

## Mobile Phones Could Help Efforts to End Malaria

From VOA Learning English, this is the TECHNOLOGY REPORT in Special English.

Researchers are studying the use of mobile phones to document the spread of malaria. The study is part of an effort to stop or control the disease.

The World Health Organization says malaria mortality rates have fallen by twenty-five percent since two thousand. Yet the disease killed an estimated six hundred fifty-five thousand people in twenty-ten.

Scientists say malaria-carrying mosquitoes cannot travel far on their own. But the insects can, and do, catch rides in the belongings of people who travel. Malaria also can be spread by people who come from an area with large numbers of malaria cases. They may show no signs of having the disease themselves.

That is what Harvard University researchers discovered in Kenya. They found that the disease mainly spreads east from the country's Lake Victoria area with people who travel to the capital, Nairobi.

Researchers with the Harvard School of Public Health reported the finding. It was based on the mobile phone records of fifteen million Kenyans.

Caroline Buckee is an assistant professor of epidemiology at the Harvard school. She says one of the first steps in stopping malaria is to learn how human travel might be adding to its spread. She says it has been difficult to follow large population movements with methods like government census records.

“But mobile phones offer a really unique way, on an unprecedented scale, to understand how a whole population is moving around.”

In Kenya, the researchers estimated the distance and length of each phone user's trip away from home. This information was based on messages to and from the mobile phone carrier's twelve thousand transmission towers.

The researchers then compared that information to a map showing reports of malaria in different parts of the country. The researchers estimated each user’s probability of being infected in a given area. They also estimated the likelihood that a visitor to that area would become infected.

The result was a picture showing malaria transmission routes starting in Lake Victoria. Caroline Buckee says such evidence could influence malaria control efforts.

“One thing that you could consider is sending text messages to people coming to high risk cell towers, for example, reminding them to use a bed net. And I think those types of approaches are simple but they would hopefully target people who are asymptomatic and unaware that they are carrying parasites.”

She says researchers are investigating using mobile phone records in other areas to help identify malaria transmission routes. A report on the study was published in the Journal Science.

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