

# *Real-Time Biosurveillance Program*

## Suwadana Center Research Assistant Training Workshop



Sarvodaya



The scope of this report is to share the notes from the meeting of the 16 Research Assistants (RAs), at the Kuliyapitiya Sarvodaya District center 23 – 25 April, 2009. This is the second workshop to be held in Sri Lanka as part of the pilot project: Evaluating a Real-Time Biosurveillance Program (RTBP), since the project started in July 2008. Prior to this workshop a “health care worker planning meeting<sup>1</sup>” took place in Kuliyapitiya in the month of October 2009.

**Key Words:** Community, m-Health, Disease, Epidemiology, Surveillance, Mobile Phone, Statistical Data Mining, Alerting, Information, Communication, Technology, Capacity building, Sri Lanka

### Workshop Goals

- Reiterate the goals of the Real-Time Biosurveillance Program (RTBP) research
- Orient and conduct a refresher course on Suwadana Center operations
- Provide training on SMS and GPRS for communicating with mobile phones
- Introduce and train use of the m-HealthSurvey mobile application for data collection
- Give an overview of the analysis and alerting components of the RTBP
- Visit a healthcare facility to identify the data extraction points and documents

### Day 1: Primary Health Care Training



The project researchers determined that it was important to integrate the RTBP work in to the present Suwadana Center portfolio of services to make the program effective. As a result the new recruits had to be trained on the Suwadana Center operations. Therefore, the first day of the workshop was devoted to re orienting the RAs (also known as the Sarvodaya Suwadana Center Volunteers) with primary health care, Suwadana center duties, ethics, roles, and responsibilities.

<sup>1</sup> Planning workshop report can be found here - <http://www.lirneasia.net/wp-content/uploads/2008/10/lk-hcw-plan-meetg-rpt.pdf>

After lighting the ceremonial oil lamp by distinguished visitors Mr.P.V.Ariyawansa delivered the inaugural speech welcoming the guests and explaining the purpose of this 3 day workshop.

Then Dr. Agbo from the MOH's office Kuliyaipitiya gave a lecture to the volunteers about the occurrence of most common communicable diseases in the Kurunagala District and the preventive and remedial actions that could be taken to minimize the spread.

After that Mr. Ravindra Kandage (Director, Shanthi-Sena, Sarvodaya), Mr.P.V.Ariyawansa (District Co-coordinator/ Executive Assistant –Sarvodaya) and Miss.Pubuduni Weerakoon (Coordinator/RA, Sarvodaya) had a discussion with the volunteers as to how the problems that occurred in the Suwadana Centers could be solved and how future actions could be taken .Further discussion was held as to how the RTBP Project could be continued in the future.

Finally Dr. Wasantha Herath from MOH's office Kuliyaipitiya gave a lecture to the volunteers demonstrating the usage of following items: Glucometer, Pressure Meter, Urine test, Body Mass Index.

## **Day 2: m-HealthSurvey training**

On the second day of the workshop the RAs received a brand new Nokia 3110c mobile phone through the project. RAs would use their own sim cards, which the project will top up with approximately US\$15 per month to spend on activities related to the project.

The objective of the second day m-HealthSurvey training attempted to achieve the following

- Get oriented with mobile SMS, MMS, camera, and other features
- Receive an introduction to the m-HealthSurvey operator manual
- Activate GPRS on mobile phones
- Download m-HealthSurvey from a WAP site
- Download the look up lists such as disease, symptoms, signs, location types, and person types
- Add individual profiles in own mobile
- Define the working locations in app
- Send health survey record, i.e. conduct silent-tests
- Introduce RAs to the Monthly Journal (see Appendix A)

The training included Sarvodaya Kurunegala District's Divisional Coordinators overseeing the villages participating in the project. The RAs and Divisional Coordinators combined formed 4 group naturally divided by their division, with 4 – 6 persons per group.

First to get oriented with the phone, each group took pictures of each other and exchanges their phone numbers to store in the phone creating a group to communicate through channels such as voice, SMS, MMS. They took turns sending each other SMS and MMS. Given that 90% of the RAs were youth who already owned a mobile phone were quite familiar with standard mobile hand held features and were quick to adopt to the Nokia 3110c.



Secondly they had to call customer service of their mobile service providers to receive the GPRS and Internet settings (usually sent via SMS with streamlined installation). Two of the Tigo users had to wait for 24 hours before they could access the internet but Mobitel and Dialog users did not. However, the Dialog sim card holders had to wait for 20 – 30 minutes before getting the connection settings and authorization. The entire exercise took, at least, 1 hour to complete.

The m-HealthSurvey, hosted on a server at the Indian Institute of Technology, was quick and easy to download on to mobile phones in Sri Lanka. The download was password protected but that did not slow down the process.

During the application configuration process, the Dialog sim holders were unable to download the look up lists. After consulting with customer service and the mobile phone vendors as well as some experimenting, it was discovered that Dialog had only sent the GPRS settings but not the Internet settings. With the GPRS it was possible to connect to the application download server but was not able to exchange data without the internet settings. Mobitel subscribers were privileged of efficient customer service. Only four of the twenty participants were able to successfully submit a health record.

The m-HealthSurvey requires that users register; i.e. setup a profile; where the data submitted will be associated with this particular profile. The registration requires that an employee ID (or other ID) number is entered. Since the RAs were volunteers and not employed the project would have to create some sort of an ID and number. The Sarvodaya District Center offered to generate these Photo IDs for the RAs. The number issued would be regarded as the employee ID for the purpose of the mobile application.

RAs were instructed on how to maintain the monthly journal, which is intended for two reasons

- 1) Obtain a signature from the supervising health official at the facilities the RA would be collecting data in order to assure the accountability of the data.
- 2) Record any other qualitative observations that would be important to the research

With respect to II (B) in the Monthly Journal (Appendix A), RAs must report any health events of interest to authorities. RAs mentioned suicide as one of the main problems in their villages, which can be regarded as a disease, and were wondering how they should combat this problem. These types of cases may not be captured in the hospital or clinic registries. Therefore, must be noted in the log but also communicated to the authorities. Moreover, the RAs should acquire knowledge on counseling the youth to prevent them from suicidal tendencies (i.e. some kind of follow up service).

### **Day 3: Field Visit to District Hospital**

On the third day of the workshop all participants took a bus ride to the Hettipola District Hospital. This hospital facilitates a male ward, female ward, outpatient care, and a dental clinic. Most patients admitted to the clinic are accident victims or carry flu like symptoms. Ward registry (both male and female) would contain the disease (if diagnosed), symptoms, and other demographic information.

Dental clinic also records each patient with diagnosis and treatment information. Outpatient facility issues a chit with patient's name and age, which is produced to the doctor; thereafter, to the pharmacy. It was identified that the wards, dental clinic, and outpatient facility are ideal points for the RAs to collect patient health data. For example, the RAs would have to shadow the pharmacy during working hours (mostly morning 9am – 12pm) to collect outpatient data, then visit the wards to collect those data, and finally visit the dental clinic for gathering that data.



After the district hospital visit everyone went to an ancient geological site called Panduwas Nuwara, a kingdom during the 12<sup>th</sup> century A.D. During this era there are recordings of mass populations being wiped mainly through mosquito born diseases. These diseases emerged after invaders from the neighboring country destroyed the water tanks (reservoirs) where pockets of water holes were breeding grounds to mosquitoes. However, villagers that were tucked deep in the jungles survived these epidemics.

## Other Remarks

Sarvodaya Kurunegala District Coordinator, Mr. P. V. Ariyawansa addressed the participants; where he mentioned that a similar project involving the use of mobile phones was initiated by Novartis but without any training and procedures simply asking the users to initiate communications on health matters with the use of mobile phones but the project failed. Also stressed that RAs should plan on devoting their time for the full year; i.e. continue to stay in project till the end.

The RAs were given the responsibility to build teams of, minimum 10, youth to assist them with Suwadana Center activities. These youth will also monitor the health situation of their neighbors and report any unusual health related findings to the Suwadana Center; i.e. RA. The project will provide a stipend for the duration of the project, only, for the RA but not for the secondary set of village volunteers.

Before the RAs can begin collecting health data, the project must obtain approval from the government and private health facilities. Actually the order should go to these facilities directly from the Deputy Director of Health Services in Kurunegala District. The order should reach the Medical Officer of Health, Public Health Inspectors, and Heads of health facilities (hospitals and clinics). Until such time the RAs will record health data they collect from their own villages by them selves as well as through the village Suwadana Center team members. This exercise will be carried out during the first two months mainly as a series of silent-tests for the data collection segment of the communication system.

Project also took a decision to avoid extracting data from Base hospitals and busy district hospitals and making a personal relationship with the staff was difficult; for full cooperation from the health facilities for data retrieval it was important that the RAs establish a good relationship with the staff members. It is easier to make personalities with staff at smaller facilities and would get their full cooperation.

An assignment of RAs to facilities with a schedule will be developed by the project for the purpose of streamlining the data collection process.

## Workshop Attendees



Organization	Names
Carnegie Mellon University - Auton Lab, USA	Dr. Artur Dubrawski (Director)
Indian Institute of Technology – Madras, India	Mr. T. Kannan (Project Officer)
LIRNEasia, Sri Lanka	Mr. Nuwan Waidyanatha (Project Director)
Medical Officer of Health – Kuliyapitiya, Sri Lanka	Dr. Vasantha Herath (MOH), Dr. Nilmini Kumarasighe (MOH)
Sarvodaya District Center – Kuliyapitiya, Sri Lanka	Mr. P. V. Ariyawanse (District Coordinator), Ms. Pubudini Weerakoon (Reserch Assistant), Ms. Prema Mallwaarachchi(Divisional coordinator-Pannala, Udubaddawa), Mr. M.M. Ariyaratne(DC-Kuliyapitiya E/W), Mr.P.A.Bandara(DC-Rasnayakapura,Weerambagedara) Mr.R.M. Dayaratne(DC-Polpitiyagama,Ganewatta)
Sarvodaya Suwadana Centers, Kuruneala District, Sri Lanka	16 Suwadana Center Volunteers (RTBP Research Assistants)
Sarvodaya Shanthi Sena Movement, Sri Lanka	Mr. Ravindra Kandage (Director), Mr. Janaka Udagedara
SoftLogic	Mr.Mahesh Perera



## APPENDIX A – Suwadana Center RA Journal

### Monthly Journal preparation Instructions

This sheet is intended for those of you who are Sarvodaya RA recruited to participate in the Real-Time Biosurveillance Program: Pilot Project in the District of Kurunegala. The information gathered through this exercise is for the purpose of the RTBP project and is not to be distributed without the consent of Sarvodaya Shanthi Sena Movement.

You (Suwadana Center Volunteer) should complete a monthly journal to record information with respect to the RTBP project and disease surveillance and notification. You may record the journal information in your native language: Sinhala or Tamil but it is preferred that the journal information is recorded in English, if possible. You will be provided with a CR notebook and a format for recording the monthly journal. Instructions below will guide you in formatting your notebook for recoding the relevant information.

On the 25<sup>th</sup> day (if holiday then the next working day) you must visit the Kuliyaipitiya District Center and produced the journal to the Ms. Pubudini Weerakoon (Research Assistant/Coordinator). Ms. Pubudini Weerakoon will discuss the journal and your month's work with you to extract and record a summary of the month's research findings. Through this exercise the project aims to understand the outcomes of the RTBP.

#### First Page or Cover of Notebook – write your personal information:

	<i>Example</i>		<i>Example</i>
Your name	<i>Nuwan Waidyanatha</i>	Telephone No	<i>0773710394</i>
Title	<i>Suwadana Center Volunteer</i>	Sarvodaya Division	<i>Wariyapola</i>
Address	<i>23 Udahamulla road, Wariyapola</i>	MOH Division	<i>Wariyapola</i>

#### Format for the Monthly Journal

- I. **Each new month** start with a new page and write the month and year on the top of the page

*Example: August 2009*

- II. **The first two pages** in each month should be reserved for documenting notes in relation to observations made in the village with the respect to Health. These notes should aim to answer the following question and you may repeat (A) and/or (B) for each different situation or observation:

(A) If you observed the increase or decrease of any diseases in your village or area, then write:

1. The name of the disease, the main symptoms reported by the patients, and the signs identified by the Physician (Doctor)
2. The number of Male, Female, and Children infected with the disease in your villages or area
3. Period (days, weeks, or months) the disease was active; the date the disease was first identified, the data the disease was contained, the data you first heard of the disease
4. Actions taken by the National Health System (MOH Division) to contain the disease, actions taken by the village (or Suwadana Center) to contain the disease
5. What were the actions or treatments where prescribed by the health authorities to cure the disease
6. If you observed an increase of patients complaining of similar symptoms, and

notified the MOH division, Kuliyaipitiya District Center, or any other authority how did you do it and what was the response received?

*Example: 23 children in the village reported symptoms of fever, vomiting, and a rash. The first case was reported on 05-Aug-2009 and has been infecting children over the past two weeks. The disease has not been identified but it is suspected to be Measles. The area PHI investigated the cases in the village and asked the Suwadana Center to notify the villagers to see a doctor as soon as they suspect the symptoms. The RA have notified all the households and educated them of the disease and the procedures they should apply.*

(B) If you received any media news, alert, notification, or learn of any disease outbreak in the country, province, district, MOH division, or village tell us about it

1. How or through what source did you receive this information:

- RTBP issued SMS, Email, or Web alert
- Local physician (doctor)
- Public Health Inspector (PHI)
- Medical Officer of Health (MOH)
- Other Government Institute
- Media – Radio, TV, Newspaper
- Word of Mouth
- Other (specify the source)

*Example: Sirasa TV 8pm News, 23-Aug-2009, Measles outbreak in Anuradhpura district, 43 people affected, first case reported on 01-Aug-2009.*

2. What actions did you take after hearing about the disease outbreak

*Example: Since it was in Auradhapura district, I telephoned the local MOH office to find out if there were cases in Kurunegala district. Since, it was not affecting Kurunegala district I decided to be vigilant and observe the situation. However, I notified the Kuliyaipitiya District Center for them to send an SMS to other volunteers. I also sent an SMS to the RA in the neighboring villages.*

III. **Third page onwards** for each month should be reserved for documenting notes in relation to observations made when collecting data from the health facilities (hospitals, clinics, etc) as well as obtaining the signature from the house physician verifying the research data collected:

(A) Write: name of the health facility, location (town or village name), date you visited the health facility to collect the data.

*Example: Peripheral Unit, Nadalgamuwa, 23-Aug-2009*

(B) Note the number of records you had recorded through the mobile phone m-Healthsurvey and note any significant cases or diseases you may have observed or any other relevant observations made during the visit.

*Example: Number of records 143;  
Significant cases: measles and children with fever; 3 patients reported snake bites,*

(C) Write: name of the house Physician and get their signature

*Example: Dr. Wasantha Herath <signature>*

VI. **Repeat Steps I, II, & III for each month**