

Offline Internet Technology for Health Information in the Dominican Republic

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The Dominican Republic's health infrastructure is strained by a growing population and the rise of chronic diseases like obesity, diabetes and heart disease. The country also has frequent electricity blackouts and extremely limited internet connectivity, especially in the countryside. Researchers from SIPA traveled to the Dominican Republic in March 2017 to interview healthcare providers in rural and urban settings in order to learn more about the type of medical information that providers are able to access, assess the needs for medical information and whether they might be resolved by expanding access to offline internet technology.

The team interviewed health practitioners, medical students, government officials, NGOs, and electricity and communications companies, gathering qualitative data on telecommunications and electricity provision; smartphones and Internet penetration; health resources and priorities; access to medical information; and user experience with the device. The team confirmed that health practitioners in rural areas do not have access to Internet and to sufficient medical information. Moreover, they found that electricity and telecommunications companies do not have plans to expand connectivity in these areas in the near future.

Additionally, the team conducted preliminary viability testing of the medical modem device: an offline internet-enabled raspberry pi the size of a cellphone, capable of holding 128GB of information. Up to 30 users can connect wirelessly to the device from their smartphones or laptops, and do not need an internet connection. The device contains all of Wikipedia Medicine in English, Spanish, French and Haitian Creole, as well as additional medical information. 100% of the interviewees across sectors found the device and its content useful for medical practice and as an educational resource for medical students and patients, and the Dominican Ministry of Health expressed interest in piloting the device in rural clinics.

The team suggested moving forward with a pilot implementation with recent medical graduates in rural areas as first potential users, among whom the need for medical information is higher. In the summer of 2017, one of the team members is returning to the Dominican Republic to conduct an initial pilot with 5-10 of the devices in rural clinics, in partnership with the Universidad Iberoamericana (UNIBE) and other local partners. We hope to prove the concept of the device as a medical information resource, and are interested in the future possibilities for offline internet technology in other sectors, like education, and in other geographic contexts.