

Monitoring maternal and children health in rural India

April 17 2015, by Mandira Banerjee



Women and children in West bengal. Credit: Wikimedia

Imagine community health workers fanning out across rural villages and

muddy fields to survey villagers in West Bengal, the fourth-most populous state in India.

The information is uploaded wirelessly via tablets to cloud storage, then downloaded and analyzed by professors and students thousands of miles away in a high-tech lab at the University of Michigan.

This project will soon become a reality, thanks to a funding grant from MCubed Diamond, an innovative U-M program that matches donors to research projects.

Bhramar Mukherjee, professor of biostatistics at U-M's School of Public Health, is initiating a pilot study to evaluate and track maternal and child health in rural villages of West Bengal.

"To be successful, you really need a partner who knows how to reach the people in the villages," she said.

Mukherjee is working with iKure, a startup social enterprise with the goal of reaching rural Indians with a hub-and-spoke model. The hospital hub sends out [community health](#) workers (spokes) with tablets to villages to monitor primary health; the information is then uploaded to the cloud.

Mukherjee's research partners are Joyojeet Pal, assistant professor of information, and Sucheta Joshi, clinical associate professor of pediatrics and communicable diseases.

Health care in India is skewed to urban areas, the researchers say. A recent WHO study shows that only 22 percent of rural areas have access to public hospitals. Hospitals are far away and the villagers make the journey when they are sick and in need of a doctor.

"iKure is providing [health care](#) to remote areas via state-of-the-art

information technology," said Ranvir Trehan, who with his wife, Adarsh Trehan, founded the Trehan Foundation, which is funding the project. The Trehans are U-M alumni.

The study will follow 200 pregnant mothers and 300 children under age 2, tracking their health over 18 months.

"We will be able get valuable [health information](#) about anemia, hypertension or gestational diabetes in women, which often goes unchecked. The children will be monitored for developmental delays. If there are complications, they will be referred to the hospital," Mukherjee said.

U-M students will also be involved in the project in different phases.

As part of Global Information Engagement Program, School of Information students will go to India over the summer to work with Pal and community [health workers](#) on the implementation of the health questionnaires. School of Public Health students will help Mukherjee collect and analyze data uploaded by iKure.

"Maybe, statistically, the data will be simple, but if the model works, the impact will be great," Mukherjee said.

Provided by University of Michigan

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