

RTBP Report from Sri Lanka/India visit and meetings: June 2009

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Locations visited in Sri Lanka:

- MOH Kuliyatitiya (Medical Officer of Health office, Kuliyaipitiya)
- Suwadana Centre Volunteers (Sarvodaya Kuliyaipitiya District Centre)
- Respere (Sahana/CAP messaging module, Colombo)
- Colloquium (LIRNEasia, Colombo)

Locations visited in India:

- IITM-RTBI, Chennai (m-Health survey application)
- DDHS office Sivaganga (Dr. Raghupathy's office)
- PHC Thirukostiyur (Additional PHC)
- PHC Nerkuppai (Head Quarters PHC)
- PHC Keelasevalpatty (Additional PHC)

Field level record entry: Observations

There are significant differences in the level of participation among health workers entering data into the mHealth application. Some locations noted problems with the application itself in terms of entering or deleting symptom data. Other locations noted concerns with completing the treated/referral field, indicating a conflict with their professional ethics or practice in terms of treating patients.

Finding time to complete the records without disrupting current workflow may be a significant barrier to adoption for the study, as several sites mentioned this in their comments. In several locations it was apparent that some VHNs have not entered many (if any) records into the system so far.

In some locations, the level of awareness of RTBP among senior staff (manager, director level) was rather low, suggesting that more information needs to circulate through appropriate channels to raise awareness of the project and its goals.

An informal set of Time to Complete (TTC) measures were taken and results indicate a range of proficiencies in using the mHealth application. Average times were about 2 minutes per record, although this might be improved through training and practice.

VHNs at Nerkuppai also expressed some confusion about the scope of record entry.

They had believed that the requirement was for communicable diseases only; however, they were told during the meeting that record entry included all diseases.

During our meetings we learned that in some cases it might take up to four weeks for disease reporting documents to reach the MOH by current method. As such, there is little doubt that the mobile phone can reduce reporting times significantly, provided that field staff uses it reliably and consistently.

Comments

- A consistent and reliable level of record entry from the field is vital to the success of the RBTP and must be given priority attention. A more formalized training component in using the mHealth application might be effective. Such a component could include a small set of required proficiencies that each volunteer/VHN must demonstrate to an RTBP team member. Successful completion of the training might be rewarded with a certificate or other small token of appreciation. A small measure like this will help to control for different levels of competency across locations and could improve motivation to participate among volunteers and VHNs.
- It is important that record entry take place as close to real-time as possible. This is to ensure consistency across locations. It will also increase the likelihood that record entry will not be ‘saved up’ over the course of the day only to be then ignored as a burden. One important evaluation element in the study could look at how to best integrate record entry into current workflow among field staff. This could be evaluated through a comparison with a control group and assessed during follow up interviews with field staff. Time to complete (TTC) is a measure that might also be introduced in evaluation. Error rates will also be important with respect to an evaluation measure, and it will be important to develop standardized measures and then collect data in both of these areas.
- It may be useful to prepare and circulate a brief set of reference guidelines for field staff (or trainers, if literacy is an issue) explaining their role in the project and providing a clear set of instructions in terms of what is required in terms of record entry and why it is important to do so.

Applications/software: Observations

Respere has completed much of the work on the CAP module, although several remaining tasks/corrections were identified during the meeting.

There was interest expressed at all locations for an alerting system that would reach field staff with timely information about disease outbreaks, as well as other notifications. MOH Kuliyatitiya (Sri Lanka) suggested that the Disaster Management Unit (Ministry of Health) and the Rapid Response Unit would both benefit from an SMS-based alerting and

notification system.

CAP message creation will be a time consuming and possibly confusing requirement without appropriate guidelines in place. Automated CAP message generation based on direct output of T-Cube analyses would improve the relevance and timeliness of the RTBP for preventative action measures.

Demonstrations of T-Cube were generally received with interest; however, senior staff will need training if they are to be asked to use and evaluate the tool. It is not yet clear who is best qualified for such training or for that decision-making role within an RTBP framework.

A few minor concerns with the mHealth mobile phone application were noted at various locations. Chief among these are minor issues with symptom data and user feedback. In particular, users wanted a greater range of symptoms to add to their entries. A glitch with deleting symptoms from certain diseases was noted as well. Field staff also seemed to indicate that they wanted more detailed report following a record submission.

Localization of the application was mentioned at one location (e.g., Tamil version) but it was also noted that English would be sufficient for most transactions at this time.

When asked, staff members were sometimes unable to provide more detailed answers to usability questions regarding the mHealth application.

Comments

- RTBP should adopt a simple CAP template for this stage of the project. It is likely only key CAP fields need to be used at this time.
- Evaluation could include assessments of various CAP messages in long/short/text formats to identify optimum message design. Some time should be allocated to creating and testing various versions of CAP messages for the project.
- RTBP should develop automated alerting that links T-Cube analyses with CAP module. This would provide real-time alerting in addition to real-time detection. Alerts could be issued in two stages, with first stage going to senior staff who would then confirm by reviewing T-Cube reports. Second stage would be alert issued by senior staff to field staff to take action as required.
- Training requirements for T-Cube analysis needs to be considered. An evaluation component that looks at training time and performance in T-Cube analysis should be considered for the project.
- Revised versions of the mHealth application will likely solve the problems identified in the meetings. However, a detailed usability questionnaire should be designed and administered as part of the evaluation process.

Social/organizational aspects: Observations

Several locations noted the importance of building trust and reciprocity with medical staff (esp. doctors) at points where data is being collected. Volunteers mentioned that they had to make an extra effort to gain the participation of the doctor in order to be provided with diagnosis information for the project.

In other locations, social networking is taking place using email and SMS separately from RTBP. In all cases, this is taking place informally and seemingly on an ad hoc basis. Suwadana Centre volunteers also indicated that they have started using SMS for peer-based communications to share information and ask each other questions related to disease diagnosis and reporting. The DDHS at Sivaganga demonstrated their use of SMS-based notification through a commercial online service (Way2SMS) to maintain a distribution network among field staff for notification of meetings and other communiqués.

Some concerns about the RTBP taking time away from nursing and other activities was noted, and at several locations senior staff did not appear to be aware of the project when we arrived on scene.

Comments

- Ongoing communication with senior and field staff will be essential for ongoing support of the project by those organizations. Where possible, field staff should be supported and commended in their efforts to build reciprocity and trust with doctors and medical staff.
- Regular visits to Suwadana volunteers and VHNs would improve communication with RTBP management team and ensure that problems are addressed quickly.
- Unforeseen developments among field staff (e.g., peer sharing using SMS) may be significant and where it can be incorporated into the project it should be encouraged. Such activities should be documented for evaluation purposes.
- Where possible, RTBP must continue to foster (and establish where necessary) relationships with senior staff and managers at the participating organizations (MOH, PHCs, DDHS) to ensure appropriate support within the participating organizations.

Evaluation Matrix

	mHealth	T-Cube	Sahana-CAP
social	interviews and usability questionnaire	interview	interviews
content		training	
application		performance	performance
transport	cost and access factors		

Evaluation areas, based on matrix above:

1. Cost of transport as compared with current methods
2. Performance of outbreak detection and automated alerting using real and replicated data
3. mHealth application: use and acceptance of mobile phone technology among field staff
4. Training requirements for T-Cube (time, effectiveness)
5. Alerting interviews: use and acceptance of CAP-SMS delivery