OHCA in NE Thailand , 1 for pediatric OHCA (from south)*

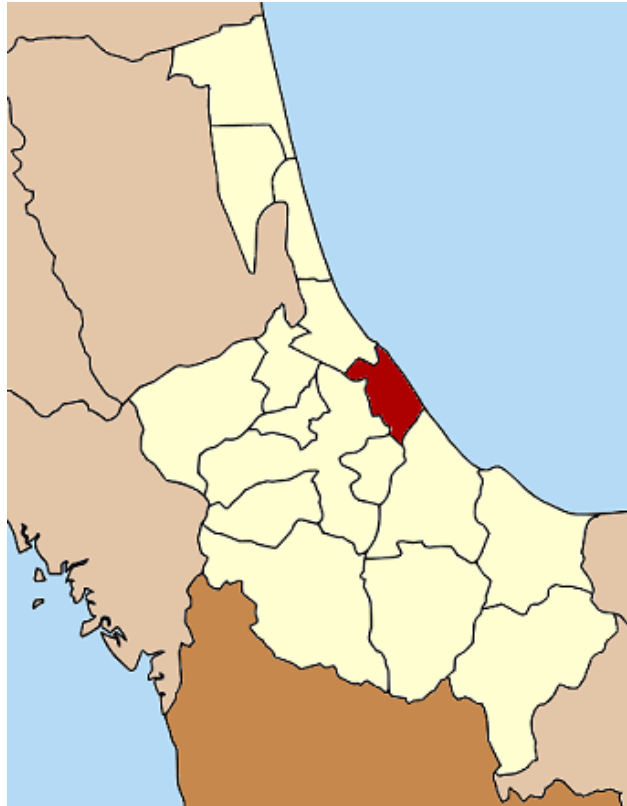


### *Findings :*

- 3 studies from different service area
- Average time since collapse to chest compression in ED (est.) 26 min. , self transport group.
- Majority arrive by own transport , almost 65% not achieve ROSC.

Dhearapanya T , Sutheechet N , Husen P , Tangtatsawasdi C ; *Out-of-hospital cardiac arrest outcome report in utstein style , Noppart Rajathanee hospital*; Emergency medicine conference 2009  
 Chuamuangphan T , Indharachat S ; *survival rate of advanced cardiopulmonary resuscitated patients at emergency department in phramonkutklao hospital* ; Emergency medicine conference 2009  
 Putichote K ; *review cardiopulmonary resuscitation at emergency department in Bhumibo adulyadej hospital* ; Emergency medicine conference 2009

## More studies in OHCA in Thailand : *2008 :1 for pediatric OHCA (from south)*



### *Findings :*

- Southern Thailand. University hospital. 6 years retrospective review pediatric OHCA
- n = 52
- 53.8% achieve ROSC but none survival to hospital discharge.

# Studies in OHCA in NorthEastern Thailand :

2008–2009 , 1 for adult OHCA , 1 for EMS OHCA



## *Findings :*

- 2008** : most characteristic = self-transport , non witness
- 39.6% achieve ROSC , 5.5% survival to discharge
  - Witness victim are more likely to survive to discharge ( $p=0.01$ )



# Studies in OHCA in NorthEastern Thailand :

2008–2009 , 1 for adult OHCA , 1 for EMS OHCA



## *Findings :*

**2009** : a model of Physician staffed in ambulance for selected protocol (complaint which suspected cardiac arrest)

-Having physician staffed in ambulance = prolong scene time and CPR time but no different in overall survival rate.

-Subgroup analysis shows Trauma patient have increasing survival rate in physician-staffed with ambulance group.



## OHCA research in Thailand : Past

- ▶ 8 out of 142 studies in emergency medicine.
- ▶ Some reported Utstein–style.
- ▶ No OPC and CPC evaluation and follow–up.  
No continuity with post resuscitation care team.
- ▶ Most reported in outcome study.
- ▶ Other aspects :like GIS associated, were not in the tract.
- ▶ No regional study.



# OHCA research in Thailand : Present

- ▶ Join PAROS project.
- ▶ 13 centers nationwide.
- ▶ 9 university hospitals/tertiary care centers.
- ▶ Obstacles :
  - Man-power
  - Research support team
  - Budget problem in regional/rural hospital
  - Data ownership are main problem in large center/university hospital.

*Thank you for your attention*

*Samui , Thailand*

