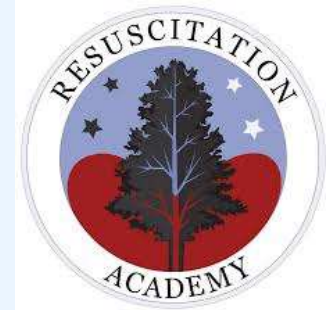




SCDF
The Life Saving Force



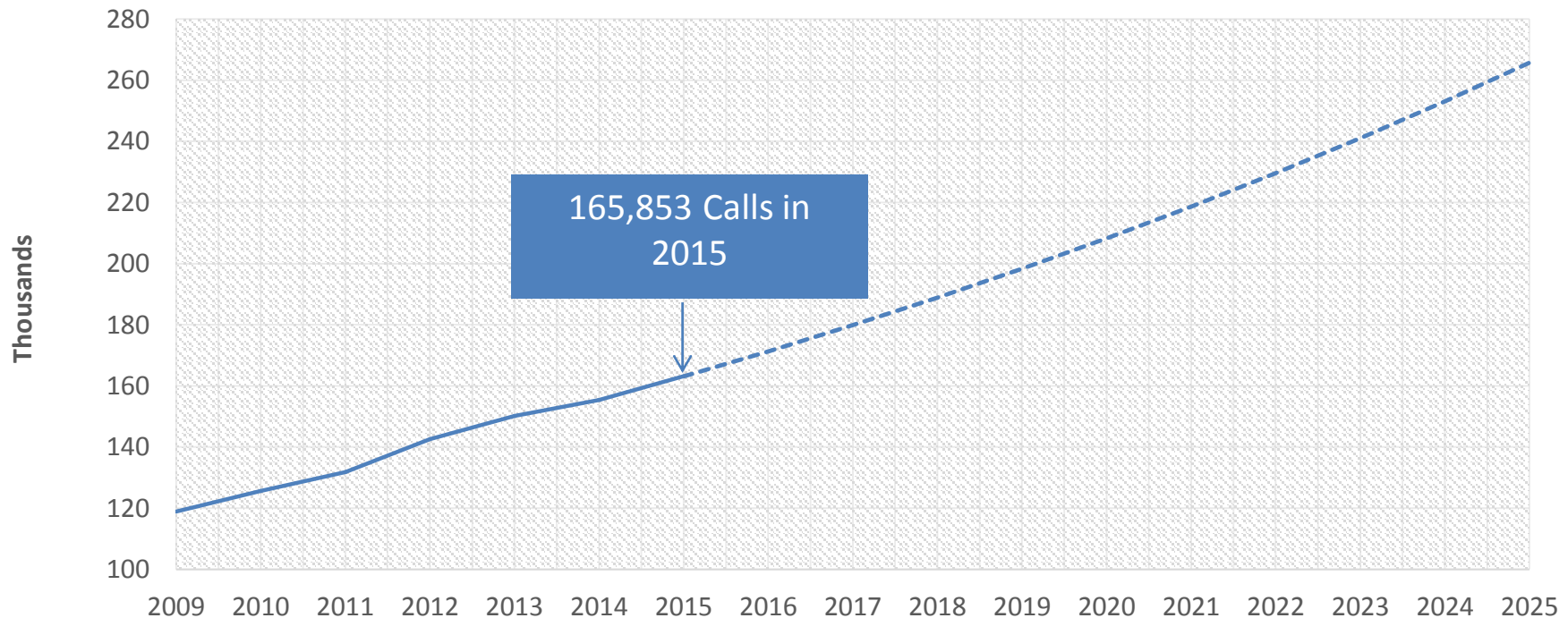
Update on Development of EMS Tiered Response



Increase in EMS Workload

- EMS calls have been increasing at 5% per annum
 - Calls will double in 15 years' time

Increase in Ambulance calls



Single Tier Scheme

- First come, first serve basis
- All EMS ambulances are equipped with same level of skills and capability
- SCDF or Private Ambulance Operator Ambulances are performing at the same level



Limited Tiered Scheme (2012)

- First come first serve basis
- All EMS ambulances are equipped with same level of skills and capability
- Unconscious/suspected cardiac arrest with first aider responder on firebike



Current Scheme Limitations

- Not sustainable to continue increasing linearly to cope with rise in workload
- Requires same level of training and equipping for all ambulances
- Under-serves of critically ill patients
- Over-serves low acuity patient



What are some options?

- Status Quo - add ambulances
- Match services according to needs
- Telephone Helpline – assess by phone, give advice, reduce dispatching

Option 1 - Status Quo

- High operating costs to run an ambulance
- Additional manpower
 - ✓ 1 ambulance 24/7 – 15 staff to sustain 3 man crew

Option 2 – Tiered response

- “ETF” - Enhanced Task Force for serious cases to increase survivability
 - ✓ Cardiac arrest, Stroke, Heart attacks, Major Trauma, Breathless, seizures
- “BTF” – Basic Task Force to manage less time sensitive calls which form the majority
- “Medical Transport” - stable minor emergencies

Option 3 – Telephone Advice

- Accuracy of audio triage because no physical assessment can be done
- Highly manpower intensive
- Higher level of expertise



Why use fire appliance and Fire Rescue Specialists to do EMS work?

Chart B1: Total number of fire calls for 2006 - 2015

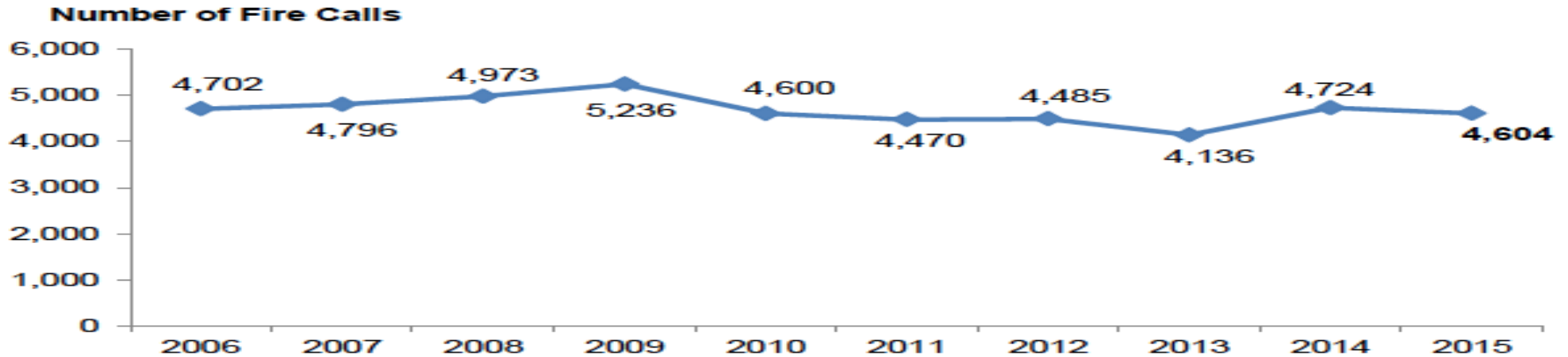
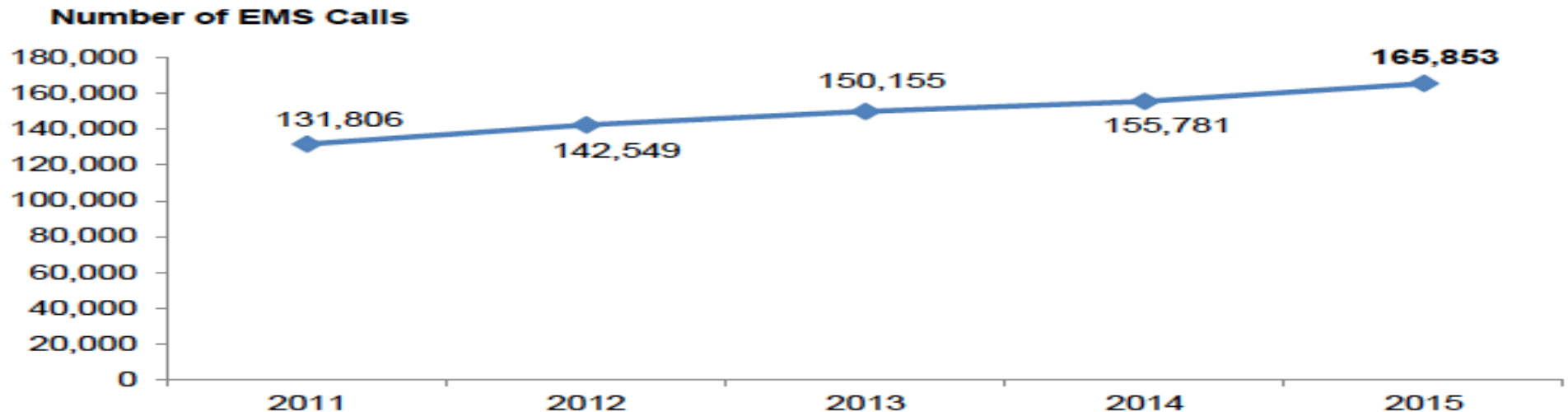


Chart A1: Total Number of EMS calls for 2011 - 2015



Enhancing Operations: Firebiker First Responders (2012-)

- 3 wheeled bike
- Attends to adult cardiac arrest and fires
- Not activated during heavy rain
- Average response time of firebiker is **6:39min** while ambulance is **8:55min**, saving 2 minutes per call.
- (April 2012 to Dec 2012 data)



Start of Firefighter EMTs (2013)

	Fire calls	EMS calls
Calls in 2015	4604	165,853

Ratio of Fire Veh to Amb: 4:1

Ratio of Fire Crew to Amb Crew: 4:1

Calls Per Fire Crew 2-4

Calls per Amb Crew 200



SCDF NEWS CLIPPINGS
THE STRAITS TIMES
DATE: 20/04/13 PAGE: B2



SCDF officer Noraini Karim, 40, monitoring the vital signs of those undergoing rehabilitation. Chairs in the Responders' Performance Module effectively lower the body temperature and monitor vital signs. ST PHOTO: CHEW SENG KIM

Firefighters to be trained in medical emergencies

Selected officers will learn how to render aid before paramedics arrive

Firefighting facilities in the pipeline

Crossed Trained FRS-EMTs

- Cross training of SCDF Fire and Rescue specialists as Emergency Medical Technicians (EMTs)
- Each Fire appliances to have 1 EMT on board to provide treatment for fire calls OR to lead a fire crew to attend to selected medical cases

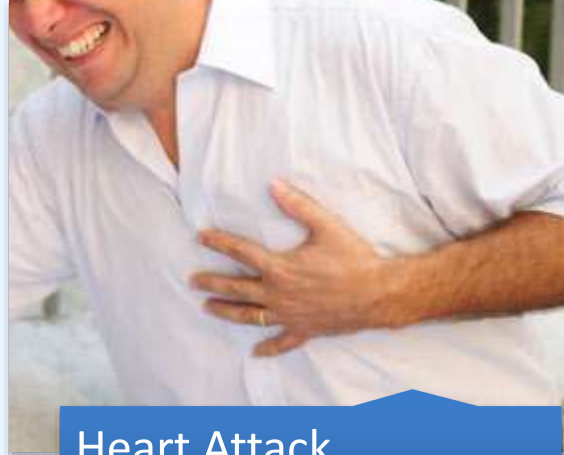


Time Sensitive Medical Cases



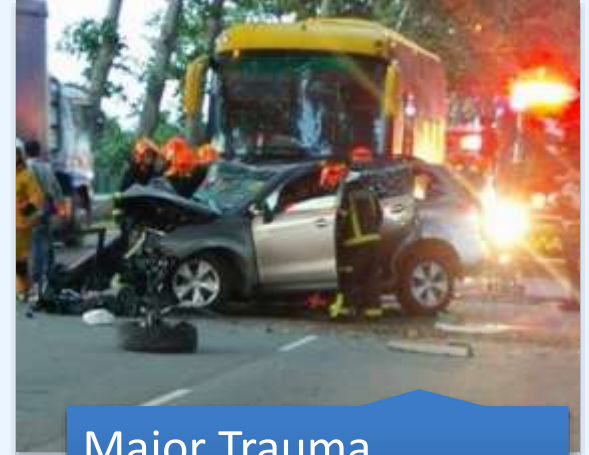
Cardiac Arrest

• 10 mins



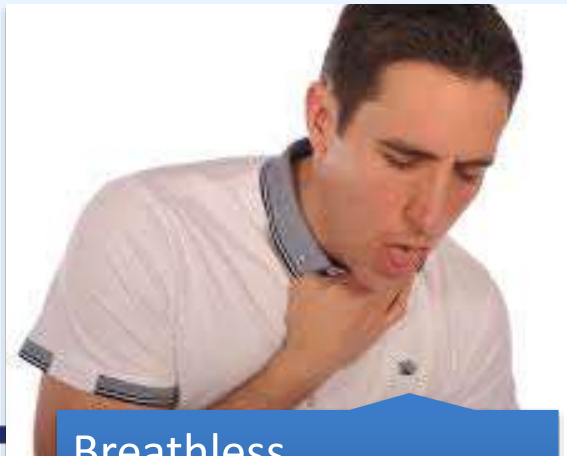
Heart Attack

• Hrs



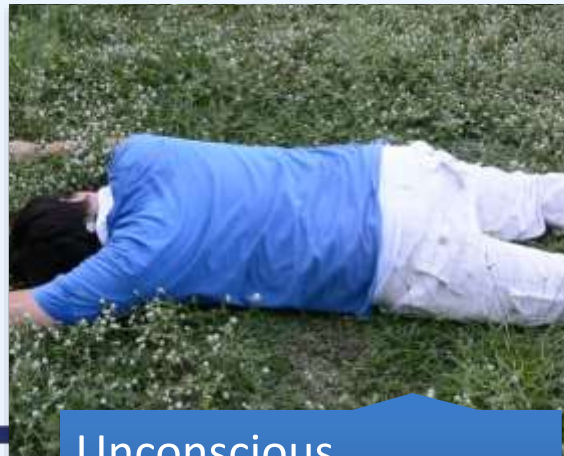
Major Trauma

• "Golden Hour"



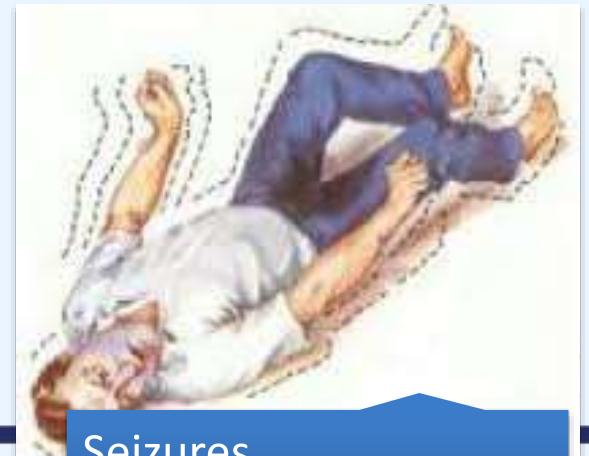
Breathless

• Mins



Unconscious

• mins to hrs



Seizures

• 20 mins

EMT-manned Fire Appliances



EMT Biker



4-men Fire Engine



Fire-Medical Vehicle

Severity

Resources

8 mins
Response time
15-30mins

P1+
(10%)

P1
(30%)

P2
(40%)

P3
(20%)

FB-EMT / LFAV



Lvl 4
ambulance



Lvl 3/
PAO
ambulance



FMV



Medical
Transporter
/ 1777



Challenges in Implementation

- Cross-training of Fire Rescue Specialists
- Enhancing triaging capabilities
 - ✓ Call taker/dispatcher level
 - ✓ Frontline level
- Concept socialising with public
 - ✓ Gradual scaling up fire resources
 - ✓ Shift resource to P1 cases and reduce urgency of response to P3 cases
- Culture shift



Implementation in phases

- April 2017 Ops Centre triage to tier classification of cases
- EMT bikers for P1+ and Fire Medical Vehicle for fires, accidents
- Gradual addition of bigger fire appliances such as LFAV, PL
- Introduction of non-E (1777) transport to convey P3 cases
- De-emphasize response time of P3 cases just needing medical transport
- Reach the steady state of full implementation in 2025



Thank you