

Dimagi: Boosting Access to Health Care through Technology



Initiative Description

In August 2011, the U.S.-based award-winning socially-conscious technology company Dimagi joined the Business Call to Action with a commitment to promote access to health care for millions of people in India. Through its innovative mobile phone-based application CommCare, Dimagi is helping health workers to collect data and monitor patient care more efficiently and effectively.

Dimagi's goals by 2015:

- Expand CommCare to over 50 new frontline worker programs in India, both in health and non-health sectors
- Develop the largest evidence base of an mobile health platform, including 2 of the largest randomized controlled studies within mobile health
- Productize CommCare, making it much easier to replicate and scale for organizations wanting to create their own mobile projects



Business Model

In India, over 800 million people live on less than \$3 per day. In rural areas – where over 70% of India's population lives – healthcare services are scarce. To improve health in rural communities, India's Government employs a corps of community health workers who visit villages across the country. However, India's health workers are often poorly trained and many are illiterate.

In order to assist them, Dimagi developed CommCare, a multilingual mobile phone-based healthcare application that allows health workers to store and access patient information and monitor at-risk patients, while also enabling health care program staff to monitor health workers' performance through online reports.

With over 5,000 registered users across 40 countries, the CommCare

"We developed CommCare to scale up the health impacts [of] community health programmes. We've been working in this field for a long time, and haven't seen anything with the potential that CommCare has to scale up the effective delivery of life saving interventions."

Jonathan Jackson,
CEO of Dimagi

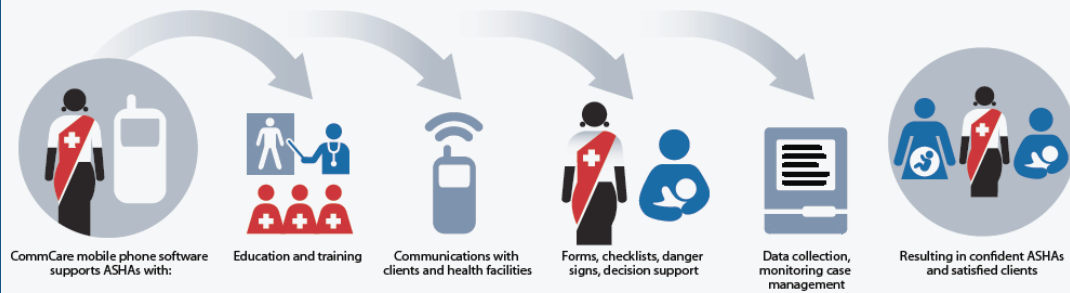
application is one of the most widely adopted and technologically advanced mobile platforms for public health workers in developing countries. In India, CommCare is linked to a network of health clinics through the National Rural Health Mission, which promotes good health through basic illness prevention, first aid, family planning, childhood vaccinations, and other government-supported health programmes.

Community workers can use it to track patient interactions and send information about patients to government health clinics. Physicians at these health clinics can monitor patients' progress and identify those in need of urgent care.

The CommCare ReMiND pregnancy application supports prenatal and postnatal care by collecting data about each pre- and post-natal visit with a health worker, and enables health workers to receive training alerts, monitor pregnant women's health, and share interactive counselling messages.

Innovations

that improve lives



How it Works

Since 2005, the Government of India has invested heavily in the deployment of community health workers, training over 750,000 and providing incentives exceeding US\$1,000 per health worker each year. As the focal points for all health-related issues in rural areas, community health workers are a crucial element of the Government's push for increased access to primary health care and lower maternal and child mortality. CommCare complements this community-based strategy by providing a mobile platform that health workers can use in a diverse range of conditions to suit local needs. CommCare was developed with the participation of community health workers to ensure this versatility.

CommCare replaces the conventional practice of manually tracking patients' health with paper registers and carrying large patient-education flipcharts. Instead, each health worker is equipped with a mobile phone running this open-source software that is easy to use, even for workers who are not literate. Health workers register clients using customized electronic forms and CommCare automatically submits patient data in real time to a central database. Once health workers register clients using customized electronic forms, CommCare automatically submits the data to the main server, known as CommCareHQ. Data on this server is secure, privacy-protected and accessible to project managers and their supervisors around the world.

Dimagi employs a tiered pricing model for CommCare services that aligns with each client's healthcare program size and development requirements. The company is in the process

of implementing a new model of collecting revenue from premium user and domain services, transaction costs on SMS, and incremental consulting fees.

Mobile application

The CommCare application can be used by any community health worker equipped with a mobile phone running Dimagi's open-source software. It includes easy-to-use registration forms, checklists, danger-sign monitoring and educational prompts. CommCare is also easily customizable to different environments and can run on either inexpensive Java-enabled phones or Android phones. The application easily handles multiple languages and incorporates multimedia messages and audio recordings to reinforce key health messages. The multimedia content also includes postpartum counselling for new mothers and information on important immunizations for children under five.

Data storage and access

Once patient data is collected on health workers' phones, it can either be accessed directly or stored in Dimagi's CommCareHQ web repository. This allows project managers to support community health workers and monitor changes in the health status of rural communities.

CommCare has been shown to increase the retention of health-related knowledge among community health workers, and to help them keep up with their schedules of visits. It has also been shown to increase health workers' confidence and improve their engagement with clients. Since CommCare technology is free and open source, it allows users to customize their own CommCare applications to suit any environment.

Results Achieved

Since 2012, over half a million clients have been registered in CommCare, and over 1 million forms have been submitted to CommCareHQ, addressing diverse health issues including maternal and child health, family planning, child nutrition, and HIV. Dimagi estimates that over 250,000 beneficiaries have been reached through CommCare in India alone.

Business Impact

Among the important business processes innovated by Dimagi is a total cost of ownership model, which was based on a cost survey of six CommCare deployments. This tool was designed to help organizations estimate the total cost of adopting mobile technologies. In the process, Dimagi has seen many common challenges and best practices emerge.

CommCare is expanding rapidly in India: in 2013 alone, Dimagi helped launch 40 CommCare projects in the country. Frontline health workers in Bihar are employing it as part of a large health initiative funded by the Bill and Melinda Gates Foundation. Dimagi is also integrating CommCare into the Mobile Technology for Community Health (MOTECH) Platform in Bihar in order to create an open source platform that includes job support for health workers, client outreach via voice and SMS, and an electronic medical record system.

Development Impact

Community health programmes have a well-documented potential to improve health outcomes in poor communities. An analysis of outreach community care, and facility-based medical care estimated that an 18-37% reduction in

neonatal mortality could be obtained with substantial improvements in outreach and community care alone, without any improvements in facility-based services. Data from another study indicated a 24% improvement in health workers' knowledge of maternal and newborn care interventions since first using the CommCare ReMiND application five months earlier.

Through CommCare, Dimagi is greatly expanding the possibilities for extending access to community health care along with real-time monitoring of health outcomes, which can bring even greater gains through improved service delivery.



Key Success Factors

Sustainable Business Model

CommCare is being used by over 100 organizations across the globe to support projects that focus on health, agriculture, microfinance and supervision support. Dimagi contributes to the sustainability of these projects by providing user-friendly and versatile software for inexpensive mobile phones, in addition to affordable long-term technical support and maintenance. Dimagi also aims to strengthen programme management at all organizational levels by providing customized reporting and data for monitoring decision making.

As part of its expansion initiative, Dimagi's India-based field managers devised a strategic training programme for a large group of users. These field managers facilitate comprehensive training for project supervisors that included installing CommCare on mobile phones, troubleshooting common problems and understanding reports generated from CommCareHQ. In an effort to foster community ownership of the CommCare platform, Dimagi's field managers also prepare local partners' staff to lead CommCare trainings for community health workers supported by their organizations.

Dimagi Inc. is an award-winning, socially-conscious technology company that helps organizations deliver quality health care to urban and rural communities across the world.

Achieving Scale

Similar Dimagi was awarded a grant to scale up the use of CommCare in India by the United Nations Innovation Working Group's catalytic grant competition for maternal, newborn and child mobile health, managed by the mHealth Alliance. Through the Innovation Working Group, Dimagi is receiving specialized assistance from the World Health Organization to expand CommCare in 10 countries while contributing to the mHealth evidence base and sharing best practices on implementation.

In 2012, Dimagi has also received funding from the United States Agency for International Development Development Innovation Venture to expand CommCare to 50 new programs in health and social sectors in India. Since then, Dimagi has helped these NGOs design and implement the CommCare application in India. Many of these partners are already scaling up their own efforts, including 70 units by Save the Children, 275 units by Catholic Relief Services and 180 by World Vision. Dimagi is also conducting several impact evaluations of CommCare and expects to continue refining its measurement of CommCare's impact.

Next Steps and Spin Off Effects

While it advances towards meeting its Business Call to Action commitments, Dimagi will continue to focus on opportunities for expanding its services through leveraging partnerships with the Bill and Melinda Gates Foundation, USAID, the World Bank, CARE International, BBC Media Action, Catholic Relief Services, and many others. The company will also plan to continue refining its tailored support to field-based staff and managers.



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