# Kolkata Medical Emergency System & Services (KMES): An efficient, responsive, integrated & sustainable model of Medical Emergency

Kolkata (Next city is Bangalore), IndiaKolkata, India
Rajib Sengupta



**Year Founded:**
2013
**Organization type:**
hybrid
**Project Stage:**
Start-Up
**Budget:**
$100,000 - $250,000
Website:
http://www.kmes.in
**Twitter:**
https://twitter.com/kmeslifeline
**Facebook:**
http://www.facebook.com/kmes.in

SHARE

- Citizen participation
- Health care
- Disaster relief & crisis management
- Technology

## Project Summary

### Elevator Pitch

**Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.**

Aims to strengthen,standardize & integrate isolated emergency services with varying capability under a centralized medical emergency system to help co-ordinate the emergency retrieval as well as empower citizens for crowd-sourced quick response to cater to road accident victims within golden hour.

**WHAT IF - Inspiration: Write one sentence that describes a way that your project dares to ask, "WHAT IF?"**

What if we can had a crowd-sourced Medical Emergency System, like 911, in India for road accidents?

### About Project

**Problem: What problem is this project trying to address?**

With increasing urbanization in absence of Govt-owned 911 system,medical emergency is provided by multiple,isolated providers with varying capability,resulting in an inefficient emergency management system.During road accidents victim receives no paramedic care & transported in public transport to a hospital. It may not be the nearest, and may not have proper emergency facilities & products(blood) available,causing serious delay & loss of life.

**Solution: What is the proposed solution? Please be specific!**

Instead of introducing new service, integrate & enhance the existing isolated emergency providers,to create a centralized, inter-operable, standardized Real-time Medical Emergency System that seamlessly connects "Sense","Reach","Care",the 3 pillars of medical emergency.The system accessible via internet & mobile will empower citizens for crowd-sourced quick response while a state-of-the-art emergency control room,sustained using an freemium business model,will provide paramedic supported emergency retrieval to all road accident victims free of cost within golden hour.The 3 resources of emergency to be integrated-1.Hospital Emergency/ICU,2. Ambulances & Paramedics,3.Blood Banks & Donors followed by citizen awareness.(More:kmes.in/about.html)

### Impact: How does it Work

Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.

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An accident occurs on a busy road.A passer-by aware of KMES,calls Emergency Centre(EC).EC using GPS enabled Android app locates & informs the nearest available networked ambulances.As soon as an Ambulance driver accepts the message confirming it's availability,EC contacts him to convey details,such as exact spot,nearest Hospital with availability & shortest direction.EC will also send SMS to all volunteers who is paramedic trained & registered.If one of them is nearby & available,by the time Ambulance arrives at the spot,s/he will make the area secure & stabilize the victim. If none is available,as the driver and/or helper will be paramedic trained,they will be able to stabilize the victim and transport the victim to the nearest Hospital.

**Impact: What is the impact of the work to date? Also describe the projected future impact for the coming years.**

Phase I of the project in Kolkata,supported by Rockefeller Foundation, was started in 2013 as a pilot project with 2 hospitals.But due to interest from other hospitals & public,we increased the scope to include all major hospitals of Kolkata.It was launched on Feb 26th(http://goo.gl/YK37EJ) with 15 hospitals, showing availability of Intensive Care Unit(ICU/CCU) by type(NICU, CICU etc).The usage has been on average 20-30 users.A survey among users indicated that next requirement is quick transportation as patients have to wait long for a Hospital ambulance to arrive,without being aware that a private ambulance is sitting idly next door.In another survey,Hospitals felt that onsite paramedic care would have reduced mortality & morbidity rate by at-least 25%,specifically in road accidents.As such in Phase II,started on March 1st,we are concentrating on Ambulance & building a paramedic pool.

**Spread Strategies: Moving forward, what are the main strategies for scaling impact?**

At 3 Levels: Overall Universal Health Care:In India,HealthCare system is deeply divided/biased based on social & economic condition of patient,which impacts severely at time of emergency.KMES disrupts this bias by providing same data & service to everyone during emergency,as it is a specific medical condition which has the legal & ethical backing. At Emergency Provider level:Implicitly makes them more accountable by bringing them in the network, so that they act on the best interest of patient At Citizen Level:Implicitly nudges citizens to be aware, empathy driven & be a Good Samaritan

---Sustainability---

**Financial Sustainability Plan: What is this solution's plan to ensure financial sustainability?**

While the crowd-sourced response is self-sustained,the emergency coordination is sustained by a Freemium model:Provide value-added services(VAS) to users who need it & can afford it and use the revenue for free basic services,such as retrieval of road accident victims.The VAS's are-1.Home based medical care & warranteed ambulance in emergency for users with wearable monitor(Elderly patients)2.Web/Mobile booking & Paid Ad for subscribed Health Org

**Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?**

In most cities, the usual route to solve medical emergency is to introduce new Ambulance fleet (public or private)without fulfilling the pre-requisites (e.g:paramedic workforce,real-time information from facilities etc). Setting up a city-wide Ambulance system is financially prohibitive & logistically difficult(competes with existing services,local political issues). Also to operate & maintain quality,they either have to charge thus excluding road accident victims or need to be funded/operated by the govt.An "Ambulance only model" cannot be the solution for a central medical emergency system.

---Team---

**Founding Story**

In 2010, my(Rajib) school friend, Dr Tanmay Mahapatra,who is a Critical Care Physician in Kolkata(my birth place),visited us in our house in Florida for a trip to the Florida Keys.On our way,just in front of us,two cars collided & a passenger from the back seat was thrown out of the car. Being a physician,Tanmay rushed to the scene & was concerned about the victim's survival. But he was amazed to see that within 5 minutes an 911 ambulance arrived with all proper equipment and well trained paramedic,who quickly brought the situation under control, stabilized the patient & transported her.When I explained 911 system to Tanmay, his instant reaction was to have a system similar to this in our hometown Kolkata & KMES was born!!

**Team**

Our org is setup as a lean group with 2 arms:1)HealthCare Research team led by Dr. Tanmay Mahapatra - responsible for identifying HealthCare issues in India and 2)Technology & Operations team led by Rajib Sengupta - responsible for ideation & implementing solutions to bridge the gap. KMES project is a classic example of this workflow. Outside this core team, we have a strong Advisory team of Emergency Physicians & Opensource Technology experts.

---About You---

---About You---

**First Name**

Rajib

**Last Name**

Sengupta

**Twitter URL**
**Facebook URL**

---About Your Project---

**Organization Name**
**How long has your organization been operating?**

Please select

The information you provide here will be used to fill in any parts of your profile that have been left blank, such as interests, organization information, and website. No contact information will be made public. Please uncheck here if you do not want this to happen..

## Project

**Organization Country**

, Kolkata

**Country where this project is creating social impact**

, Kolkata (Next city is Bangalore)

**What awards or honors has the project received?**
**Funding: How is your project financial supported?**

Friends and family, Individuals, Foundations, NGOs, Customers.

## Supplemental

**Partnerships**

Developing relationships with local govt & providers rests at the center of KMES approach.Several Hospitals,Ambulances,Blood Banks are already part of KMES. While Govt. support has been obtained, a policy by Govt advising KMES adoption,will make it more impactful."Doctors For You" is our partner in Paramedic Training. For Technology we are partnering with Opensource communities(e.g:DHIS2,OpenMRS,Sahana, OpenDataKit) to stop recreating the wheel.

**How does your idea encourage citizens to participate in making roads safer?**

We rely on a simple assumption:Instead of competition let's collaborate where collaboration should not be limited to institutions, but should also empower & involve citizens.We empower citizens with easily accessible realtime information,a responsive emergency centre, community emergency training,dos & don'ts in road accident & implicitly nudge them towards Good Samaritan Practices which we hope, by public pressure will be a law(goo.gl/JHuZEJ)

**Barriers: What barriers might hinder the success of your project and how do you plan to overcome them?**

The primary barrier is "Adoption by Hospitals, Ambulances & Blood Banks" which we are tackling using bottoms up approach followed by top-down approach.First, we are explaining the benefits of KMES to each organization and stressing on the optimal utilization of their scare resources. Now we are obtaining endorsement from the Government.We have obtained support from Mayor Of Kolkata and planning to meet the Chief Minister of West Bengal.

**Additional Information**
**Is your project targeted at solving any of the following challenges?**

Active citizenship: Projects that work to promote active engagement with road safety from individual citizens, pedestrians, communities, and social networks, or that use education as a tool to raise awareness and promote engagement, Technology: Projects that leverage technology to promote road safety, Infrastructure: Projects that address road or administrative infrastructure, emergency care, or financial systems.

**Would you like your project to be considered for the Bangalore People's Choice Prize?**

Yes

**If yes, how is your project applicable to the Bangalore context?**

The project due to its unique & innovative,yet practical & feasible concept is seen as a bottom-up solution for medical emergency which can be replicated across cities in India where emergency service is provided by varied emergency service providers with varying capability in absence of govt sponsored medical emergency system(e.g:911 in USA).Realizing the immense potential of the idea during medical emergency not only in Kolkata,but in any cities of developing countries,the project has been awarded three prestigious awards-1)Rockefeller Foundation Centennial Innovation Challenge award in 2012(http://goo.gl/dp5vYN) 2) 2nd Prize in Emergency HealthCare innovation in the Country's leading Emergency Service Award program conducted by AIIMS New Delhi in 2013, and 3) Recently, Grand Challenge Canada Stars in Global Health(http://goo.gl/3LWy9g).Bangalore has very similar emergency healthcare scenario where emergency services are provided by multiple isolated providers each with varying capability. While in the Hospital infrastructure side, the situation may be a little better compared to Kolkata, but the medical emergency care that starts at the site & stops at the door of the Hospital is pretty much similar.Such as, no pool of paramedics,no readily accessible information of nearest hospitals with emergency facilities/ICU availability, no blood bank availability info etc and no awareness among citizens on dos and don'ts during road accidents.We have to accept the fact that, Road accidents will remain and with increase in traffic it may only go-up, whether it's Kolkata or Bangalore.As such a centralized medical emergency system in each city is a must for providing the maximum chance for survival of a road accident victim. Due to the complex nature of Indian Healthcare(State vs Central,Pvt vs public),having a governmental centralized medical emergency system is a distant dream while a private org cannot build and sustain on it's own. As such, we need to use the power of collaboration & crowd-sourcing to build a 911 for Indian cities whether it is Kolkata or Bangalore.

**Source URL:** https://www.changemakers.com/saferoads/entries/kolkata-medical-emergency-system