mHealth platform for community health workers

Country of origin | United States of America

Health problem addressed

High infant and maternal mortality in developing countries are a major public health concern. Community health programmes have been effective in reducing mortality but their effectiveness is limited due to lack of sufficient training, absence of performance evaluation and feedback, absence of standardized protocols and ineffective care coordination.

Solution description

The platform has a mobile app and a Health Insurance Portability and Accountability Act (HIPAA) compliant cloud-based platform with web interface. Community health workers (CHW) use mobile phones in the field to capture data, educate patients and provide case management. The web interface is used for monitoring the program and generating reports. In the field, patient data can be stored on the phone or sent to the server. The platform supports audio, images, video data and also uses GPS and bar code data. The platform can also send reminder SMS messages, emails or generate other alerts required in the workflow. Through active monitoring of data, timely, interpretable reports and targeted follow up actions can be created for CHWs and the supervisors.

Functionality

The CHW logs into CommCare using a username and password. The CHW selects the module (e.g. Pregnant Women) and the form (e.g. Pre-Natal) for this type of visit. The form guides the CHW through a series of questions and education prompts to provide patient specific referrals and counseling. The form is submitted to the web interface for monitoring.

Developer’s claims of solution benefits

This technology improves care across four areas: access to care through client lists on the CHWs’ phones and SMS reminders when visits are due; client engagement through audio and video clips and improved credibility of the CHW; quality of care through checklists, decision support, and delivery of sensitive information through recorded voices; and data-driven management through real-time monitoring of the CHWs activities.

Future work and challenges

The success of this platform is contingent on availability of funding for community health worker programmes. using this platform has demonstrated return on investment. A dollar-for-dollar effectiveness ratio of 3.48 is anticipated. This will be confirmed through randomized controlled evaluations.

User and environment

User: physician, nurse, midwife, community health worker.

Training: our team of field engineers deliver training using field-tested methodologies over a two day period.

Settings: rural, urban, home.

Solution specifications

Solution is used to support: mHealth

Software/Hardware requirements: The mobile component of the software runs on either simple Nokia phones or Android Smartphones. Cellular data plan is required to transmit data from the field. The cloud-based platform can be accessed through a web browser via any internet connected computer.

The software platform is open source and is available to anyone at no cost. Organizations with less than 20 users are offered hosting, implementation and support for free. After 20 users, the charge is $0.75 per user / month. In case the clients want customized project design, deployment and support they pay standard software development rates.

Standards: HL7

Currently used in: India, Tanzania, Zambia, Malawi, Bangladesh, Mexico, South Africa, Afghanistan, USA, Mozambique, Nicaragua, Benin, Guatemala.

Evaluation: A recent randomized controlled trial in Tanzania showed that a reminder system incorporated into the system with eventual escalation to supervisor notification generated significant results, with 85% more timely visits for the groups that received SMS reminders. Also, a preliminary controlled trial in Tanzania found increased adherence to protocols by over 20% compared to traditional methods.
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