health

Rapid Mobile Phone-based (RAMP) survey: **An innovation for health surveys**

In many surveys it often takes a long time before the survey results are released and acted upon. With a RAMP survey, the results can be available within days of completing the last interview.

The RAMP survey

The rapid spread and use of mobile technology throughout the world offers health programme managers new and exciting means of data collection. The time and monetary costs of data collection can be substantially reduced if mobile phone-based questionnaires are used in place of the traditional paper and pencil method that has been the best practice in health surveys for decades.

Over the past few years the International Federation of Red Cross and Red Crescent Societies (IFRC) has worked with partners to develop an innovative approach to designing health surveys and improving the timeliness of the entire data collection cycle. This approach has been named Rapid Mobile Phone-based (or RAMP) survey.

A RAMP survey aims to provide a survey methodology and operations protocol that will enable Red Cross Red Crescent National Societies, governments, non-governmental organizations and other partners to conduct health surveys at reduced costs, in a timely fashion and with limited external technical assistance. Using the RAMP approach, the IFRC will work with partners to build capacity in the Red Cross Movement to carry out high-quality health surveys that will give rapid results for programme managers.

Launching and testing RAMP

In 2011 and early 2012, the RAMP survey methodology was piloted by the IFRC, Red Cross National Societies and partners in three countries, Kenya, Namibia and Nigeria. Malaria was chosen to test the innovative approach, with surveys designed to find out about net coverage following a mass distribution of long-lasting insecticide-treated nets (LLINs).

We want to roll RAMP out in other programmes, areas like WatSan and disaster management. We have most of the hardware we need. Then we move into preparing the questionnaires. In the original training for Malindi we included M&E staff from all the regions across the country, so now we have a lot of know-how too. We're ready to use the tool. We're ready to roll.
(Kiilu Kioko, Head of M&E, Kenya Red Cross)

Malaria is one of the most devastating global public health problems. There were an estimated 216 million cases of malaria in 106 endemic countries and territories

For further information, please visit the RAMP webpage on: www.ifrc.org/ramp

in the world in 2010, and at least 655,000 persons died of malaria[1]. The majority of the victims were children under five years of age, and most of the deaths occurred in sub-Saharan Africa, where the disease accounts for approximately 20 per cent of all childhood deaths. Malaria is a disease that kills the poor, the young and the vulnerable, and affects the future of many developing countries.

Strategies to prevent and control malaria are being implemented in all countries where malaria is a public health problem. In order to combat malaria successfully, the results of prevention and control interventions must be measured accurately and efficiently. Monitoring and evaluation are therefore essential components of any programme. Being able to collect data in a timely way and generate results that can then be used and acted upon rapidly by health managers to improve programme delivery can help to make a measurable public health impact.

IFRC developed RAMP to allow organizations to make their own decisions about what is important to them, about what their information needs are, rather than what we think is important.
(Jason Peat, Senior Health Officer, IFRC)

In all three countries piloting the RAMP approach, malaria was a major public health concern, and different types of malaria programmes were under way in each setting. Programme managers and other decision-makers were interested to know the extent to which their programme objectives were being reached. As well as estimates on access to and usage of insecticide-treated bed nets, the surveys were intended to provide information on factors such as treatment of children suffering from suspected malaria, the use of indoor residual spraying and so on. Red Cross volunteers were trained to collect data using mobile phones and the survey results were available within days of the last interview.

Each pilot led to further developments and improvements in the RAMP survey methods and tools. In mid-2012, the IFRC plans to publish the RAMP survey toolkit which provides information on designing and implementing a RAMP survey. A training manual forms part of the toolkit. Using a RAMP survey, the time between data collection, decision-making and action can be drastically reduced.

Features of a RAMP survey

- Designed to support management decision-making
- Based on standard survey sampling methodology
- Web-based questionnaire design
- Data collected using low cost, familiar and widely-available mobile phones
- Questionnaires that can easily be downloaded to standard mobile phones
- A technical manual, an implementation guide, a training manual and tools easily adaptable to local settings to guide those planning and carrying out a RAMP survey
- Real-time web-based dataset that can easily be exported for rapid analysis and reporting purposes

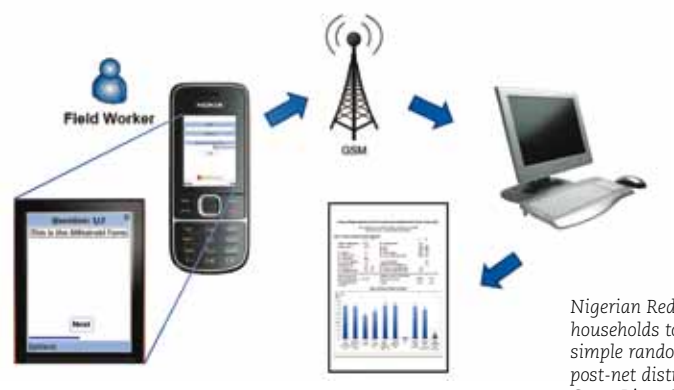
How a RAMP survey works

Health survey questionnaires can be created using web-based, freely-accessible mobile phone-based software (EpiSurveyor[2] by DataDyne). Once the software application is downloaded to compatible mobile phones via a 2G network connection, questionnaire forms can be downloaded to the phone via the same connection. In the field, data can be collected and stored on the phone without the need for a network connection. Following data collection and when in 2G range, data can be sent in real time to the secure server for storage. All parties with viewing access to the EpiSurveyor (Magpi) account can view the data at any time in any place in the world. Data can be exported for analysis in txt, xls or mdb format.

1 *World Health Organization, World Malaria Report 2011*
2 *To be called Magpi after January 2013*

Why use mobile phones to collect data?

- Real-time data entry on mobile phones
- Daily upload of data from mobile phone over 2G cell network to internet database
- Real-time data monitoring and data quality checks
- Real-time data cleaning
- Real-time data analysis



Nigerian Red Cross volunteers selecting households to conduct interviews using simple random sampling during a RAMP post-net distribution malaria survey in Cross River State.

Costs of a RAMP survey

The following are the actual in-country costs incurred by the RAMP post-LLIN bed net distribution malaria surveys carried out in the three pilot countries in 2011 and 2012. In each case, survey teams were trained over a four or five day period, after which interviewers collected data from 300 households over a five day period.

	Kenya*	Namibia 1	Namibia 2*	Nigeria	Average
Training (4 or 5 days) including two facilitators	US$ 8,792	US$ 12,425	US$ 10,912	US$ 10,362	US$ 10,623
Number of trainees	20	18	18	20	
Field survey, including transportation, daily allowances and accommodation	US$ 6,767**	US$ 17,134	US$ 14,531	US$ 11,229	US$ 12,415
Number of survey teams	6	6	6	6	
Mobile phones, accessories and air time	US$ 3,261	US$ 3,433	US$ 6,203	US$ 2,326	US$ 3,806
Survey administration (and locally hired data manager – Nigeria only)	US$ 3,355	US$ 1,782	US$ 3,247	US$ 3,943	US$ 2,243
Total in-country expenditure (US$)	**US$ 22,175**	**US$ 34,774**	**US$ 34,893**	**US$ 27,860**	**US$ 29,087**

* *In Kenya and the second Namibia pilot, the duration of the training was four days.*
** *In Kenya, vehicles were provided free of charge.*

Note that:

- Each training (four or five days) included one or two half days of field testing.
- Duration of the field survey was five days, and expenditure includes daily allowances and accommodation (team supervisor and interviewers), transport, including fuel, maintenance and drivers, and one additional vehicle for the survey support and monitoring team (SSMT). All costs for the SSMT, such as daily allowances and communication are included.
- Mobile phones, chargers, power bars and air time expenditure includes provision of one phone for each member of the survey team plus an additional two (for survey coordinator and data manager).
- Administration includes finance support, IT support, planning and wrap-up.
- RAMP survey development costs have not been included. Any organization running a RAMP survey for the first time might find some additional costs are incurred for technical support and capacity-building.

A Nigerian Red Cross volunteer carries out a household interview using a mobile phone to collect data.

In summary, a RAMP survey:

- Adds to the menu of options available for the evaluation of interventions to improve health
- Can be used for development and health surveys on many topics
- Enables rapid data collection using mobile phones and timely production of survey results
- Enables decision-makers to act more quickly on findings
- Can be used to strengthen evaluation systems and build capacity for programme/ project evaluation.

For further information please visit the IFRC website www.ifrc.org/ramp

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