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Institutional Arrangements for Reduction of Road Fatalities

Expedient Trauma Care for Accident Victims

GVK EMRI System

Why 120,000 Road Fatalities every Year?

- Due to severe injuries and inappropriate management of severe injuries
- Due to absence of 4As :
 - **A**ccess to a universal toll-free number
 - **A**vailability of Life Saving Ambulance to reach quickly nearest and appropriate health facility
 - **A**ffectionate Care by trained paramedics (Compassion, Ability, Resourcefulness & Energy)
 - **A**ffordability by every citizen independent of income, religion and community
- Hence, GVK EMRI was born in April 2005



What is Inappropriate Management?

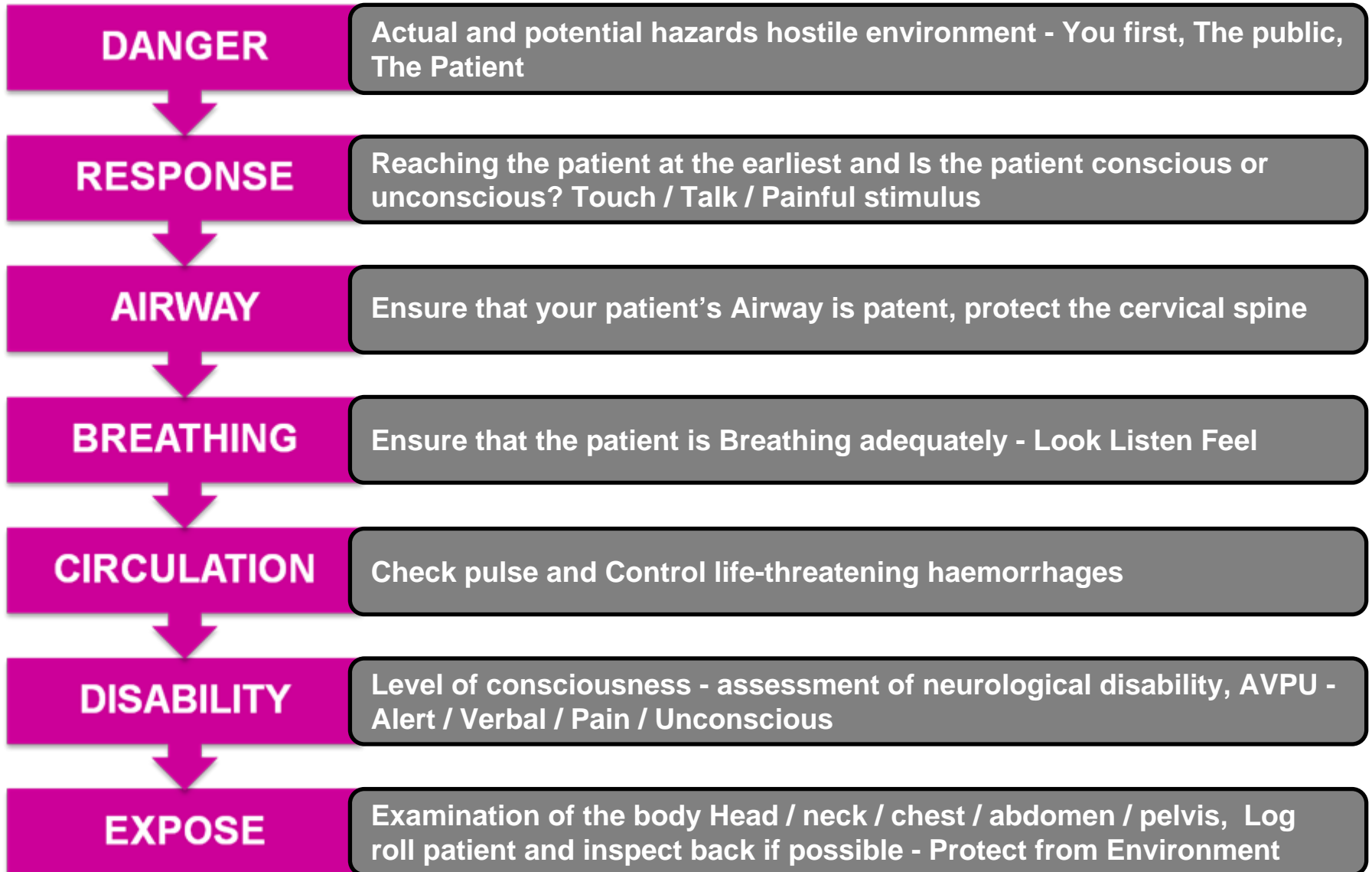
- Secondary damage due to undue delays
 - In reaching the victim
 - In stringent monitoring of vitals
 - In supporting vitals
 - Breathing difficulty
 - ICH
- Inappropriate management
 - Poor resuscitation
 - Medical errors
- Shock – irreversible
- Hypoxia – irreversible

- Secondary damage due to inadvertent handling
 - **Poor transport**
 - Spinal injury
 - **Wrong management**
 - Tourniquets to stop bleeding
 - Native treatments
 - **Poor prioritization**
 - No triage
 - Negligence

Pre-hospital Care

- Stringent Monitoring
 - Vital functions
 - Temp, Pulse, BP, SpO2, GCS, UoP
- Support vital functions
 - Oxygen, IV Fluids, Wound care, Splints, Pain relief, etc
- Soft skills
 - Friendly and positive environment, ensuring comfort, wellness and safety

DRAB CDE

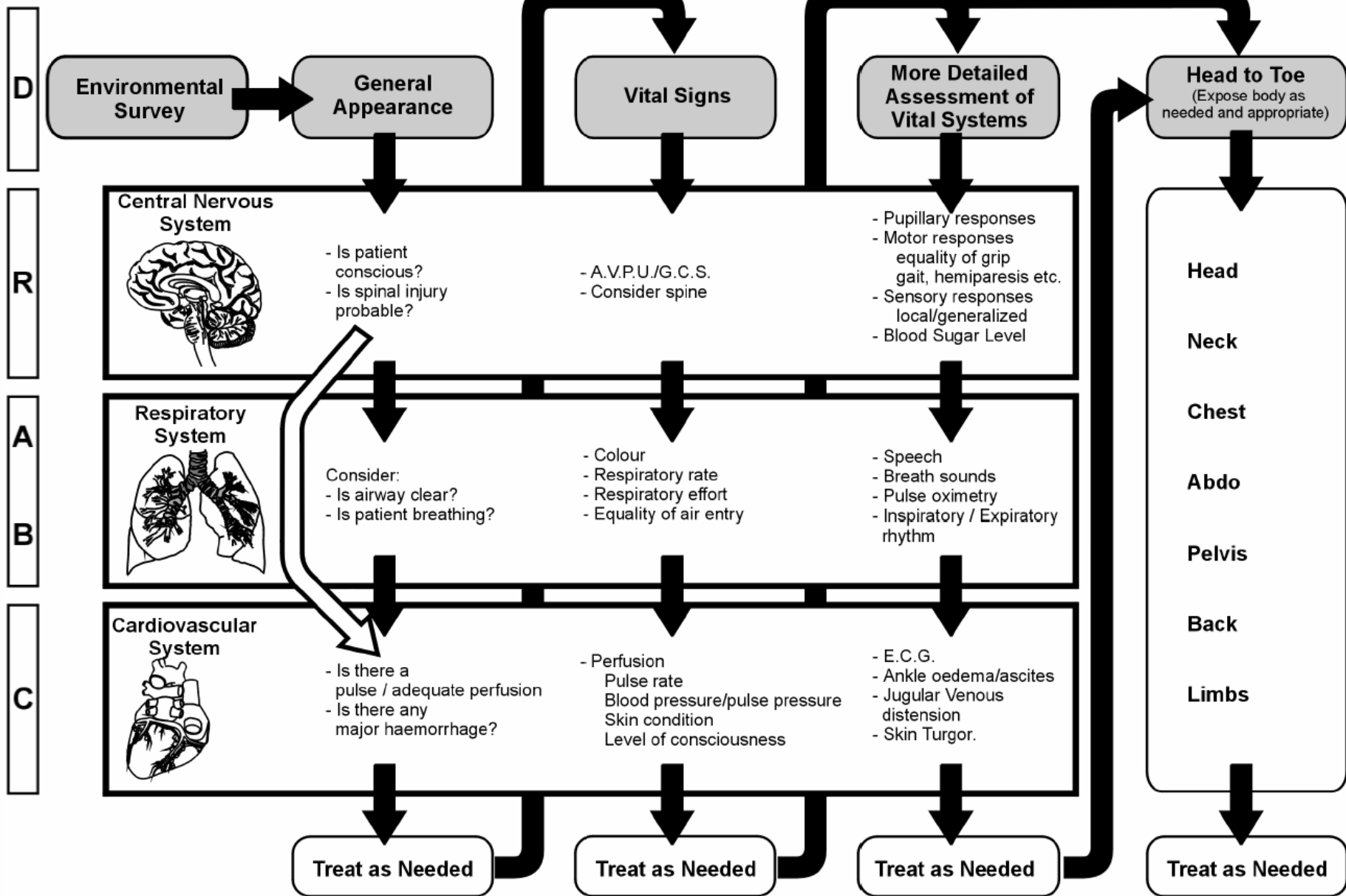


TRIAGE

(Based on walking, breathing, respiratory rate, capillary refill)



Systematic Patient Assessment



This system is not rigid and must be adapted to specific circumstances. Transport is a component of treatment and should be prioritised appropriately. History should be gathered concurrently with patient assessment.



Innovative Pro-Poor PPP
(Public Private not for Profit Partnership)
Service Delivery Model to provide
free Emergency Response Services
at ₹ one / Citizen / Month

Serving 1 Emergency every 8 seconds and Saving 1 Life every 8 minutes

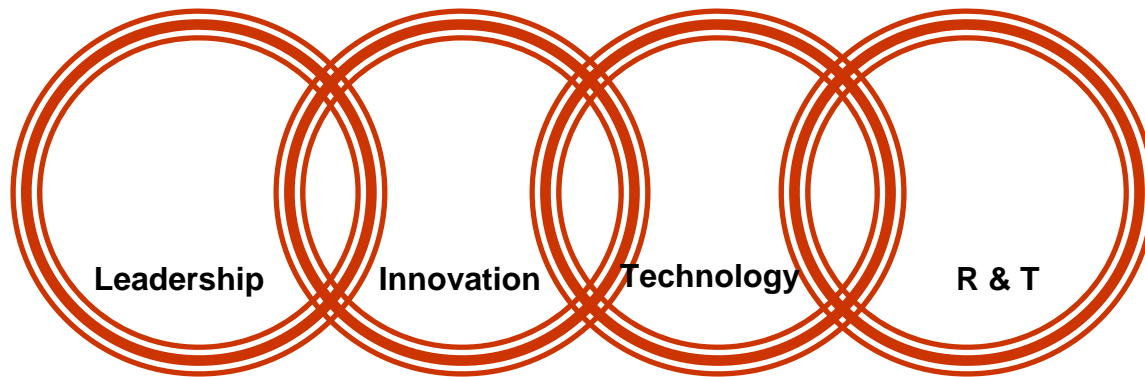
GVK Emergency Management and Research Institute



A Non-profit organization

Vision of GVK EMRI

- To respond to 30 million emergencies and save 1 million lives annually by 2011
- To deliver services at global standards through Leadership, Innovation, Technology and Research & Training



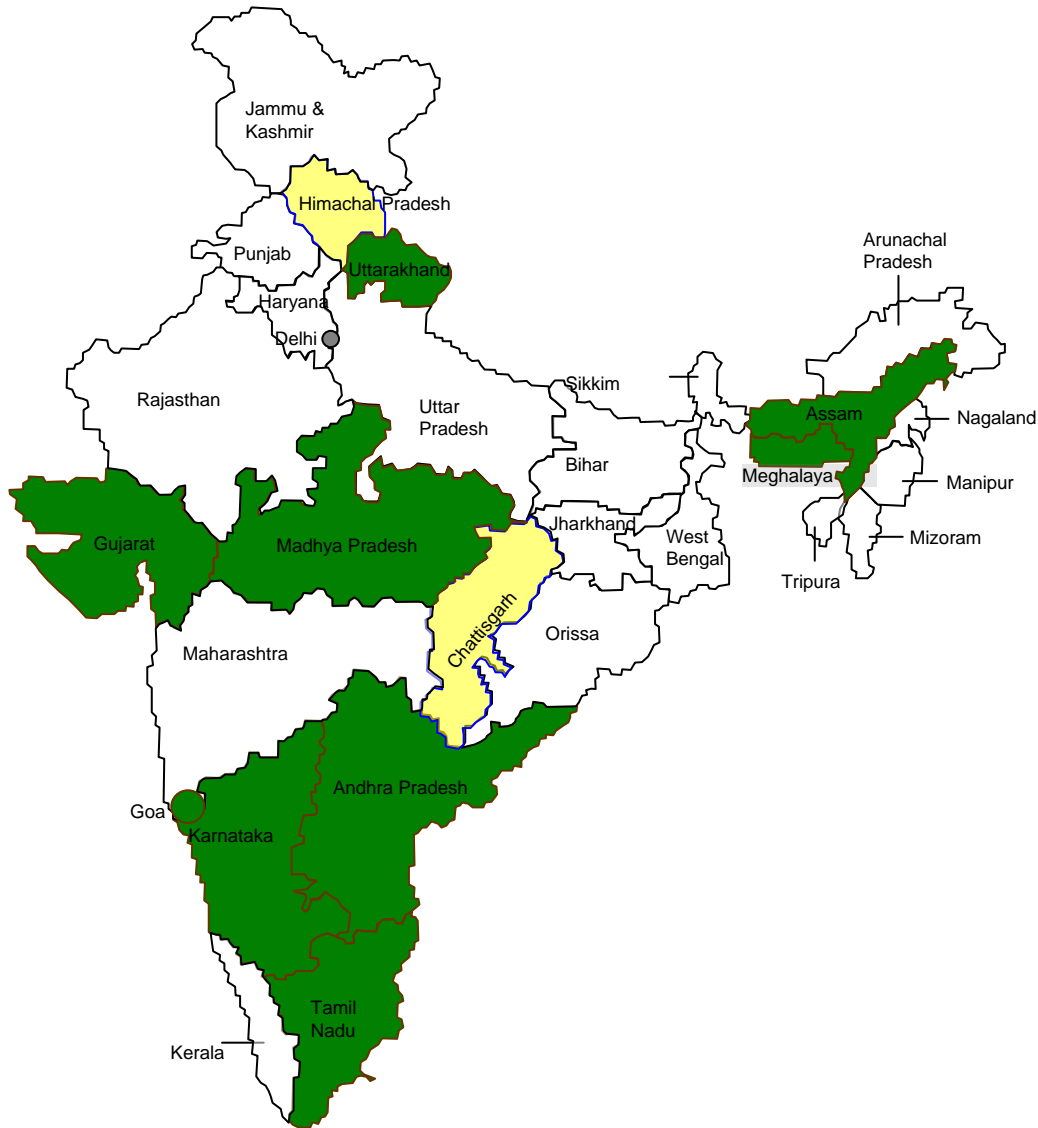
- To become One Of Eight Wonders of the World

What is Unique in this Innovation ?

- Integrated Emergency Response Services for Medical, Police and Fire emergencies with single universal toll-free number '108'
- Free services (no cost to citizen)
- PPP framework
- Government provides funds for OPEX & CAPEX
- Private Partner brings leadership, innovation, execution and technological capabilities
- Conducting Research and building capability in Emergency Medicine and Management

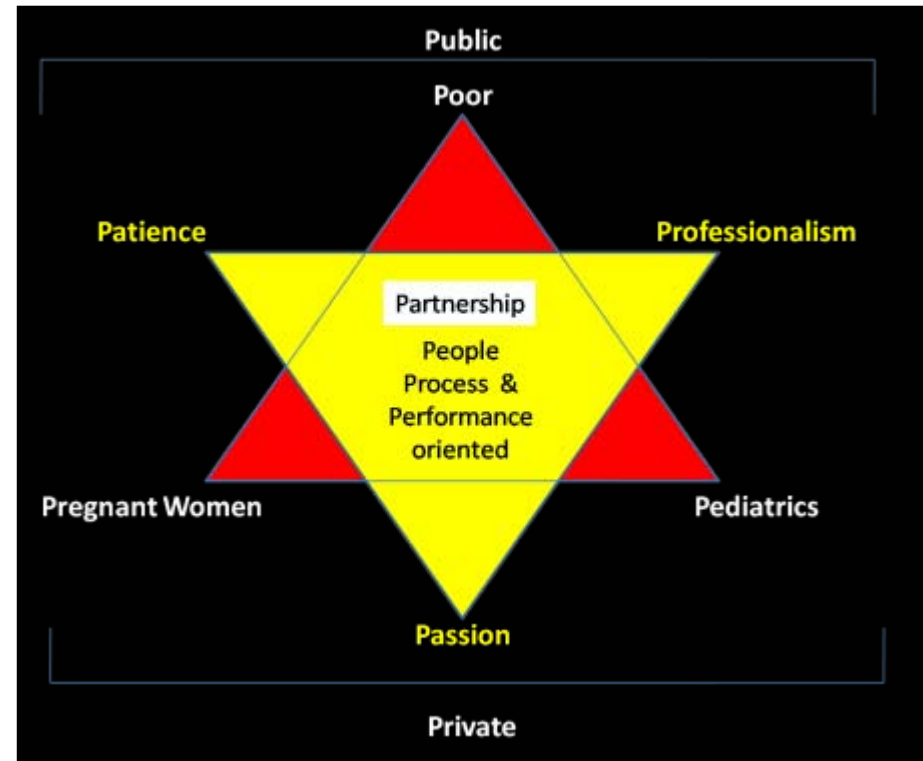


Launched on 15th Aug, '05 in Hyderabad and expanded to 10 other States



Successfully Implemented by GVK EMRI in PPP Framework

- **Political will, Public Servants' commitment and Public Support**
- 100% of Capital expenditure and Operational expenses by Government (Public)
- GVK funds Leadership, Innovation (Infrastructure, Process), Collaborations, Research and Training, Knowledge transfer and Quality assurance
- Mahindra Satyam provides free IT solutions as technology partner
- GVK EMRI manages and leverages government resources for better outcomes to serve poor
- **Partnership involving Pain and Pleasure**



Building Blocks of GVK EMRI's Innovation



Three digit toll-free No.
Accessible from Land lines
and Mobile phones



Modern, spacious and open ERC



GIS / GPS to locate victim /
ambulance and hospital



Cost effective
ambulances
to provide quality
care
for Indian
emergencies
with facilities for
rescuing and
balancing patient
care with public
safety and patients
relatives comfort



Trained personnel for providing PHC

Innovative Process

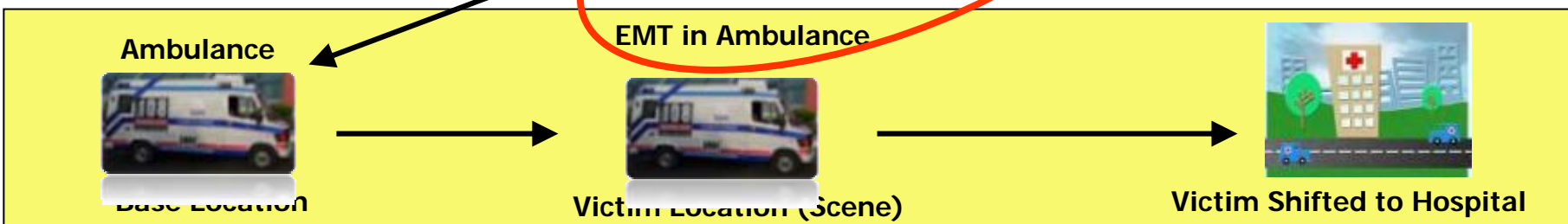
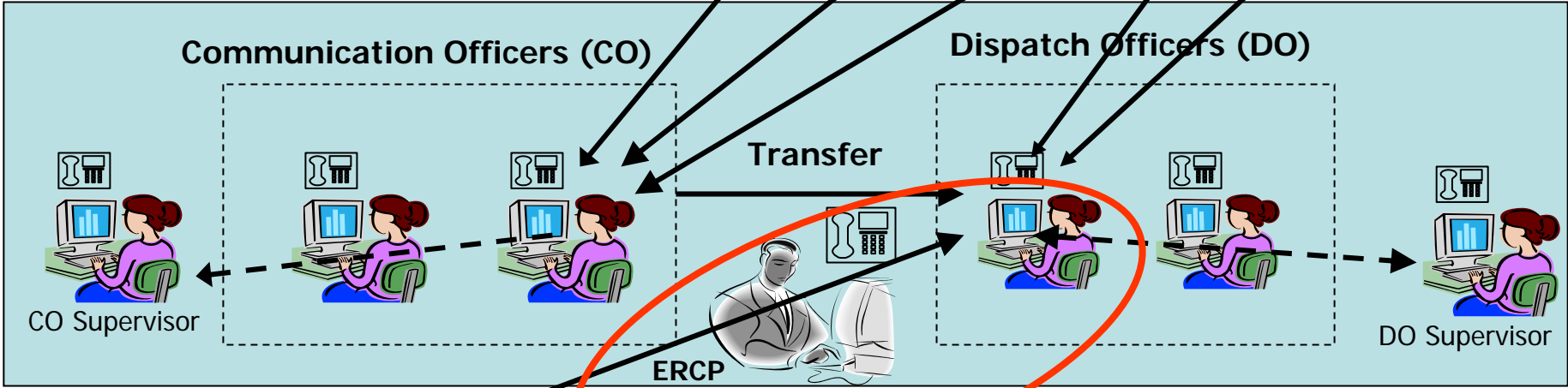
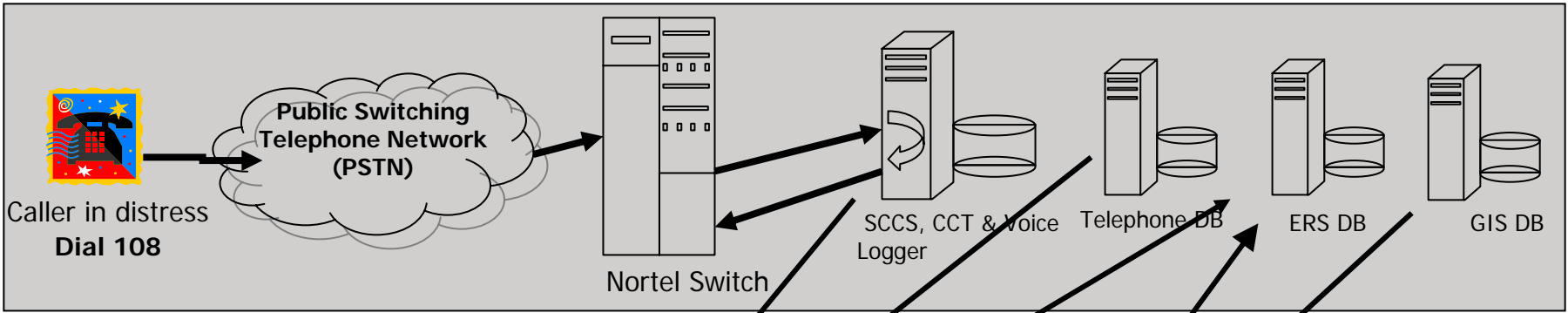


- Developed detailed process understanding and well defined responsibilities through out the organization
- Maintained all information related to emergency in Patient Care Records (PCRs)
- Patient information is shared with the hospital on arrival
- 48 hour follow up with the patients admitted to hospital

Innovative use of Technology



COMPUTER SERVER ROOM



CCT: Communication Control Toolkit; SCCS: Symposium Call Centre Server; ERCP: Emergency Response Center Physician; EMT: Emergency Medical Technician

Innovative Pre-Hospital Care

- Emergency Medical Technician (EMT) in the ambulance is trained not only to provide pre-hospital care but also to handle emergency situations
- EMT gets support over phone from qualified medical practitioner called ERCP (Emergency Response Centre Physician) located at the ERC
- ERCPs are in the ERC round the clock to provide support to EMT and to people at emergency scene until ambulance arrives



Collaboration for transfer of Knowledge and Technology know-how, Best practices, Research & Training



*Stanford University,
USA*



*Carnegie Mellon
University,
USA*




Geomed Research



*Singapore Health
Services*



*American Academy
for
Emergency Medicine
in India*



*American Assoc of
Physicians
Of Indian Origin
(AAPI)*



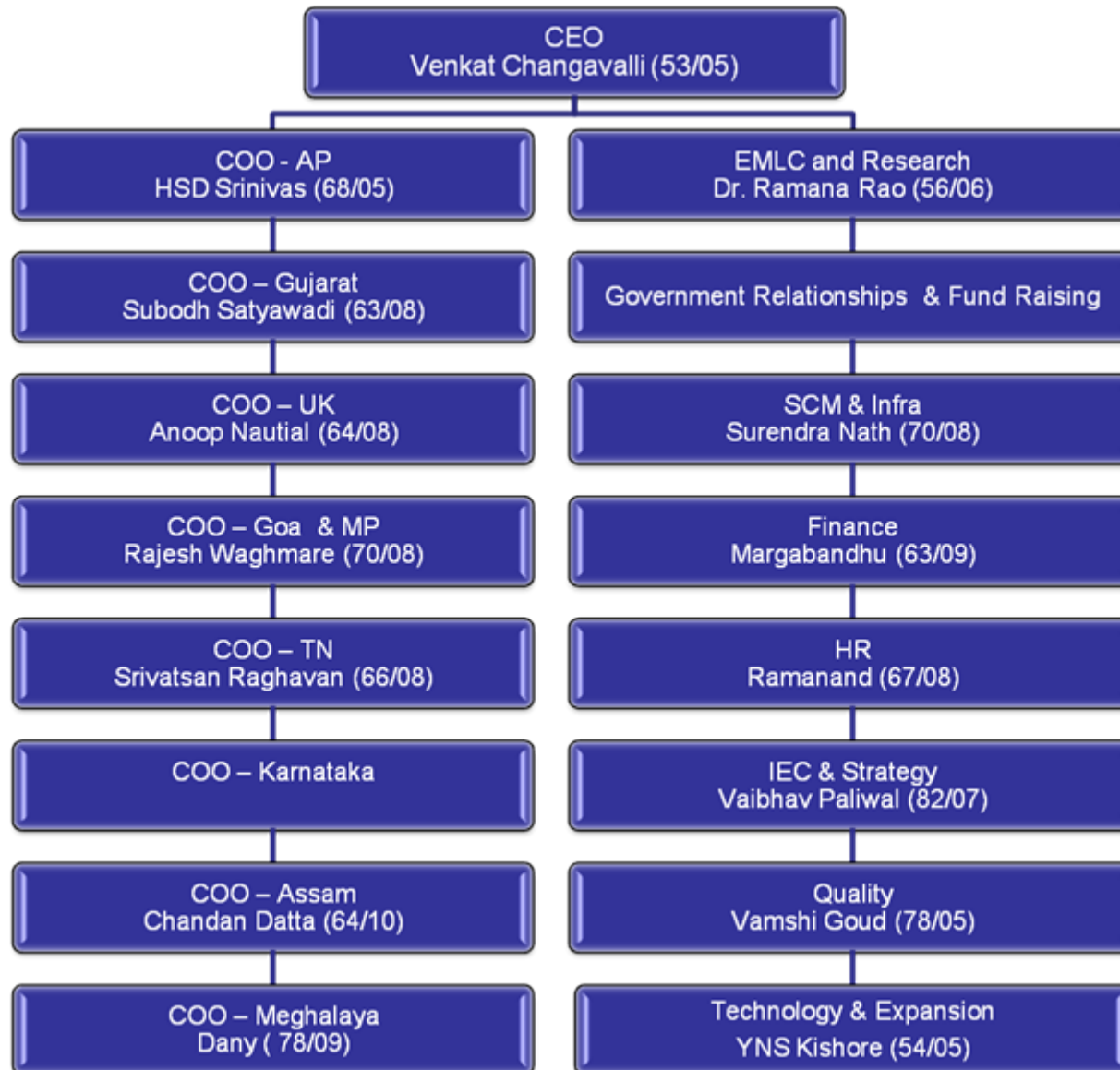
*Public Health
Foundation of India*



*Shock Trauma
Center,
USA*



Leadership



Impact ..

Size	<ul style="list-style-type: none">• One Center for 40 M population against one for every 0.05 M population in USA• 372 M population covered in 9 States (increased reach of health care in rural , hilly and tribal areas)• Trained 38,574 people (12,281 - EMTs, 10,936 – Pilots, 3,523 - Doctors, 2,160 - Nurses, 7050 - First Responders and AHA/ ITLS Certification for - 2,624)• 12,170 + emergencies handled per day (9.6 Million cumulative)• 2,600 Ambulances - 4.5 trips a day• 16,058 + GVK EMRI Associates
Speed	<ul style="list-style-type: none">• Went live in less than 4 months from signing MoU• 91% calls taken in first ring• < 15 minutes (urban) and < 25 minutes (rural) Ambulances reached



Govt. of
A.P.



Govt. of
Gujarat



Govt. of
MP



Govt. of
Uttarakhand



Govt. of
Tamilnadu



Govt. of
Goa



Govt. of
Assam



Govt. of
Karnataka



Govt. of
Meghalaya



Govt. of
Chhattisgarh



Govt. of
HP

Impact

Type of Emergencies and Lives saved	<ul style="list-style-type: none">• Pregnancy related - 33%, Vehicular Trauma – 17%, Acute Abdomen – 14% Cardiac – 4%, Respiratory – 4%, Suicidal – 3%, Animal Bites 2%• 300+ lives were saved per day (258,115 + till now) and 11,870 victims per day received timely, high-quality pre-hospital care
Costs	<ul style="list-style-type: none">• Cost per ambulance trip Rs. 600 to Rs. 700 against \$ 600 to \$700 in USA
Qualitative Outcomes	<ul style="list-style-type: none">• Angel of Mercy – 108 Ambulance• Successful PPP• Well documented systems, impressive EMT training, high order management competence• A historic landmark in health care delivery system• Built more trust in the health system as a whole• Increased institutional deliveries and reduced maternal mortalities by 20 – 25%• A model for replication across the Country in any state

Typical RTAs Attended

- Bus over turned (Kottapet near Narsapur) - Two ambulances dispatched - Evacuated and rehabilitated under a tree. Shifted 15 victims (common group daily wage labors) to Narsapur Area Hospital, subsequently 5 triaged victims shifted to Gandhi Hospital in Government Ambulance. All the victims survived



Typical RTAs Attended ..

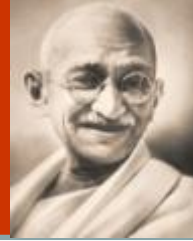
- A rickshaw was hit by a lorry (Ravulapalem, East Godavari) . Husband died on the spot - Woman sustained crush injuries to the right leg. treated with oxygen, IV fluids; wound care was given and transported to CHC and she is safe
- RTA – Kamareddy - Two lorries head on collision- 3 victims seriously injured – 2 in critical condition - extrication done – treated with help of ERCP advice - Shifted to kamareddy Govt hospital – Victims survived



Typical RTAs Attended ...

- RTA - Multiple casualty – Banswada at 03.15 AM-50 victims travelling in DCM -over turned – into a pond – 27 persons seriously injured – shifted to Govt hospital
- RTA- multiple casualty- Dhone(04.48 AM) - 5 victims seriously injured. One lady had crush injury of left leg-in critical condition- shifted to CHC Dhone with help of ERCP advice –survived





www.hbr.org

July-Aug 2010

A few Indian pioneers have figured out how to do more with fewer resources—for more people.

Innovation's Holy Grail

by C.K. Prahalad and R.A. Mashelkar

Gandhian Innovation that Synthesized Technologies

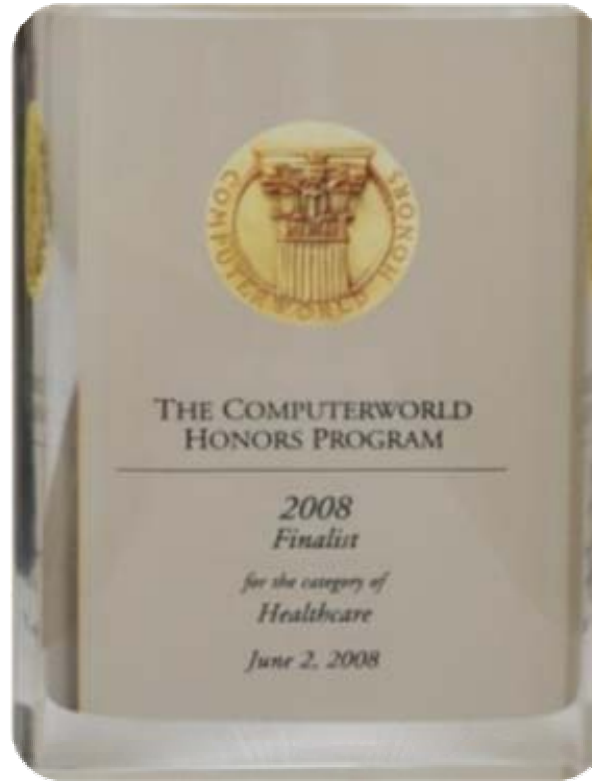
- Combined cutting edge technologies (telecom, computing, medical and transportation) to create new capabilities for the first time in the World
- Scaled rapidly keeping costs low with Public Private Partnership (PPP)
- Drawn on the knowledge base of specialized institutions overseas and set the standards in India and developed unique research capabilities



Award-winning GVK EMRI



Microsoft



eIndia 2008

Received prestigious awards from The Computer World, Microsoft, IT User – CNBC, 9-1-1 of USA, Ahmedabad Management Association, eIndia, CSI Nihilent and HEAL Foundation

To Conclude

- Reduction in poverty and increase in Quality of Life can be achieved by Caring, Valuing and Respecting Life with Humaneness, Humility and Commitment to serve people
- This Joy of Giving back to society increases Dopamine (Satisfaction), Oxytocin (Attachment) and Frontal Cortex Activity (Morals)



THANK YOU

www.emri.in