Establishing an Integrated and Real-time Vector/Water-borne Disease Surveillance and Response System in Indore

(On going project)

| Lead Institution:	Partner Institutions:
TARU Leading Edge Pvt. Ltd.	Indore Municipal Corporation

Project Summary:

Integrated Disease Surveillance Project (IDSP) is a decentralized, state based surveillance program in the country. It is intended to detect early warning signals of impending outbreaks and help initiate an effective response in a timely manner. It is also expected to provide essential data to monitor progress of on-going disease control program and help allocate health resources more efficiently.

The course of an epidemic is dependent on how early the outbreak is identified and how effectively specific control measures are applied. The epidemiological impact of the outbreak control measures can be expected to be significant only if these measures are applied in time. Scarce resources are often wasted in undertaking such measures after the outbreak has already peaked and the outcome of such measures in limiting the spread of the outbreak and in reducing the number of cases and deaths is negligible.

National Vector Borne Disease Control Programme and Integrated Disease Surveillance Project: Memorandum of Understanding

In order to strengthen the above objective of IDSP, we are designing and implementing a support mechanism for urban public health workers/managers to help collect the disease occurrence data and monitor to take action on near real time basis. At present, the time taken for public health workers/managers to collect, transfer and process disease data consumes major part of their time leaving little or no time for analysis and action. Further the turnaround time for data to be collected and collated is more than a week thereby incapacitating the managers in taking timely actions to disease outbreak and preventing epidemics.
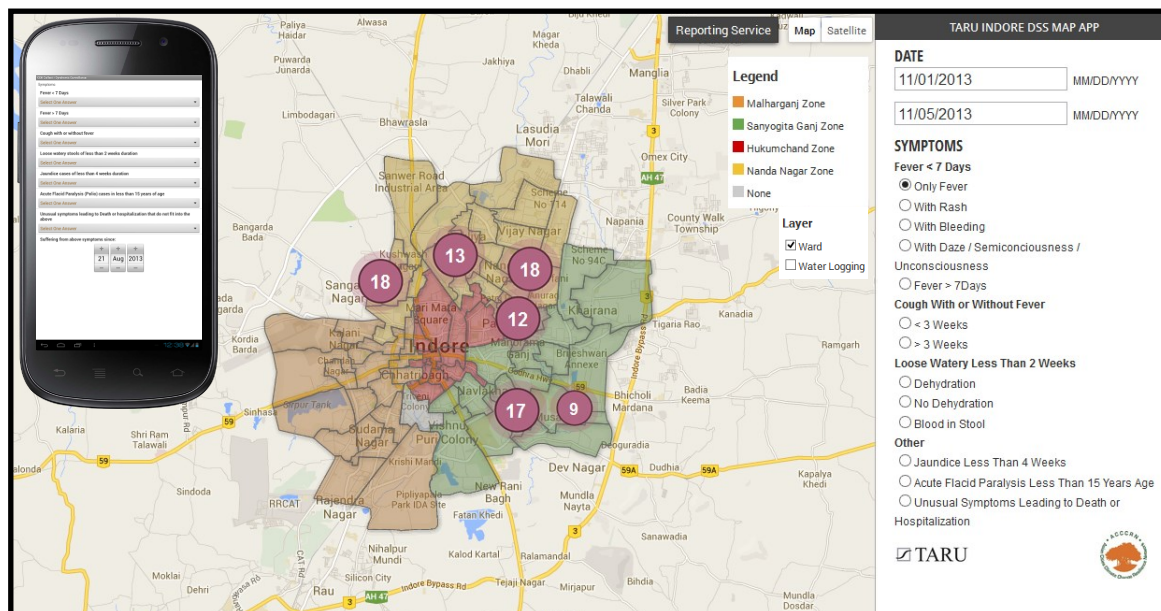
Map Application Interface, Inset: Mobile App Interface

Rapid urbanization and increased high density settlements along the risk prone areas especially river banks and drainages has led to increase in disease incidence and transmission rate. This scenario in addition to the limited staff adds additional stress to the urban health managers. In order to overcome this challenge, there is a strong need for the development of systems and tools that could facilitate the managers in monitoring large areas for disease incidences.

Over the past few years there has been advancement in the field of mobile computing. Currently, in India more than 70% of the population own and operate mobile phones. This number is second highest in the world, next to China. This mobile technology can be used for collecting disease information across the city and the district on a near real time basis. Further, the use of mobiles will also help reduce the paper work. This system, if implemented will increase the efficiency of the data collection and will also help Ward level ANMs/Doctors/Laboratories and other private hospitals and practitioners/laboratories to provide required data to the concerned IDSP authority with ease.

Objective:

Our objective is to facilitate the existing disease surveillance cell in establishing a state of the art near real-time disease surveillance system. This system will not only help in identifying and addressing the disease information but will also help in identifying associated information such as location of slums, water logging areas, key environmental conditions, etc. which can help decision makers in taking informed decision.

To design a system that supports public health workers and managers in collection data, monitoring, reporting and responding effectively. The system help in initiating timely actions which we believe will help Indore control spread of disease and to reduce vulnerability of economically weaker segment of the society living in in slums and informal settlements.

Project Components:

This project would include the following:

1) Analysis of existing system
    a. Procedures, protocols and operations of urban public health surveillance and action
    b. Protocols and operations of Municipal Corporation's malaria surveillance, water logging surveillance and action mechanism.
2) Develop effective disease surveillance system and develop efficient response mechanisms
3) Testing of the system
4) Training and Capacity Building
    a. Training to NGO
    b. Training to Medical Practitioners
    c. System improvements based on feedback
    d. Training to Health Officers
5) System integration with other services and programs

Implementing Approach:

The system design was based on detailed study of policy, programs and existing working mechanisms of urban health professionals within government and NGO's. We have currently developed and tested the surveillance tools in Indore with the consent of Municipal Corporation and State's Integrated Disease Surveillance Program Director. With the results in place, we are hoping to mainstream the use of this tool/ technology for integrated urban services monitoring including urban health in Indore district. Also, this system will help in other cities in India (including Municipal Corporations) for implementation and monitoring of the upcoming National Urban Health Mission (NUHM).

Key Achievements:

1) Report on functioning and bottlenecks within existing health surveillance system.
2) Developed and tested disease surveillance tools (mobile & computer application) in 600 slums within Indore.
3) Developed mapping application to geo locate disease incidence and water logging in near real time.
4) Reporting mechanism to auto generate contextualized reports at regular intervals.

Organisation Details:

TARU Leading Edge Pvt. Ltd is a private research consultancy organization with an expertise is primarily in six core sectors: Disaster Risk Management & Climate Change, Governance & Institutions, Natural Resource Management, Social Development, Urban Development, and Water, Sanitation & Hygiene. Within these sectors we undertake policy analysis, strategy development, action research, programme design, project management support, assessments and evaluations.

ACCCRN was launched in 2008 and is funded by The Rockefeller Foundation as part of their 9-year initiative aimed at building Climate Change Resilience. Climate change resilience is the capacity of an individual, community, or institution to dynamically and effectively respond to shifting climate impact circumstances while continuing to function at an acceptable level. Simply, it is the ability to survive, recover from, and even thrive in changing climatic conditions. ACCCRN works at the nexus of climate change, vulnerable and poor communities, and urbanization.

Indore Municipal Corporation is the governing body of the city of Indore in the Indian state of Madhya Pradesh. The municipal corporation consists of democratically-elected members, is headed by a mayor and administers the city's infrastructure, public services and police. Members from the state's leading various political parties hold elected offices in the corporation