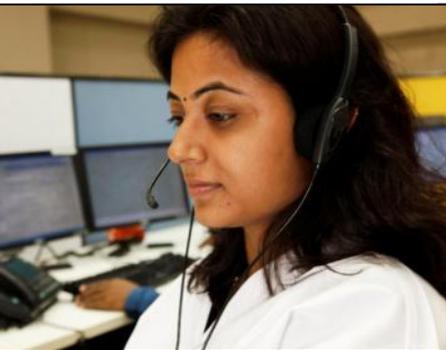


GVK Emergency Management and Research Institute

Dialogue on eHealth / mHealth
DMAI
November, 2013



GVK EMRI ('108') HAS PROVIDED A ROBUST PPP EMERGENCY MANAGEMENT INFRASTRUCTURE IN INDIA



- An Institute mandated by the 16 States and Union Territories to provide emergency response services across the State, under Public Private Partnership
- Allotted a three-digit number 108 by Government of India and made toll-free across country
- 5,500 ambulances deployed across India. Based on ramp up plan to grow up to 10,000 ambulances.
- Patient's Choice- MoUs with hospitals for stabilizing emergency patients free of cost
- Integrated service for medical, police and fire emergencies
- MoUs with several international authorities including NENA, USA**, Stanford University USA, CMU etc.



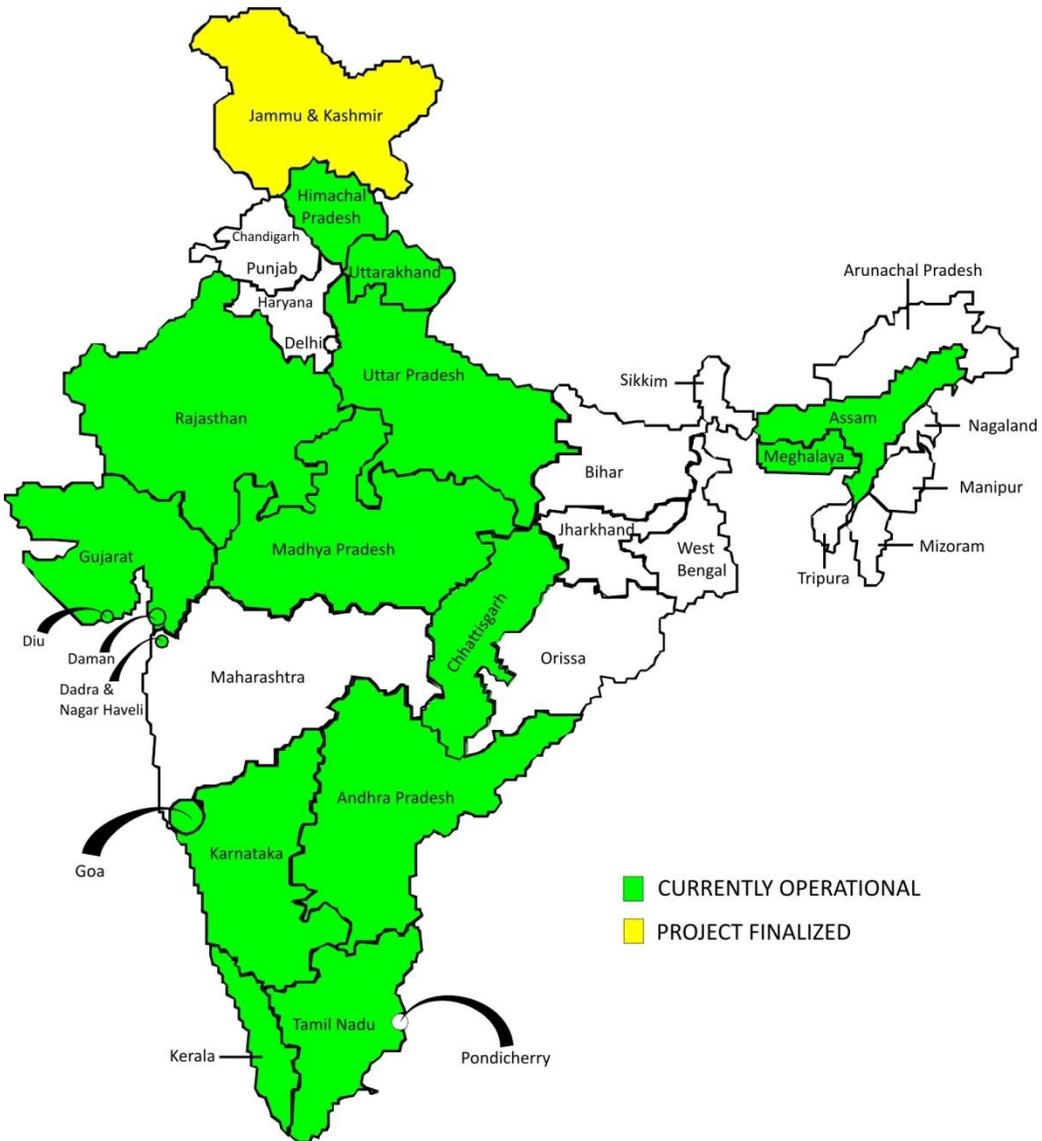
Significant impact

- Responds to 21,000 emergencies/ day
- 807 lives saved per/day



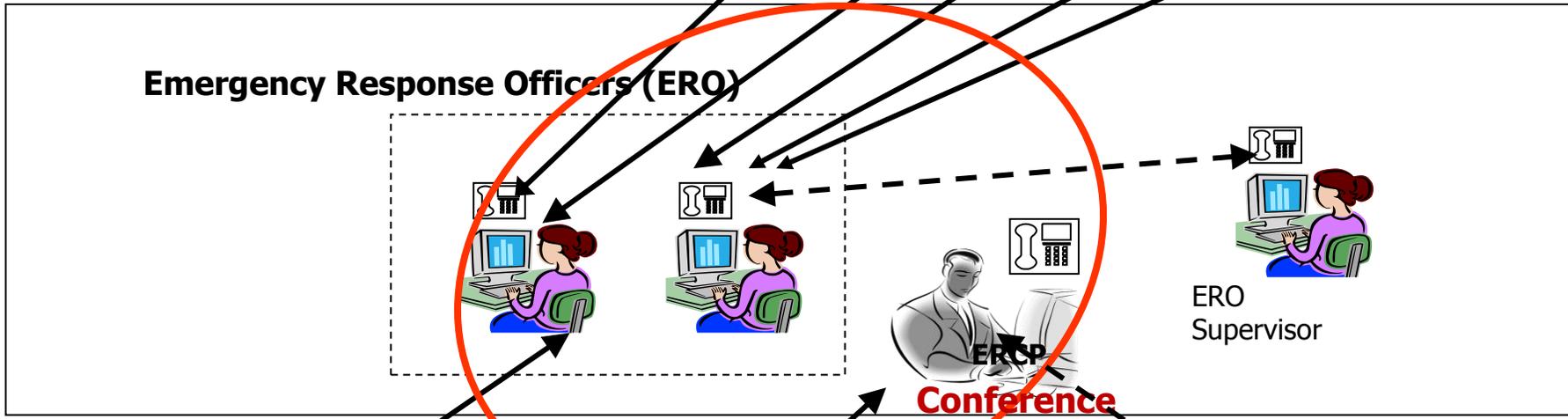
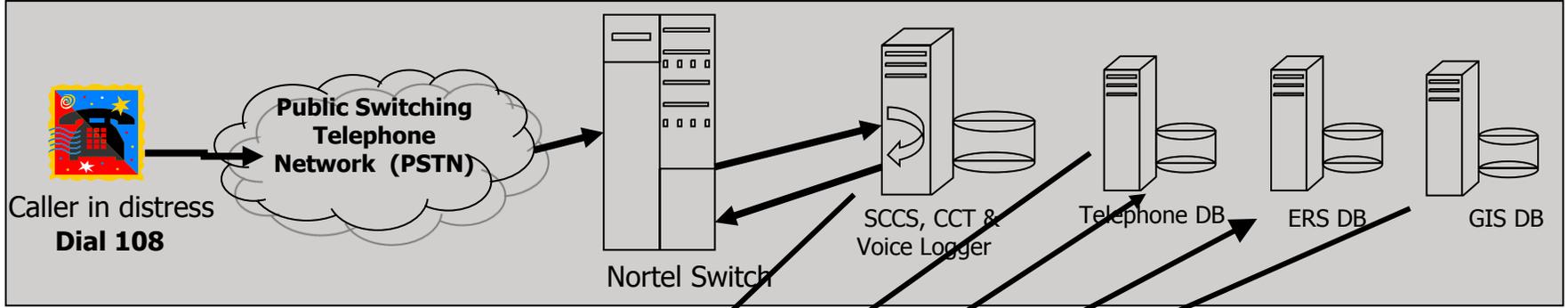
*Defined as lives that would be lost in the absence of GVK EMRI intervention. Verified by internal doctors (ERCPs)
**NENA refers to National Emergency Number Authority, USA

LAUNCHED ON 15TH AUG, '05 IN HYDERABAD AND EXPANDED TO 16 STATES AND UNION TERRITORIES



USE OF TECHNOLOGY

COMPUTER SERVER ROOM

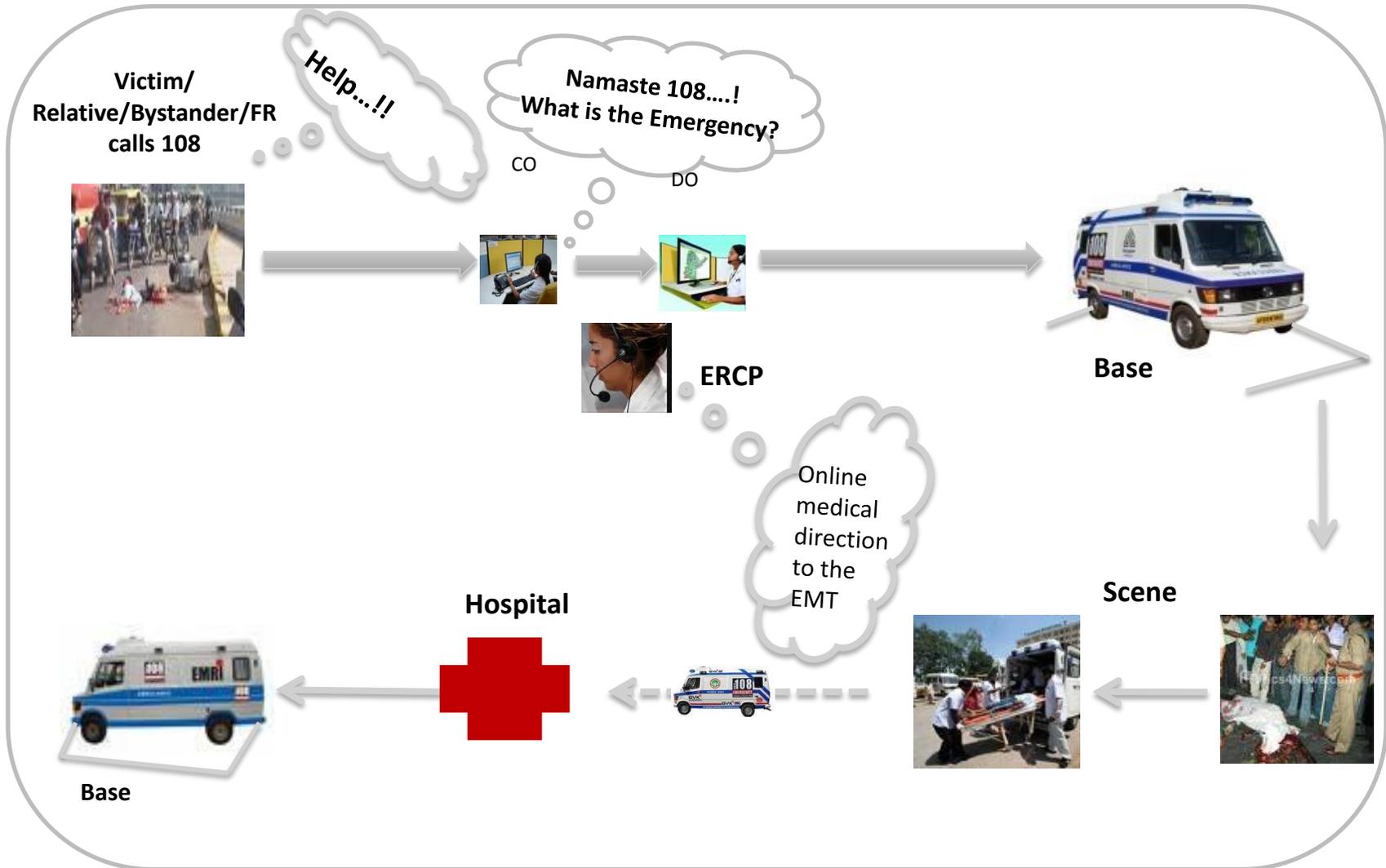


INNOVATIVE PROCESS



- 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

RTA MANAGEMENT



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



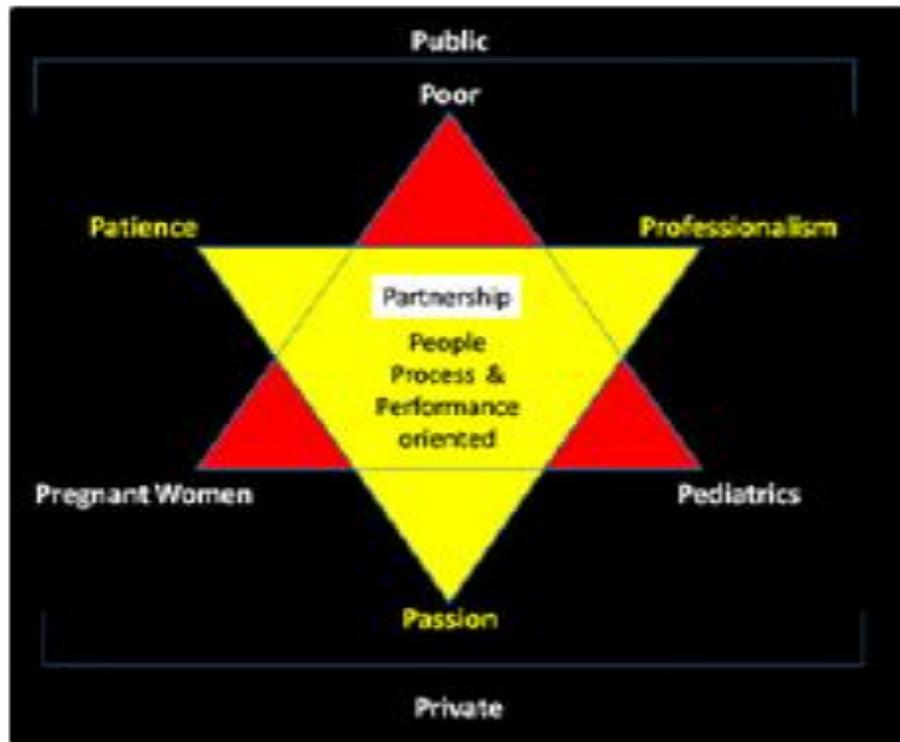
Cost effective
ambulances
to provide quality
care
for Indian
emergencies
with facilities for
rescuing and
balancing patient
care with public
safety and patients
relatives comfort



Trained personnel for providing PHC

Successfully Implemented by GVK EMRI in PPP Framework

- **Political will, Public Servants' commitment and Public Support**
- **Direct Capital and Operational cost by Government (Public)**
- **GVK funds Leadership, Innovation (Infrastructure, Process), Collaborations, Research and Training, Knowledge transfer and Quality assurance**
- **Tech Mahindra provides free IT solutions as technology partner**
- **GVK EMRI manages and leverages government resources for better outcomes to serve poor**



**COLLABORATION FOR TRANSFER OF KNOWLEDGE
TECHNOLOGY KNOW-HOW, BEST PRACTICES, RESEARCH & TRAINING**



COLLABORATION FOR TRANSFER OF KNOWLEDGE TECHNOLOGY KNOW-HOW, BEST PRACTICES, RESEARCH & TRAINING



City of Austin
USA



Carnegie Mellon University,
USA



American Academy for
Emergency Medicine in
India



Geomed Research



ICMR



Richmond
Ambulance
Authority USA



National Emergency
Number Authority



Shock Trauma Center,
USA

**STEMI INDIA
CHARITABLE TRUST
SERVICE AGREEMENT
FOR TAMIL NADU
STEMI PROGRAM**

**ST Elevation Myocardial
Infarction**



American Assoc of Physicians
Of Indian Origin (AAPI)



Public Health
Foundation of India

••••• Fachhochschule Köln
••••• Cologne University of Applied Sciences
••••• Fakultät für Anlagen, Energie- und Maschinensysteme



Singapore Health
Services

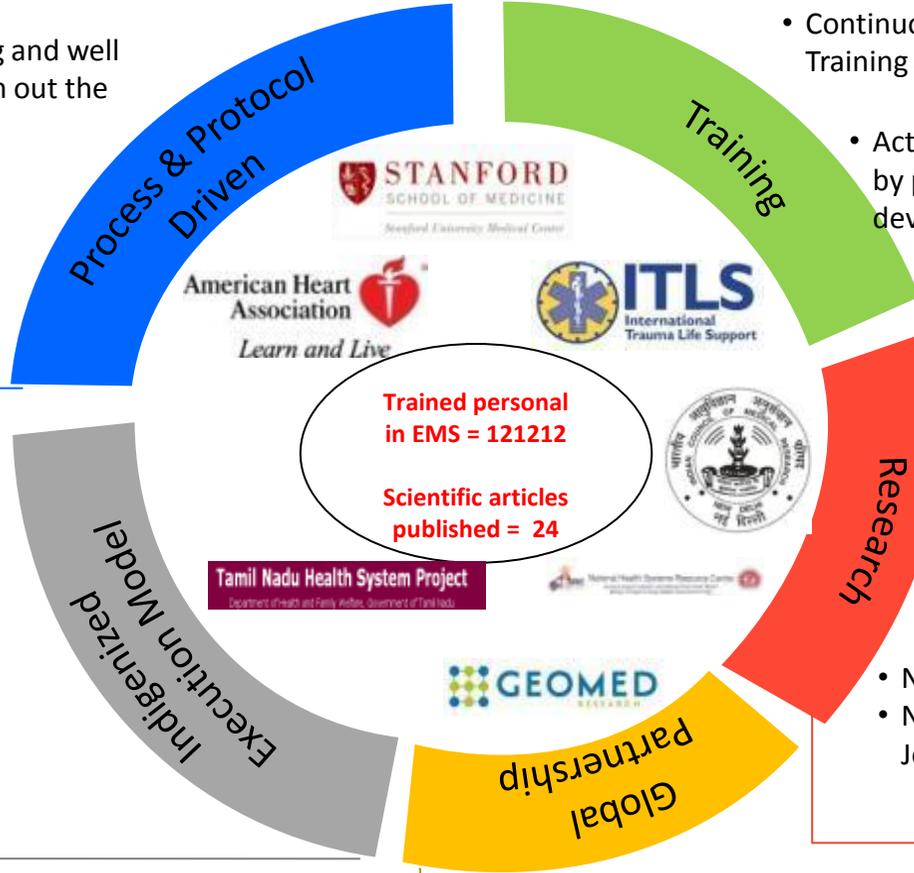
108 CARE QUALITY THROUGH TRAINING



- **Global Alliances- Sense, Reach and Care processes include best-in-class industry innovations.**
- Detailed process understanding and well defined responsibilities through out the organization

• Robust Training Process – Trained 121,212 people

- Continuous education system to EMTs & Pilots. Training given in basic to advanced course
- Active engagement with Medical industry by providing training to their staff and also develop integrated protocols.



Captive Research to improve Emergency Care

- No. of research paper published- 20
- No. of National/ International Conferences attended- 15
- No. of GVK EMRI Research Chapters included in Published Books- 4
- No. of Collaborated Research Project- 4
- No. of Issues of Indian Emergency Journal Published- 11

- **Model operational in 16 states/UTs covering 700 M population (50% of Indian population)**
- Model that works across different local conditions- Different terrains, Different Languages, Inadequate hospital facilities, Lower literacy levels, Hostile weather conditions

• Active global partnerships to continuously innovate and improve care delivery



Strategy in MMR Reduction

GVK EMRI EMERGENCY INFRASTRUCTURE WAS LEVERAGED DURING THE RECENT DISASTER IN UTTARAKHAND

17th June 2013 Uttarakhand disaster:-

- The incessant rain/flood that hit Uttarakhand on 17th June 2013, thousand of pilgrims & villager got stuck in the valley of Kedarnath ,Badrinath,Gangotri & Yamunotry Route (Char Dham route).
- GVK EMRI provided 8 ambulances and 55 members team for this rescue operation
- One separate call center (Operation Connect) was established by GVK EMRI team for disaster victims.
- 924 victims were shifted by GVK EMRI 108 team to hospitals



Impact ..

<p>Size</p>	<ul style="list-style-type: none"> • One Center for population upto 200 M against one for every 0.05 M population in USA • 700 M population covered in 15 States and Union Territories (increased reach of health care in rural , hilly and tribal areas) • Trained 1,23,281 Medical professionals like EMTs, Doctors, Nurses etc. • 21,000+ emergencies handled per day • > 5,500 Ambulances • > 25,000 GVK EMRI Associates
<p>Speed</p>	<ul style="list-style-type: none"> • India's most populous state Uttarpradesh with a population of over 250 million was covered by GVK EMRI starting 14th September, 2012. Went live in less than 4 months from signing MoU. • 96% calls taken in first 2 rings • ~15 minutes (urban) and ~ 25 minutes (rural) Ambulances reached



Impact



Type of Emergencies and Lives saved	<ul style="list-style-type: none">• Pregnancy related - 35%, Vehicular Trauma – 12%, Acute Abdomen – 13% Cardiac – 4%, Respiratory – 4%, Suicidal – 4%, Animal Bites 2%• 807+ lives were saved per day (764 thousand) and 21000+ victims per day received timely, high-quality pre-hospital care• 221 deliveries assisted by EMTs everyday (226 thousand)
Costs	<ul style="list-style-type: none">• Cost effective services provided in 15 States and Union Territories
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

IMPACT- DOING MORE WITH LESS FOR MORE



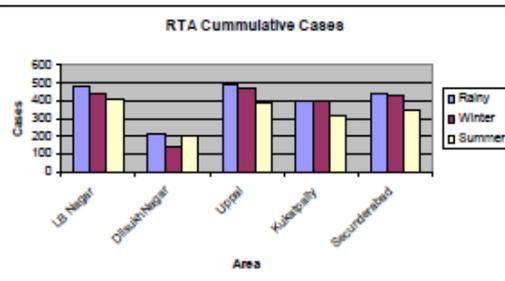
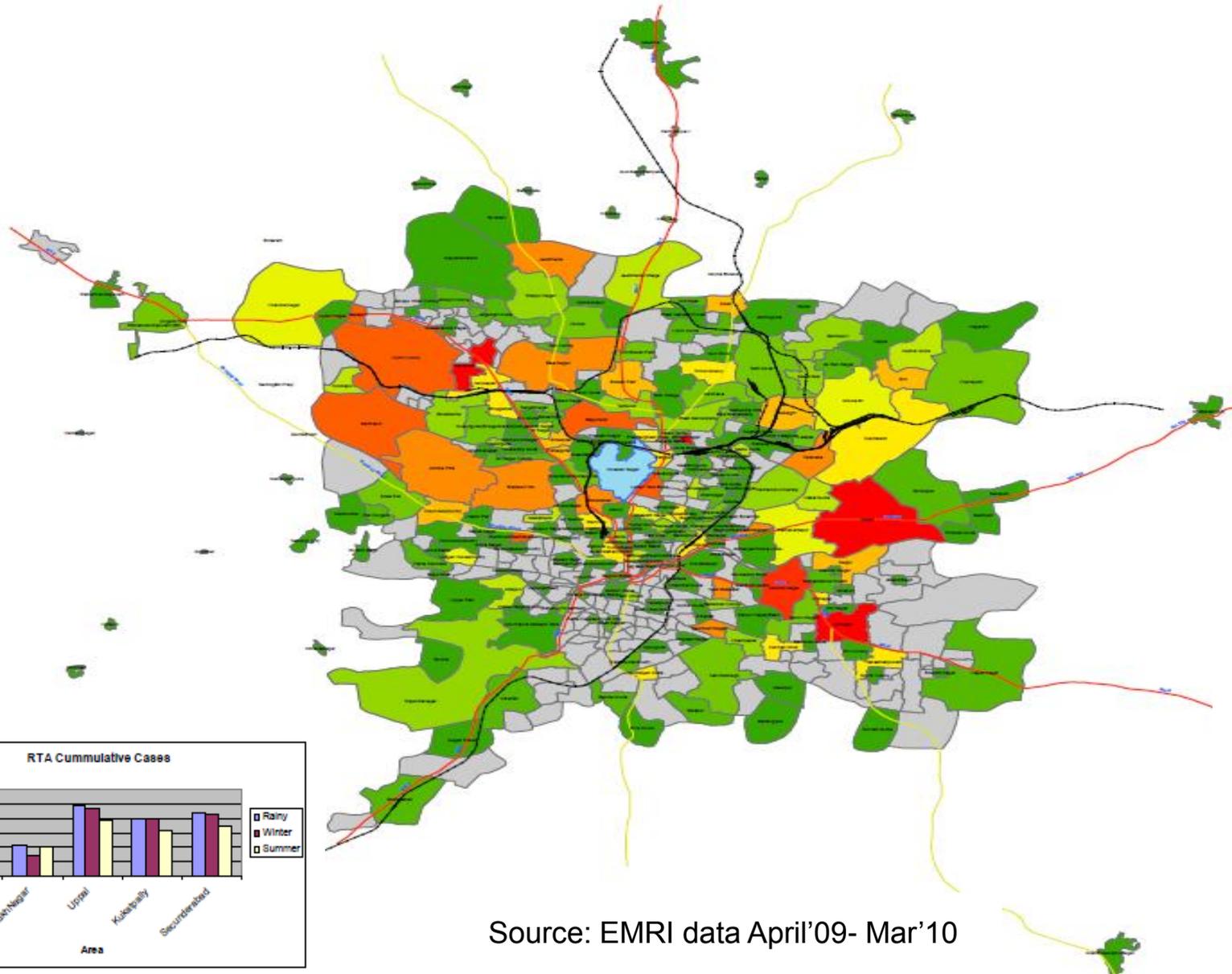
REACHING THE UN REACHABLE



IMPROVING THE ACCESS



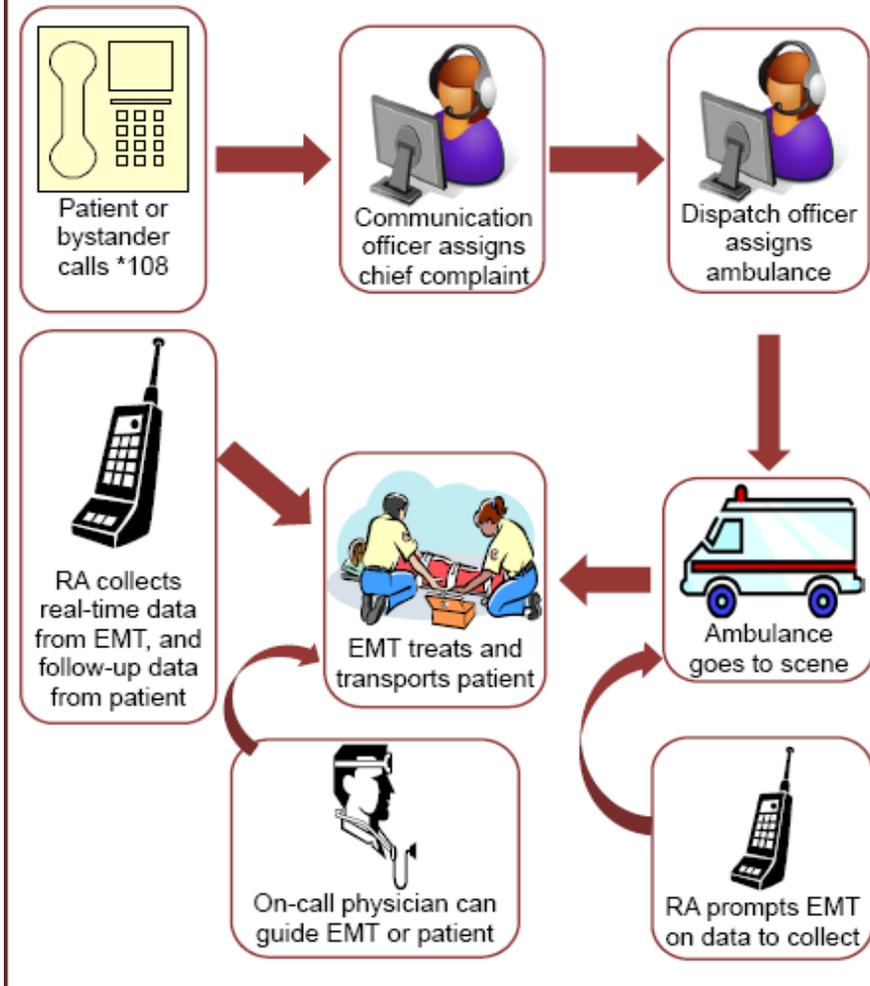
Hot Spots (RTA Cumulative) for Hyderabad



Source: EMRI data April'09- Mar'10

On-Line Medical Research

OLMR Methods



The screenshot shows the REDCap interface for the OLMR India - Seizures 0-1 project. The interface includes a navigation menu with options like My Projects, Project Home, and Project Setup. The main content area displays the project name, study info, and a list of data collection instruments. The 'Study Info' section shows a video recording of the data entry process. The 'Data Collection' section includes a Record Status Dashboard, Add/Edit Records, and a list of data collection instruments such as Study Info, Demographics, Contact Info, Transport, Illness Description, Physical Exam, Medical History, Prehospital Interventions, Followup 48hrs, and Followup 30day. The 'Applications' section includes a Calendar, Data Export Tool, and File Repository. The 'Data Search' section allows users to search for records by selecting a field to search and a search field.

Iron Rod pierced case

Date : 10-10-2010

Place, state : Tiruppur, Tamil Nadu

- Victim Name : Unknown+1 victim
- Case Summary : This is a case of RTA. Bus to Bus Collision. One of the victim had a steel rod of 15 cm shooting into the upper part of his left chest. Pre hospital care was given by our associates as follows -15 cm rod was reduced to a 4.5 cm using the cutter in the ambulance. Pain killer & O2 was given with the ERCP 's advice. Associate continuously advised the victim that he will be fine, giving him mental strength (in order to avoid health complications). Shifted the victims safely in conscious condition to the hospital
- Admitting Hospital : Palladam GH.



EMT : D.SREENIVASAN

Pilot : G.KALAISELVAN

1. **Title of the Project:** System for Early-warning based on Emergency Data (SEED)
2. **Investigator:** Dr. G.V. Ramana Rao
3. **Co-investigators:** Dr. Biranchi Jena
Mr. Suresh Murthy
4. **Subject key words:** Syndromic Surveillance, Early Warning system, Disease Outbreak
5. **Study type:** Community based survey, Algorithm and System development

Figure 3: Spatial distribution of AUF reported to GVK EMRI from Srikakulam during 2007-8 and 2008-09.

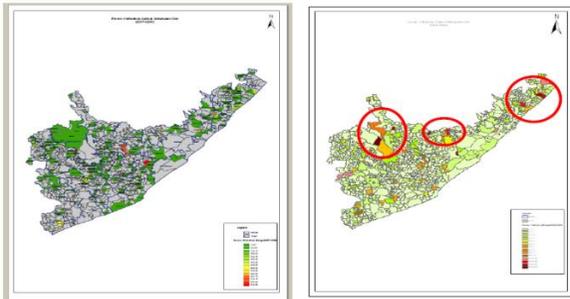


Figure 4: Spatial distribution of AUF reported to GVK EMRI from Anantapur during 2007-8 and 2008-09.

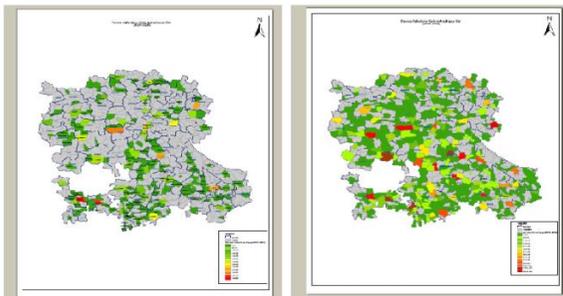
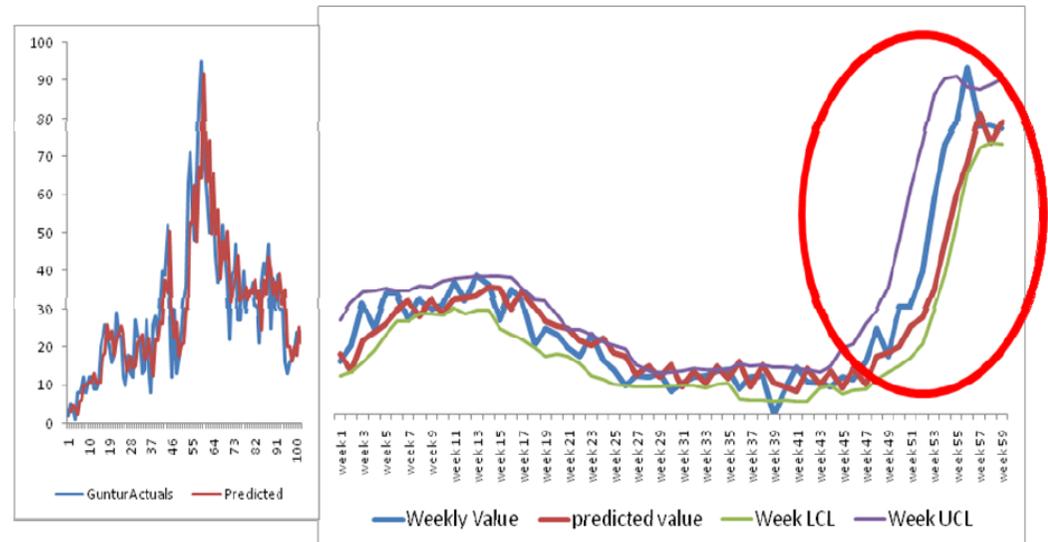


Figure1: The Model building phase and the test phase results of the system



Model Phase-
April 2007 to July
2009

Test Phase: August 2009 to September
2010

Cardiac Emergencies Monitoring Systems (CEMS) Project Real time Monitoring Data in East Godavari,



Feature Information

Name: [END LABEL](#)

Feature Type: Unknown Point Feature

Geometry: Point location: 81.8665100000 16.9621300000 (Lat/Lon: 16° 57' 43.6680" N, 81° 51' 53.4360" E)

Map Name: live_cases.shp

Right click on an entry for more options (i.e. open URL, etc.)

Attribute	Value
LATITUDES	16.96213
LONGITUD	81.86651
FORM_CODE	EICL0141
INCIDENT_I	8,115,429
RECORD_TIM	11.15
MANDAL	Rajahmundry
DISTRICT	East Godavari
AREA	urban
POSTAL_COD	533,101
GENDER	male
AGE	58
CURRENT_MA	currently married
EDUCATION	15
OCCUPATION	Retail employ
JOB_TYPE	physical active
RELIGION_T	hindu
CAST	oc
REALIZECODE	
TIME	
WHEREID/DHE	
ANNULA_INC	20,000
HEIGHT	168
WEIGHT	84
ECONOMIC_S	white card
RECONGNIZE	22.00
MEDICL_HIS	D+HTN
PT_HABITS	AL
HISTORY	2
TIME_SYMPT	22.00
AMBULANCE_	22.05
INTIL_YES	breathlessness
INITIAL_DU	
ASSOC_YES	breathlessness
ASSOCIATE_	



 **Harvard
Business
Review**

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

AN EXCERPT

“ 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”



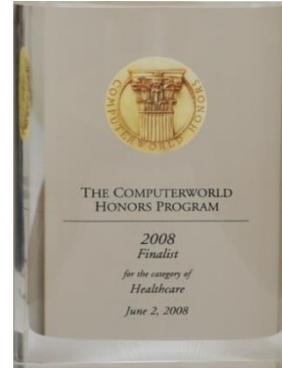
AWARD WINNING – GVK EMRI



IT User Award



CSI Nihilent e-Governance special Jury Award



Computer World 2008



ICONGO



eINDIA 2011



Nasscom 2012



Marico 2012



PMI- 2012



Global CSR Award- 2013

1. Nasscom-CNBC Best IT User Award 2008
2. CSI Nihilent e-Governance Special Jury Award
3. The Computer World 2008 finalist in Health category
4. Best NGO Award – ICONGO, 2010
5. GVK EMRI – 108 Service wins 7th eINDIA award for enabling IT in Saving Lives, 2011
6. Nasscom 2012 – Multi stakeholder partnership
7. Marico - Innovation for India Awards 2012 for public service– 30.3.2012
8. PMI Award - 13th April 2012
9. GVK EMRI – 108 Service wins GLOBAL CSR EXCELLENCE & LEADERSHIP AWARD 2013 in Best use of CSR Practices in health Care.



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 4 seconds and Saving 1 Life every 5 minutes

EMS IN INDIA IN THE YEAR 2020- A Vision Ahead

- Over 1.5 million lives saved* annually
- ~50,000 new jobs created at EMT, pilot and call centre cadre
- National emergency management infrastructure to cater to over 75,000 daily emergencies
- Improved public health services at Government hospitals based on back-pressure created on the system
- Optimized deployment of critical State resources (fire, police) based on emergency research
- Universal Awareness and Presence Across India

* Assumes 25% market share for GVK EMRI and 3 lives saved for every 40 medical emergencies attended to by GVK EMRI



THANK YOU

**We are an Innovative PPP
(Public Private Partnership) with a Proven
Service Delivery Model to provide Emergency Response Services**

