



DENMARK



**SCDF**  
The Life Saving Force

# Singapore EMS OHCA Report

COL (Dr) Ng Yih Yng

MBBS, MRCS A&E (Edinburgh), MPH, MBA (JHU)

Chief Medical Officer, Singapore Civil Defence Force

Chief Medical Officer, Ministry of Home Affairs

Consultant, Tan Tock Seng Hospital Emergency Department

Consultant, Pre-hospital Emergency Care, Ministry of Health

Consultant, Emergency Medicine, Singapore Armed Forces

Deputy Director, Unit for Prehospital Emergency Care, Ministry of Health

Program and Advocacy Chairman, Asian Association of Emergency Medical Services

# Overview of Singapore

- Island city-state 719km<sup>2</sup> (60x smaller than Denmark)
- Population 5.6 mil (same population size)
- Life Expectancy 83.1 years



# Overview of Singapore

- Fire-based EMS (EMT-B, EMT-I/A)
- 60 ambulances, 30 firebikers and 5 Fire Medical Vehicles
- 200+ fire appliances in total
- 8 min response for bikes
- 11mins for ambulances
- Adding Light Fire Attack Vehicles in the next 4 yrs



## New and upgraded vehicles

The Singapore Civil Defence Force (SCDF) introduced new and upgraded vehicles during the Workplan Seminar 2017 that would improve fire rescue and medical capabilities and competencies.

**Three-wheeler Fire Bikes**  
Officers trained in fire rescue and emergency medical services will utilise three-wheeler Fire Bikes that come equipped with medical essentials such as oxygen cylinders, medical drugs and automated external defibrillator sets. These bikes come with an upgraded 500cc engine, and their mobility allows them to arrive on the scene before ambulances, allowing the officers to stabilise patients and give immediate medical attention.



# Unique Issues in Singapore

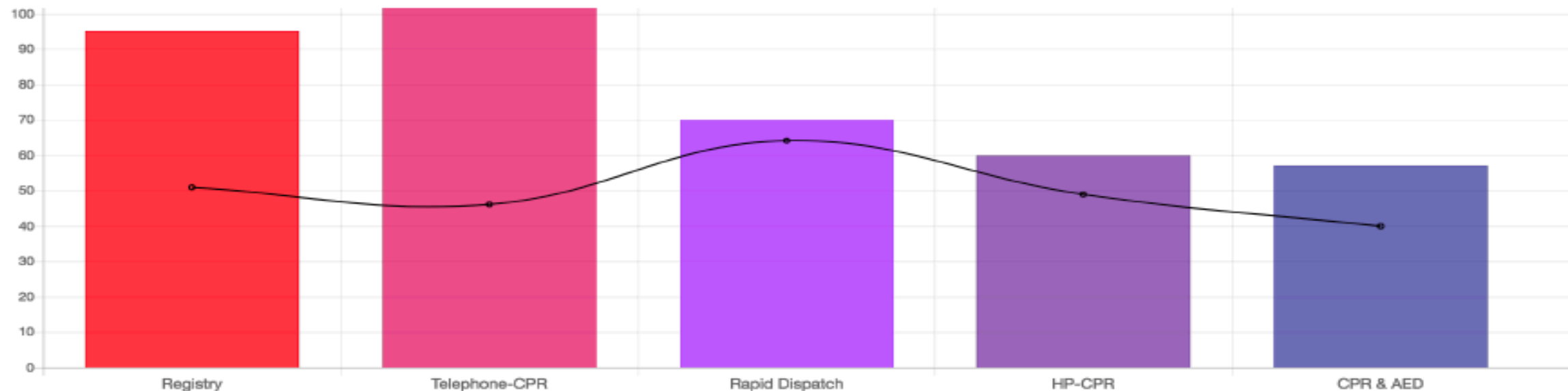
- Tropical weather 24F-32C all year around (75F-89F) and high humidity
- Population density 7,797/km<sup>2</sup> (20,194.1/sq mi)
- Planned increase in population size 5.5 → 6.9 mil (2030)
- Rapidly aging population
- “When you’ve only had one ems, you can only see one ems.”



# System Assessment Analysis for SCDF

Singapore is a community of 5,600,000 citizens. Each year, the community's Fire Department responds to approximately 2,500 cardiac arrests. The median response time for first responders is 8 minutes. Bystander CPR frequency is 54%. The community's law enforcement organization typically does not respond to cardiac arrest calls. 911 callers do receive telephone CPR instructions prior to the arrival of EMS providers. Survival from all cardiac arrests in Singapore is 5%.

Based upon your responses to questions about Singapore's Chain of Survival, the Resuscitation Academy recommends further consideration to the follow areas:



## Cardiac Arrest Registry

Using a cardiac arrest registry to record information about each cardiac arrest, EMS system can measure and compare information to improve outcomes through identification and training. The following actions can be pursued to improve your cardiac arrest registry data and collection procedures.

- Keep up the great work!
- Transparently sharing performance data improves situational awareness. When issues are known by all stakeholders, improvement is more likely.

## **Telephone-CPR**

Telephone CPR refers to specific training for 9-1-1 emergency dispatcher (or telecommunicator) and requires continues monitoring and reporting to provide consistent, sustainable quality in the delivery of these instructions. Based on the responses, your program score is 102% which is above the standard. Along with your stated Response Time of 8 minutes and the community Bystander CPR participation of 54% the following actions can be pursued to improve results.

- Keep up the great work!
- Maintain competence - T-CPR skills decay over a short period of time. Provide ongoing training to include case reviews and simulations on ongoing basis.
- Sustain results - Commit resources to manage data collection; publish results internally; monitor for positive or negative trends.
- Transparency builds trust - Maintain and grow opportunities to share data between stakeholders. Work towards simplifying processes to run and share reports.
- Encourage the behavior you seek - Maintain and grow opportunities to recognize team members.

## **Rapid Dispatch**

Using rapid dispatch a 9-1-1 dispatcher sends an initial EMS response as soon as a life-threatening situation is recognized. Based on your responses and implementing these strategies, a rapid dispatch program can be improved.

- Keep up the great work!
- Measuring and reporting T-CPR metrics is important for continuous improvement. How might your organization improve transparency about dispatch metrics?

## **HP-CPR**

HP-CPR is specific training for individual and team skills to achieve best practices in EMS CPR. Individual skills include guideline-directed metrics while team skills involve coordinated performance to assure the individual metrics of HP-CPR. Based on your responses, the following actions can be pursued to improve training and consistency in providing HP-CPR.

- Individual and team skills deteriorate in as little as three months following training. How might your organization implement an ongoing training program for EMS providers on HP-CPR?
- Keep up the great work!
- Providing feedback to EMS providers about their performance is an important part of continuous improvement. How might your organization implement a feedback process?
- Sharing aggregate analytics about CPR performance is important for system improvement. How might your organization measure and share aggregated performance metrics with key stakeholders?



# High Performance CPR? Equipment, People, Access to Data



You have the ability to stay calm in any circumstance. You relish the opportunity to bring difficult situations under control. Above all, you aspire to reach out and help others in their hour of need. If you possess the burning passion to protect and save lives, ignite your career with the Singapore Civil Defence Force.

**Watch over the lives of 5 million people.**  **SCDF**  
Embark on a career with The Life Saving Force.

1800 582 0000 [www.scdf.gov.sg](http://www.scdf.gov.sg) [scdf\\_recruitment@scdf.gov.sg](mailto:scdf_recruitment@scdf.gov.sg)

Visit us at the JobsCentral Career & Learning Fair 2009. Booth Number: #02 - 22-23 August, 10 am-7 pm. #01-01A, Level 1, Suntec Convention & Exhibition Centre.



## Strategies to Increase Early CPR and AED

There are a range of strategies to increase early CPR and AED use in cardiac arrest including mandatory school-based training, smart technologies, and pre-specified public safety response for cardiac arrest.

- Keep up the great work!
- Early defibrillation saves lives. How might your community implement a law enforcement defibrillation program?

# Getting Police First Responders



# Can we get the AEDs to the right place?

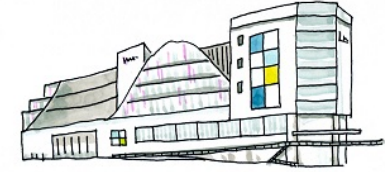
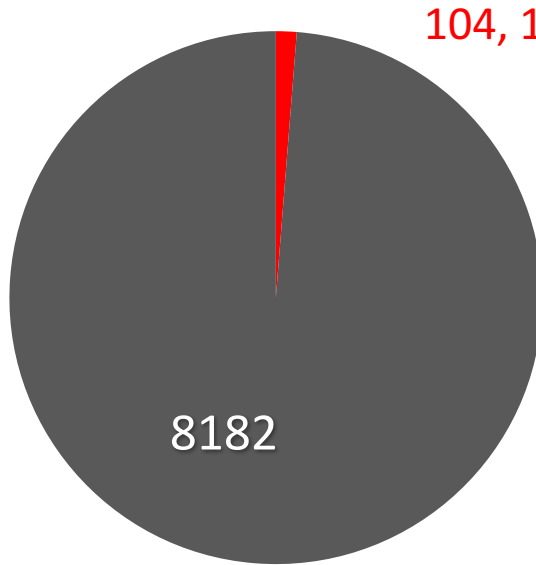
## PAD in Osaka

January 1st, 2011 – December 31, 2012

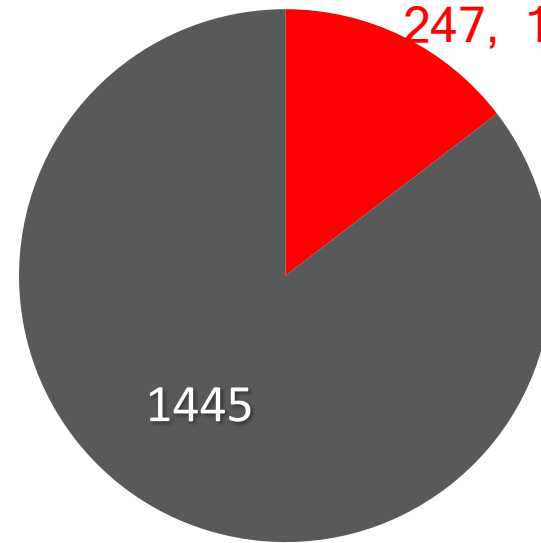
The proportions of **AED pad application** in homes and public places



Homes



Public places



■ AED pad applied    ■ AED pad NOT applied

70% of cardiac arrest cases occur in the 10,000 public housing estates!

