PAROS BULLETIN

http://www.scri.edu.sg/index.php/paros-clinical-research-network

VOLUME 2 • ISSUE 1 • FEBRUARY 2011

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Trial Coordinating Centre: Singapore Clinical Research Institute

Dear PAROS Members,

Please mark your calendar!

The details of the next two PAROS meetings are:

i. **Singapore (11 – 12 Apr 2011)**
Literature Review Workshop
11 Apr 2011: 8.30am – 4.30pm
12 Apr 2011: 8.30am – 5pm
EXCO meeting (11 Apr): 4.30pm – 6.30pm

ii. **Thailand, Bangkok (4 Jul 2011)**
EXCO meeting: 10.30am – 3pm
Open meeting: 3.30pm – 5.30pm

Asian Conference for Emergency Medicine (ACEM) EMS Leaders and Medical Directors Workshop, Bangkok (co-organised by PAROS)
Date: 2 – 3 Jul 2011
Time: 8.30am – 4.30pm
More details on this pre-conference workshop (including registration) can be found at http://www.acem2011.org/index.php?page=workshop.

PAROS Meetings – Tokyo, 8 Oct 2010

Left: Roundtable discussion at the EXCO meeting; Right: Prof Hideharu Tanaka and A/Prof Marcus Ong as the Co-Chairs of the PAROS Open Meeting. [Photos by Mr Priyam Shah]

STUDY PROPOSAL	STUDY PI
1. Classify Urban/Suburban/Rural Sites for OHCA Research across PAROS Countries	Chan-Wei Kuo
2. Re-exploration of EMS Response Time to the Survival of OHCAs in Asia	Chiang Wen-Chu
3. Does Advanced Airway Benefit EMT-Resuscitated OHCAs?*	Chiang Wen-Chu
4. Non-Cardiac OHCA in PAROS	Youngsun Ro
* This study will be merged with Dr Kajino's proposal "Impact of Supraglottic Airways and Endotracheal Intubation on Outcomes Following OHCA"	

After a brief round of introduction, PAROS EXCO warmed up and dived into the discussions with the most intensive exchanges focusing on the core data variables for PAROS. Dr G Y Naroo from Dubai also gave a concise presentation on the EMS system in Dubai to help with the listing of UAE (Dubai) as one of the PAROS countries. With the conclusion of the PAROS EXCO meeting, members gathered at the seminar room for the PAROS Open Meeting, co-chaired by both Prof Hideharu Tanaka and A/Prof Marcus Ong. The Open Meeting saw presentations of four new study proposals (see table on the left), and the research developments in out-of-hospital cardiac arrests (OHCA) in each of the eight PAROS countries.

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A Special Commentary
By Dr David C. Cone, MD

Dr David C. Cone
[Photo from Dr David C. Cone]

> *"Understanding the methodologies and tools of systems research, 'borrowed' and adapted from fields such as public health, economics, social science, and public administration, can help us design and conduct better and more rigorous EMS studies."*

It is remarkably easy to perform bad EMS research. In fact, it has been noted by a number of research experts that the quality and rigor of EMS research is, on average, substantially below that of "regular" medical research. There are a number of reasons for this, ranging from limited funding and limited advanced training opportunities for EMS researchers, to the uncontrolled out-of-hospital environment in which our research is performed.

As I discussed at the PAROS meeting in Tokyo, Dan Spaite's excellent article on EMS research methodology from 1995 (Emergency Medical Service Systems Research: Problems of the Past, Challenges of the Future. Ann Emerg Med Aug 1995; 26: 146-152) provides an excellent framework for thinking about why EMS research is so different from traditional medical research. To summarize this briefly, we work in an environment where "systems research" works better than "component research". Our work is characterized by the following features of systems research:

Complex interrelated questions described by complex mathematical models: Trying to describe a model of the "chain of survival", or even one component of the chain, is not as easy as it might appear. It is crucial to obtain adequate statistical assistance and model-building help before beginning a study, to avoid collecting lots of data and not knowing what to do with it – or worse, collecting the wrong data to answer the study question.

Diverse data points: We collect times, physiologic parameters, subjective ratings and assessments, and many other types of data, and need to know how to use the data to answer our questions. Simply having large amounts of data at your fingertips, in the form of a computer-assisted dispatch database or a stack of thousands of patient care reports, does not mean there is a good research project buried in the data. It take substantial time, effort, and expertise to determine the best use of the data.

Many data collectors from multiple agencies and disciplines: In my system, we have over 200 paramedics from 21 different departments (fire, police, ambulance) enrolling patients and collecting data for our out-of-hospital studies, and most cities have even larger numbers of field personnel collecting data. Contrast this to traditional medical studies with perhaps two or three data collectors, and the potential for problems becomes obvious. Significant training and ongoing attention to detail will be needed to ensure that all of your data collectors are collecting high-quality data.

Complex, uncontrolled environment: Anybody who wants to perform out-of-hospital research should first spend a significant amount of time working in the field with the EMS system, to understand just how different the environment is even when compared to the hectic emergency department setting. It is critical to understand what is and is not feasible, and to listen to the input and suggestions of the field personnel who will be carrying out the work of the study.

Understanding the methodologies and tools of systems research, "borrowed" and adapted from fields such as public health, economics, social science, and public administration, can help us design and conduct better and more rigorous EMS studies. It is not enough to be knowledgeable in traditional clinical research designs.

However, no matter how well designed a study is, it will not succeed without good data. Data sharing is, according to Dr. Paul Pepe (one of the world's leading EMS researchers), the single greatest problem in EMS research. While a few systems have high-quality data linkage between out-of-hospital and in-hospital records, most EMS researchers find that they get data from the EMS system, and data from the hospital, and have to manually match up the records of the individual patients. In my area, about half of the EMS agencies are using electronic patient care reports and about half are using hand-written paper reports – but none of them have linkage to any of the area hospitals. Obtaining permission to access the hospital records involves getting institutional review board (IRB) approval from every hospital in our area, and renewing that approval every year.

Are there examples of high-quality, rigorous EMS research in the literature? Absolutely – just look at papers by accomplished researchers including Spaite, Stiell, Wik, Wang, Aufderheide, Morrison, Sayre, Lerner, and others. Look at Gausche's study of pediatric intubation in southern California, which involved obtaining IRB approval from over 100 hospitals and training of over 2500 paramedics. Look at the OPALS trial from Canada, and the excellent cardiac arrest studies from Norway. Look at the papers published by some of the senior PAROS participants who are contributing their expertise to the work of the group. It can be done, and in the long run, it will be worth the extra time and effort to design and run rigorous studies, and particularly when external funding is involved, we owe it to our funders to make the best use of the money. Our EMS systems and ultimately our patients will benefit from the highest quality research.

Dr David C. Cone is Associate Professor of Emergency Medicine at Yale University School of Medicine and the immediate Past President of National Association of EMS Physicians. He is also the Editor-in-Chief, Academic Emergency Medicine.

What's brewing

Study on EMS Systems

The ability to save lives in pre-hospital setting is dependent on the ability to respond to the patients outside hospitals efficiently and effectively. With out-of-hospital cardiac arrests (OHCAs) and pre-hospital care fast becoming a global health concern, it is inevitable that the pressure on the EMS systems to respond and resuscitate patients will increase, especially in the light of an aging and growing population.

As one of the youngest specialties, emergency medicine and EMS Systems has a relatively short history of development. Independent development and varied amounts of resource commitment across countries has led to variations among EMS systems. Yet, there is no knowing how similar or dissimilar EMS systems in the Asia-Pacific region are and, more fundamentally, whether systemic characteristics can have an impact on resuscitation outcomes.

Spearheaded by Dr Sang Do Shin from Seoul (Co-Chair of PAROS), there is now a concerted effort to characterize the EMS systems in Asia-Pacific region. Information drawn from this study can then be used as the baseline characteristics for future studies involving the region. If you wish to participate in this study, please do not hesitate to contact the Network secretariat at sweesung.soon@scri.edu.sg for more information.

Newest on the Block!

The PAROS Clinical Research Network extends a warm welcome to the United Arab Emirates (Dubai) as the ninth PAROS country. As a PAROS country, UAE (Dubai) will now be contributing data to the PAROS registry. PAROS members from UAE (Dubai) will also be able to propose studies to be conducted across the PAROS Clinical Research Network.

Lit Review Workshop

With 13 studies proposed to be conducted within the PAROS Clinical Research Network less than a year from its set-up, there is now a need to provide a platform to enhance the skills of Publications Committee members and study proposers in conducting good review work to kick-start those studies. With this aim in mind, an educational event has been planned to take place from 11 to 12 April 2011 in Singapore, at Khoo Teck Puat Hospital. This event will involve lecturers and facilitators from the Alice Lee Centre for Nursing Studies and the epidemiology team from Singapore Clinical Research Institute.

Data Agreement

Endorsed by the PAROS EXCO on 8 Oct 2010, the Data Agreement guides the use of data within PAROS. This document covers (a) contribution of data, (b) de-identification and cleaning up of data, (c) data ownership, (d) request for data, (e) use and disclosure of data, (f) data security and rights to audit, and (g) acknowledgments. The guidelines apply to all PAROS members, the default custodian of PAROS Clinical Research Network's database (i.e. Singapore Clinical Research Institute) and any third party users. The full document can be found at: http://www.scri.edu.sg/images/stories/PDF/PAROS%20Data%20Agreement_10%20Nov%202010.pdf.

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Do U Know: eTraining

Under the PAROS umbrella, data from each PAROS country can either be entered directly online via the online data capture system (ePAROS accessible at http://eparos.org/), or be exported from existing registries residing in the contributing country. Participating coordinators and/or doctors from PAROS countries can request for training sessions conducted by Ms Shahidah and Ms Susan Yap from Singapore. If you wish to receive training or have any training-related enquiries, please contact the Network Secretariat at sweesung.soon@scri.edu.sg.

PAROS Core (and Non-Core) Elements

S/N	Variable	Core	Non-Core
	Emergency Medical Services (EMS) agency		
1	Mode of transport	●	
2	Date of incident	●	
3	Location of incident *(optional)*		●
4	Location type		●
5	Date of birth / Age	●	
6	Gender	●	
7	Race *(optional)*		●
8	Medical history		●
9	Time call received at dispatch centre	●	
10	Time first responder dispatched		●
11	Time ambulance dispatched		●
12	Time first responder arrived at scene		●
13	Time ambulance arrived at scene	●*	
14	Time EMS arrived at patient side	●*	
15	Time ambulance left scene	●	
16	Time ambulance arrived at ED	●	
17	Estimated time of arrest		●
18	Arrest witnessed by	●	
19	Bystander CPR	●	
20	First CPR initiated by		●
21	Bystander AED applied		●
22	Resuscitation attempted by EMS / Private ambulance	●	
23	First arrest rhythm	●	
24	Time CPR started by EMS / Private ambulance		●
25	Time AED applied by EMS / Private ambulance		●
26	Pre-hospital defibrillation	●	
27	Defibrillation performed by		●
28	Mechanical CPR device used by EMS / Private ambulance		●
29	Advanced airway used by EMS / Private ambulance		●
30	Drug administered by EMS / Private ambulance		●
31	Return of spontaneous circulation at scene / en-route	●	
32	CPR discontinued at scene / en-route		●
33	Final status at scene	●	
34	Cause of arrest *(only for cases pronounced dead at scene by EMS)*	●	
35	Level of destination hospital		●
36	Destination hospital		●
37	Patient's status at ED arrival	●	
	Hospital [Emergency Department (ED)]		
38	Date of arrival at ED	●	
39	Time of arrival at ED		●
40	Patient status on arrival at ED - Pulse and/or Breathing		●
41	Cardiac rhythm on arrival at ED		●
42	ED defibrillation performed		●
43	Mechanical CPR device used at ED		●
44	Advanced airway used at ED		●
45	Drug administered at ED		●
46	Return of spontaneous circulation at ED	●	
47	Emergency PCI performed		●
48	Emergency CABG performed		●
49	Hypothermia therapy initiated		●
50	ECMO therapy initiated		●
51	Cause of arrest	●	
52	Reason for discontinuing CPR at ED		●
53	Outcome of patient	●	
54	Patient status	●	
55	Date of discharge or death		●
56	Patient neurological status on discharge or at 30th day post-arrest		●
57	EQ-5D Health Dimensions - Mobility		●
58	EQ-5D Health Dimensions - Self-care		●
59	EQ-5D Health Dimensions - Usual activities		●
60	EQ-5D Health Dimensions - Pain/discomfort		●
61	EQ-5D Health Dimensions - Anxiety/depression		●
62	EQ-5D Visual Analog Scale (VAS)		●

* Each country shall declare whether #13 and/or #14 would be core to them, and they will be bound by this expectation.

Becoming One of Us

As a progressive network, we are constantly seeking opportunities to grow. We offer two types of registration: (1) General Member and (2) Guest. As a General Member (only offered to PAROS participating countries), you will receive updates from PAROS and you will be able to contribute data and propose studies at PAROS events; if you are from a non-participating country, or would only like to be in our mailing list, you are most welcome to join PAROS as a guest.

APPLICATION TO PAROS
(You may select more than one option)

- □ General Member*
- □ Site Principal Investigator (PI)*
- □ Data Personnel/Study Coordinator*
- □ Guest (in the mailing list for updates on PAROS)

* Applicable only if you are from one of the PAROS participating countries - Australia, Japan, Korea, Malaysia, Singapore, Taiwan, Thailand, Turkey, United Arab Emirates (UAE)

REGISTRANT DETAILS (please provide full details)

Country _____
Full name _____
Position _____
Department _____
Institution _____
Office Mailing Address _____
_____
Email Address _____
Contact No. (Office) _____
Contact No. (Mobile) _____
Skype Contact (if available) _____
Fax No. _____

Instructions:

Please complete this form and submit it to the Network Secretariat at sweesung.soon@scri.edu.sg. You will receive a confirmation once we have processed your application.

If you are applying as a Site PI, upon confirmation of application outcome, please let us have your CV for our retention.

SITE INFORMATION (only applicable to Site PI)

Country _____
State _____
City/EMS District _____
Population Size of City/State _____

PRE-HOSPITAL INFORMATION (only applicable to Site PI)

No. of EMS Systems in City/State _____
Competency of Basic Life Support
- □ First Responder
- □ EMT-Intermediate
- □ Others, please specify: _____

Competency: Advanced Life Support
- □ EMT-Paramedic
- □ Physician-led
- □ Nurse-led
- □ Others, please specify: _____

No. of EMS Personnel in City/State _____
No. of Ambulance Vehicles in City/State _____

EMERGENCY DEPARTMENT INFORMATION (only applicable to Site PI)

No. of Acute Hospitals in City/State _____
No. of Tertiary Hospitals in City/State _____

PAROS participating countries

Australia	Japan
Korea	Malaysia
Singapore	Taiwan
Thailand	Turkey
	UAE

Mission
To improve outcomes from pre-hospital and emergency care across the Asia-Pacific by promoting high quality research into resuscitation

Vision
Improving outcomes from pre-hospital and emergency care across the Asia-Pacific

Website
http://www.scri.edu.sg/index.php/paros-clinical-research-network

Trial Coordinating Centre

Singapore Clinical Research Institute (based in Singapore)

SCRI's Support in PAROS
PAROS EXCO member, Industry Liaison Person:
Sam Lim
PAROS EXCO member, Network Biostatistician:
Muhammad Naeem Khan
Network Research Informatics:
Teoh Wei Lun
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