

1.9 Operationalization of Real-Time Health Information Management System for Malaria in Jaisalmer District (Rajasthan)

Coordinator: *Dr. G. S. Toteja, Scientist 'G' & Director*

Principal Investigator: *Dr. A. K. Dixit, Scientist 'F'*

Co- Investigator: *Dr. M. S. Chalga, Scientist 'B', ICMR*

Collaborator: *Joint Director, Medical & Health Services, Jodhpur Zone, Jodhpur*

Commencement: June, 2014 **Duration:** Two Years **Status:** Ongoing

Funding Agency: ICMR (Translational Research Project)

OBJECTIVE

1. To operationalize the IT based Real-Time Health Information management system for malaria in Jaisalmer District of Rajasthan.

PROGRESS

Computer based information system is required for quick reporting and analysis of malaria data so as to plan malaria control in its initial stage i.e. well in advance. However, providing computer facilities at each health centre is challenge in Indian conditions. This project attempts to develop a Real-Time Health Informatics Management system which could successfully collect malaria information from grass root level health workers through their mobile phones. The callers are non-IT skilled. The study is done in a wider area (entire district).

There are 21 PHCs in District Jaisalmer. Considering one Lab Technician from each PHC, one stand by for each Lab Technician and one Data Entry Operator (if available) total about 65 health workers were identified for submitting PHC level report through their mobile phone. It was further identified that about 350+ ANMs were working in Jaisalmer District. Thus, it was calculated that around 400 calls will be received and replied by the RT-HIMS system daily. After feasibility study the desired RT-HIMS was designed. To interact with 400 callers daily, one landline or multiple landlines would not be suitable, thus, PRI ISDN line was selected to be used with RT-HIMS system. PRI Line is capable to handle 30 telephone lines. It was identified that PRI ISDN will work on a single telephone number. If a caller will call at this telephone no., his call will move to channel 1 by the PRI ISDN system and if at the same time another caller calls at the same no., he will not get the engaged tone but his call will move to channel 2. Similarly the PRI ISDN system will enable RT-HIMS system to communicate with 30 callers in parallel. The 31st caller will get the engage tone. The PRI ISDN line is procured this year.

The next challenge was to develop a IVRS software which can communicate with 30 callers in parallel. It was identified that such IVRS software are available in the market, however, they were being used by commercial companies for their marketing. These IVRS software can be configured to develop questionnaire hierarchy in human voice and to use these questionnaires dynamically by the computer system to communicate with health workers and to collect information from health workers through their mobile phones. If a toll free telephone is connected to RT-HIMS server it will facilitate health workers to connect at no cost to IVRS, anytime, from anywhere, using telephone or STD booths or their mobiles. The purchase of IVRS system is under way.

Health workers need to be given training to use interactive voice response technology to feed their report. The system will collect the real-time information from health workers through toll free

telephone, will transfer it to Database Server and would publish the baseline & real-time information, analyzed reports and maps on the website.

We then required a database with complete contact details of ANMs and Lab Technicians working in PHCs and Subcentres of Jaisalmer District. This task is also accomplished by visiting CHMO office, Jaisalmer. The health workers from all the three blocks of the district have been contacted. List of all such workers with the centre of their attachment, and their mobile numbers is prepared. This information was fed into the system and a unique code is given to each health worker. A one day workshop was organized at CHMO office, Jaisalmer to train the health workers to send the information to the system. Medical officers, ANMs, Lab Technicians of Jaisalmer block participated in this workshop.