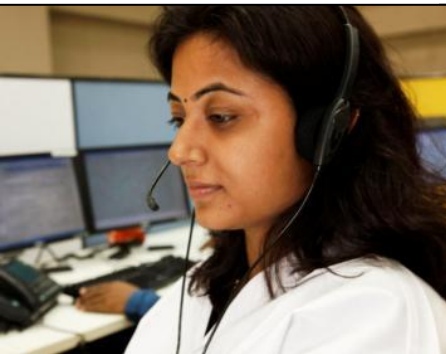


GVK Emergency Management and Research Institute

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

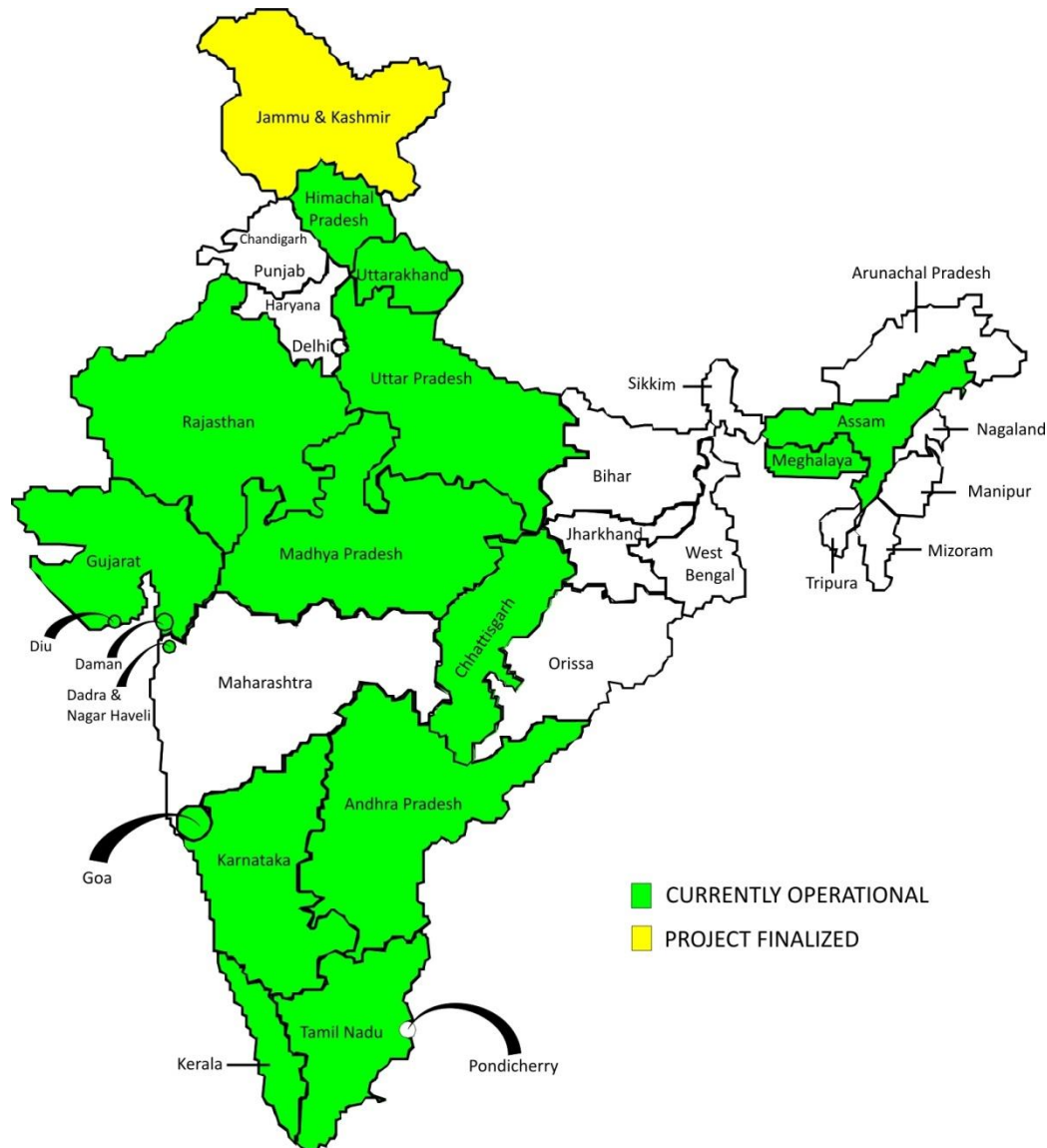


*Defined as lives that would be lost in the absence of GVK EMRI intervention. Verified by internal doctors (ERCPs)

**NENA refers to National Emergency Number Authority, USA

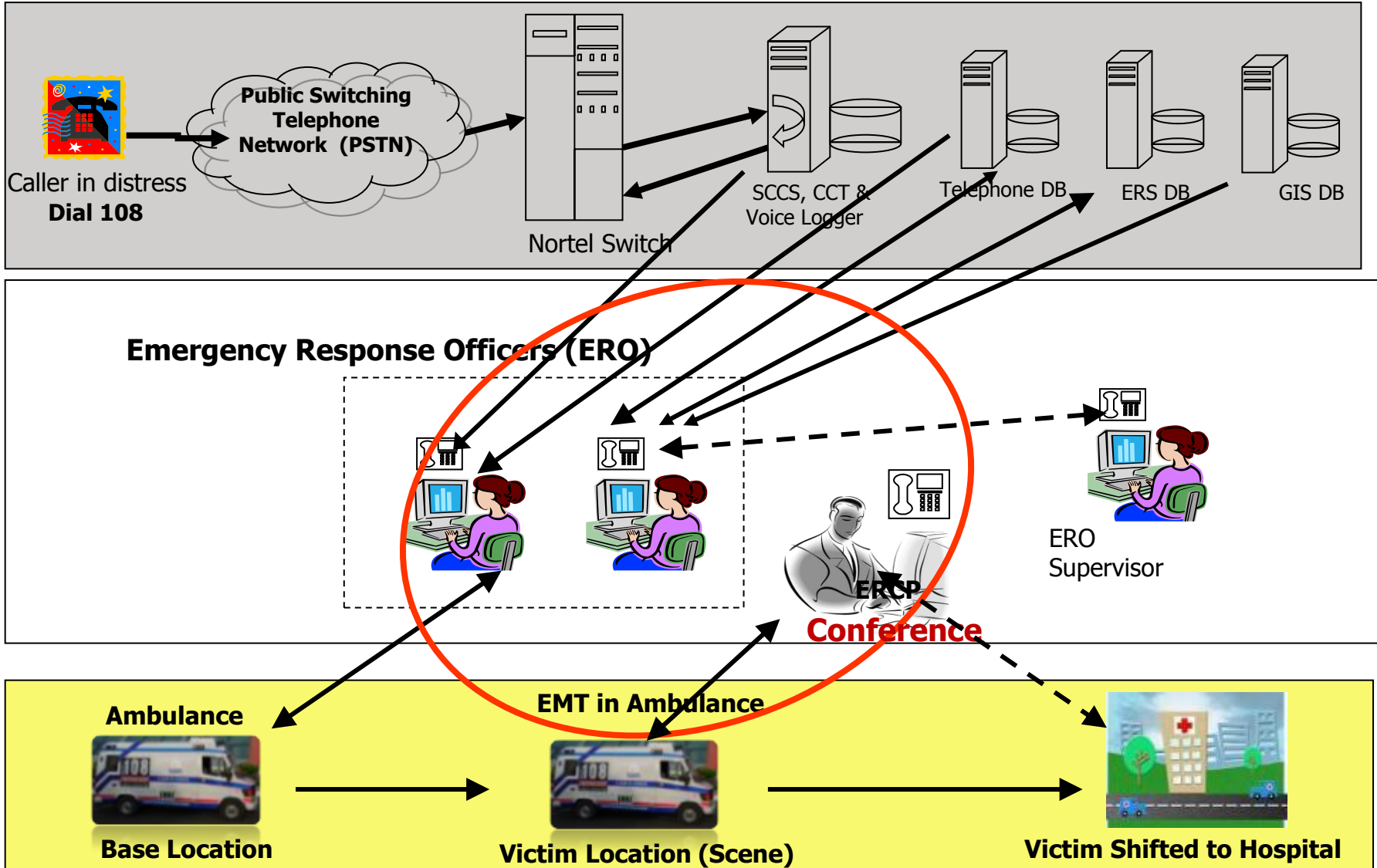
Source: GVK EMRI

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



USE OF TECHNOLOGY

COMPUTER SERVER ROOM

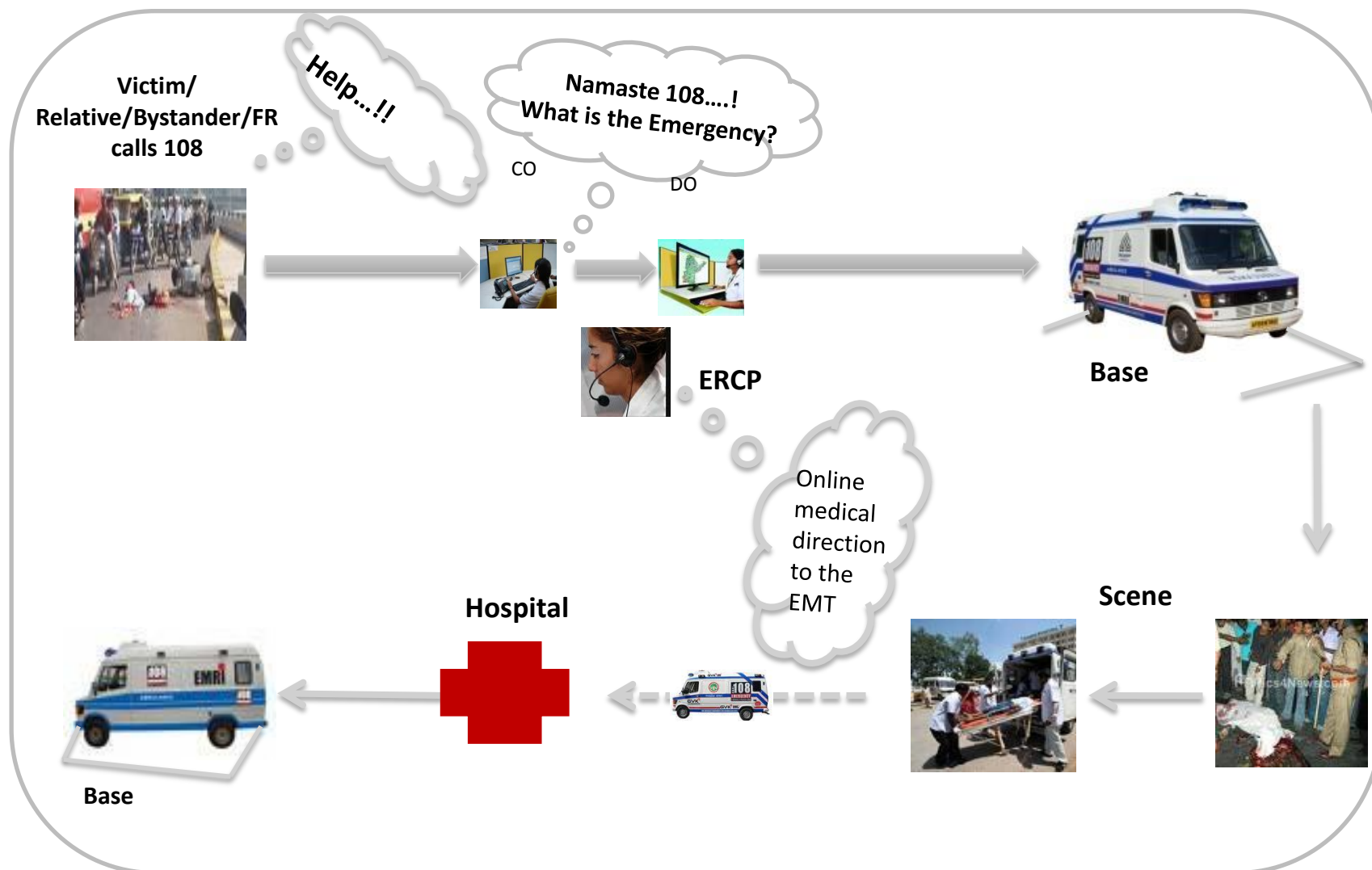


INNOVATIVE PROCESS



- 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



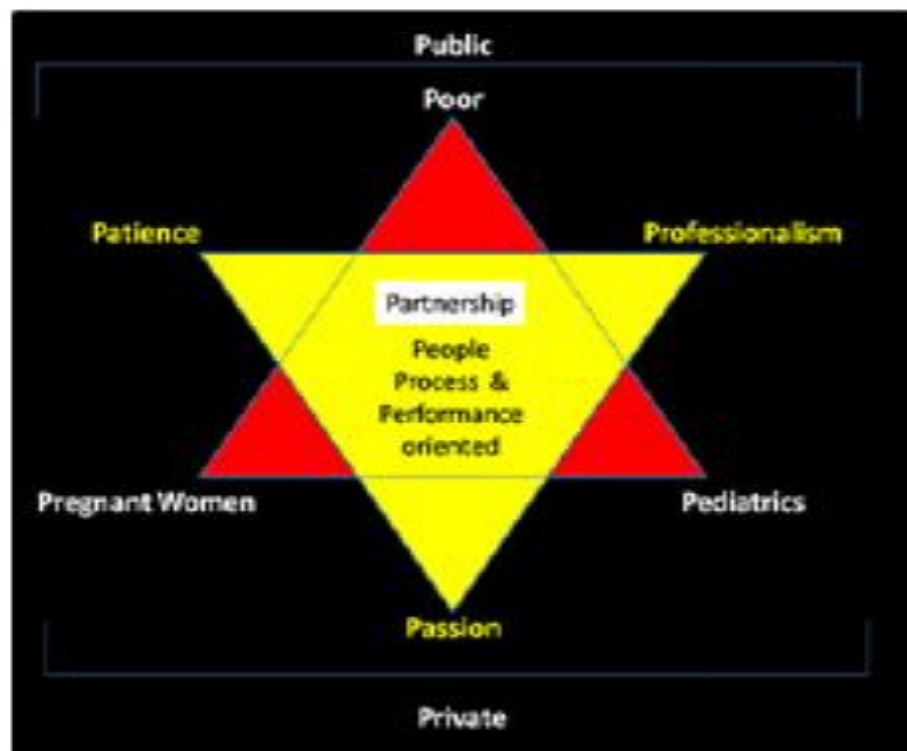
Cost effective
ambulances
to provide quality
care
for Indian
emergencies
with facilities for
rescuing and
balancing patient
care with public
safety and patients
relatives comfort



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
•••



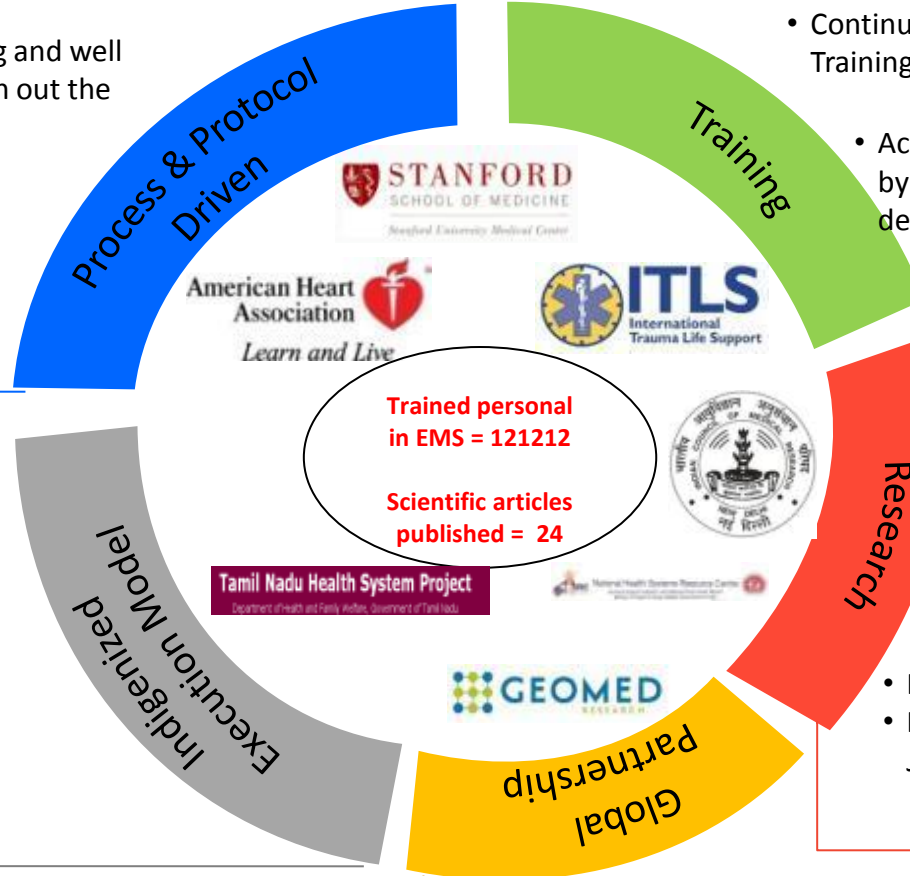
Singapore Health
Services

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

- **Active global partnerships to continuously innovate and improve care delivery**



Adobe Acrobat
Document

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 ..

Size	<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
Speed	<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



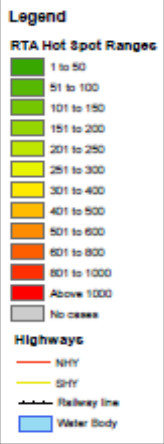
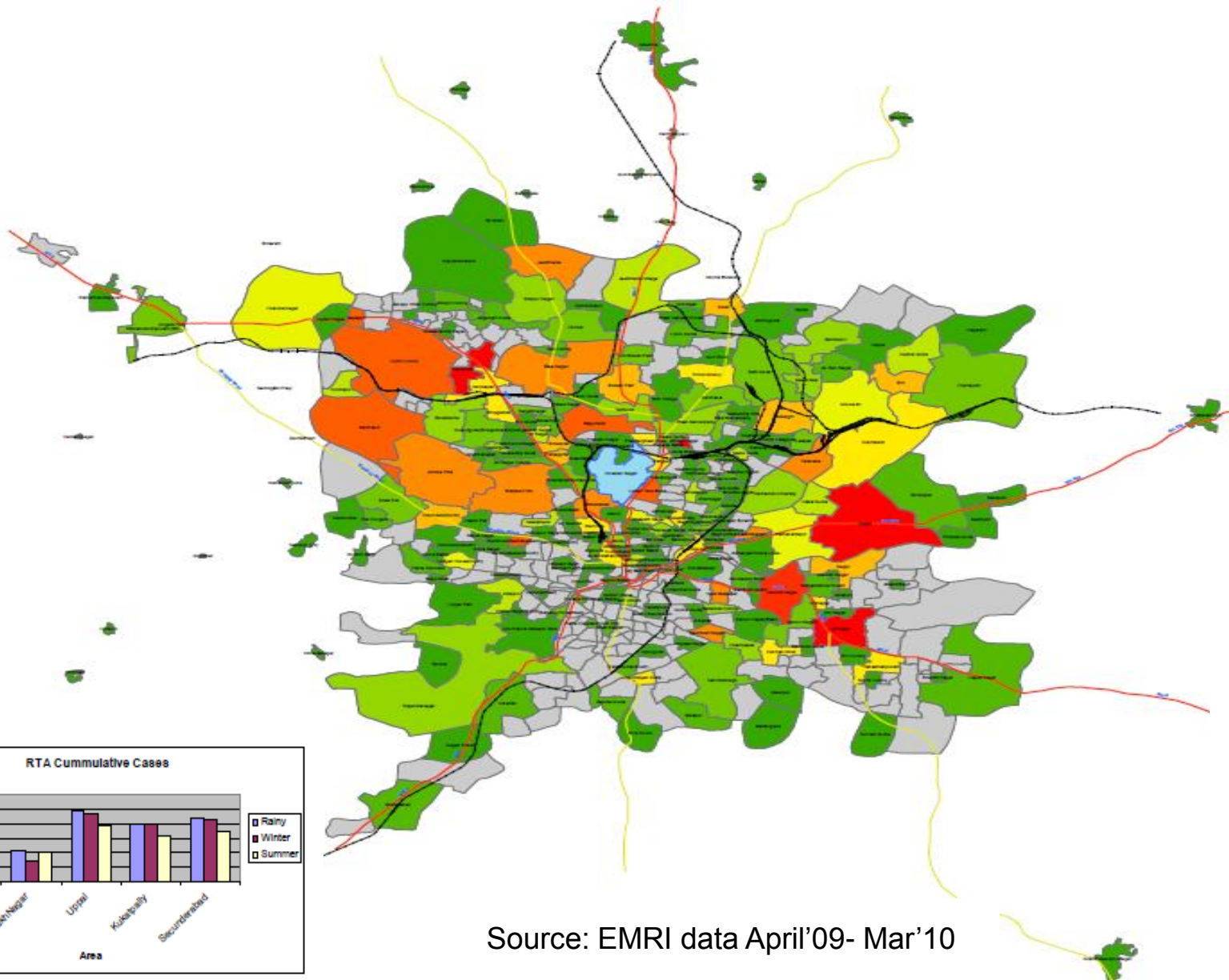
REACHING THE UN REACHABLE



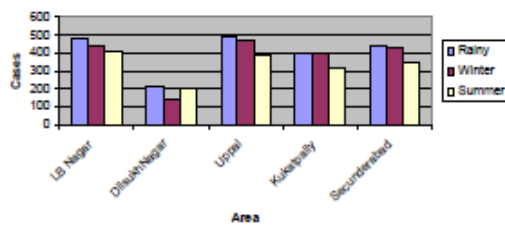
IMPROVING THE ACCESS



Hot Spots (RTA Cumulative) for Hyderabad



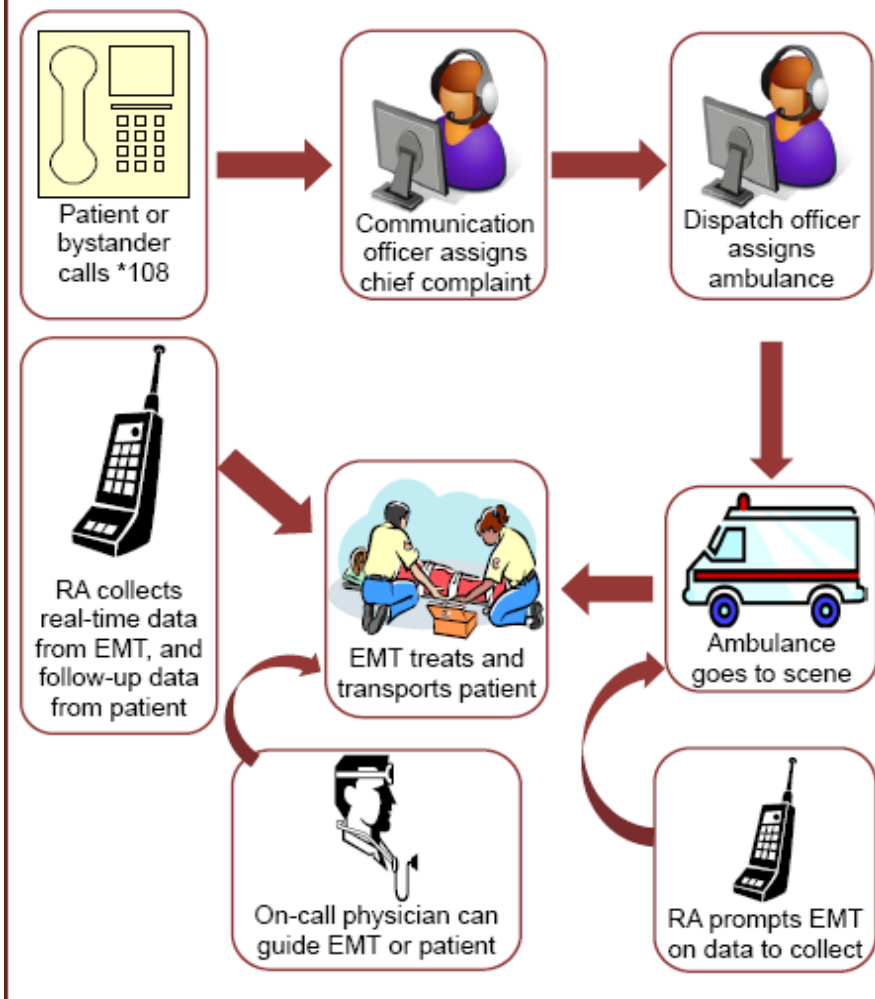
RTA Cumulative Cases



Source: EMRI data April'09- Mar'10

On-Line Medical Research

OLMR Methods



The screenshot shows the REDCap (Research Electronic Data Capture) interface for the "OLMR India - Seizures 0-1" study. The interface includes a sidebar with navigation options like "My Projects", "Project Home", and "Project Setup". The main content area displays the "Study Info" section, which includes a "Data Collection" status and a "Record Status Dashboard". The dashboard shows a total of 494 records, with 118 incomplete records and 476 complete records. There are dropdown menus to select records and a text box to enter a new or existing incident ID. The bottom section shows a "Data Search" area with a dropdown to choose a field to search.

Iron Rod pierced case - TN

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

The screenshot displays the Microsoft Excel interface with a spreadsheet titled "November - Daily reporting Calendar - Microsoft Excel". The ribbon at the top includes tabs for Home, Insert, Page Layout, Formulas, Data, Review, and View. Below the ribbon are various toolbars such as Clipboard, Font, Alignment, Number, Conditional Formatting, Styles, Cells, AutoSum, Fill, Clear, Sort & Filter, Find & Select, and Editing. The spreadsheet itself has columns labeled B through AB and rows numbered 1 through 23. Row 1 contains the title "Training Calendar for November, 2013 - Madhya Pradesh". Rows 2-3 define headers for training programs and dates from Friday to Friday. Rows 4-6 show initial planning data for EMT Foundation, including planned counts and actual completion status. Subsequent rows (7-9) cover EMT Refresher, GCP, and BLS courses. Rows 10-18 include BLISO, ITLS, Pilot Foundation, and Pilot Refresher. Rows 19-23 cover ERCP Induction and Instructor induction. A small cursor is visible over cell K12. At the bottom, there's a taskbar showing other open applications like emicresearchthail..., Inbox - Microsoft..., Windows Explorer, qtwoemilcgvr (2), and Search Desktop, along with system icons indicating it's 11:33 AM on 11/28/2013.

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.

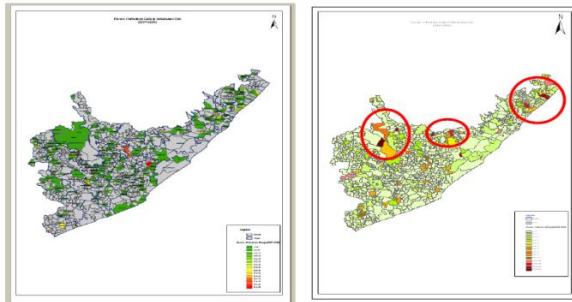


Figure 4: Spatial distribution of AUF reported to GVK EMRI from Anantapur during 2007-8 and 2008-09.

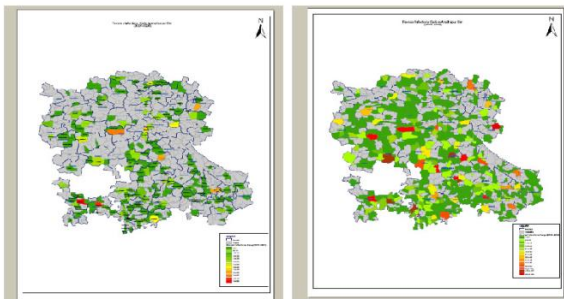
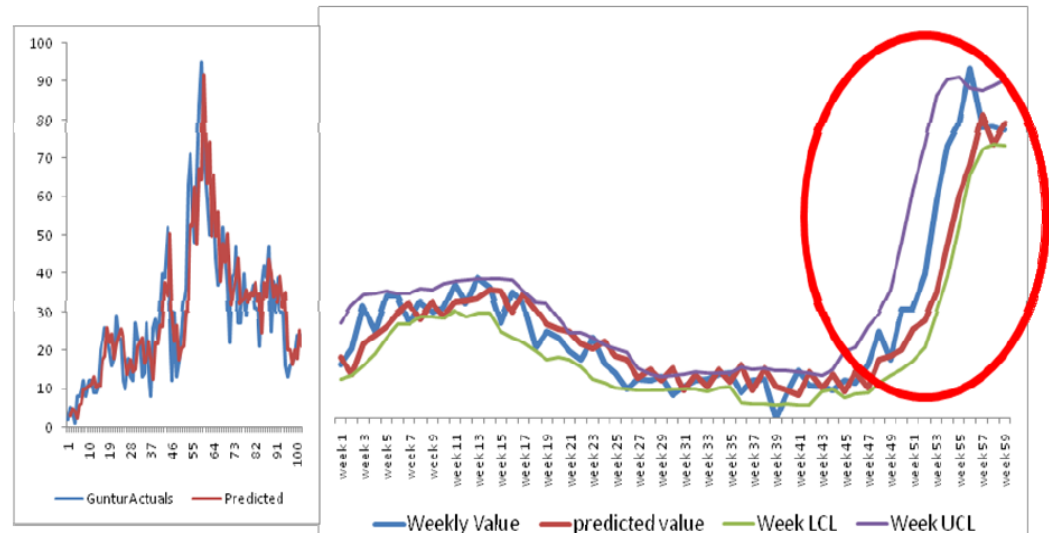


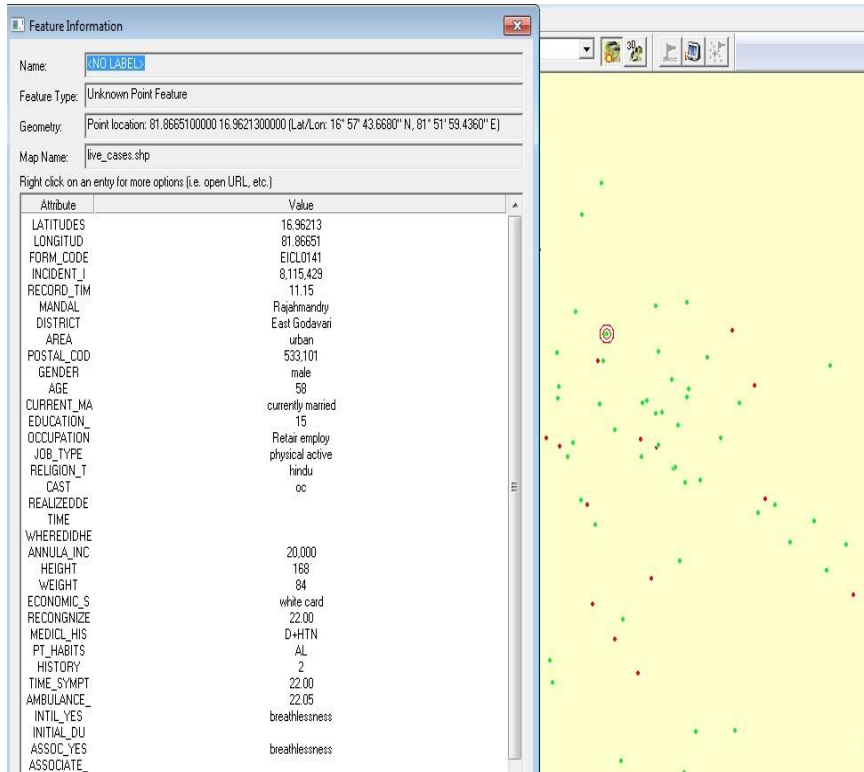
Figure1: The Model building phase and the test phase results of the system



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,





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”



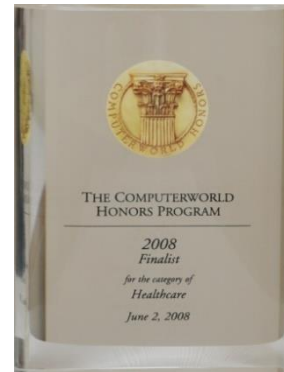
AWARD WINNING – GVK EMRI



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**

