



Microsoft Unlimited Potential Case Study: The Healing Link



The Healing Link

If Muhammad cannot go to the mountain, the mountain comes to Muhammad. Microsoft and Drishtee Dot Com Ltd. certainly believe in this old proverb. When these two organizations realized that poor citizens in remote villages of Bihar, India, were unable to access quality healthcare, they decided to take the doctors to the villagers. Thus was born the innovative concept of e-health.

This e-health initiative uses information and communications technology (ICT) to link patients living in remote villages directly to doctors in Bihar's capital city of Patna. Launched in January 2006 in the district of Madhubani, the telemedicine endeavor provides quality healthcare options to people in need—at their doorsteps.

According to Satyan Mishra, CEO of Drishtee, Madhubani was chosen after a survey conducted in 2005 to assess the existing health infrastructure and systems revealed that the government-run primary health centers were in poor condition.

"The survey showed that the average annual expenditure on hospitalization was approximately Rs 14,000 (US\$327), and treatment of a serious illness costs about Rs 2,000 (US\$47)," says Mishra. "When there is only one wage earner in a family whose average income is Rs 3,000 (US\$70), how long will they be able to afford to bear such expenses? Why should they, when we have a powerful tool like

ICT that can be used to provide appropriate healthcare solutions to remote villages handicapped by a lack of healthcare facilities? Telemedicine facilitates the provision of medical aid from a distance and cuts down travel and associated costs of medical care."

In Mangrauni village, where the e-health venture was started, residents are beginning to realize the difference e-health is making in their lives. "I need to get my blood pressure (BP)



checked regularly, as I have high BP," explains 60-year-old Ramesh Mishra, a local resident. "But at my age it is difficult for me to do so, as the nearest clinic is three kilometers (1.86 miles) away. Now I get it done at the Drishtee kiosk. I am really happy this e-health program has started here, because it saves me two hours

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of travel time. The minimum charge the local doctor takes for consultations is Rs 60 (US\$1.40), and at the Drishtee centre, I pay just Rs 30 (US\$0.70). So I save money, as well.”

This innovative telemedicine facility is a big hit with 58-year-old Pitambar Mishra. This is not only because the person running the Drishtee e-health services in Mangrauni is his son Parmeshwar. Pitambar, an erstwhile priest, is also impressed with technology that can connect patients from his village directly through video conferencing to doctors sitting hundreds of kilometers away in Patna. “I have never used the computer. But I have experienced the improvement technology has made to my health. I am proud that my son is able to use technology to help the poor people of our community who cannot afford specialists,” says Pitambar.



A collaboration between Drishtee and Bangalore-based Neurosynaptic Communications Pvt. Ltd. has made this achievement possible. Neurosynaptic and the TeNet (Telecommunications and Networking) group at Indian Institute of Technology Madras have together developed ReMeDi-COMP—a remote diagnostics solution comprising of:

- A hardware unit, including an electronic stethoscope and thermometer, that captures blood pressure, heart and lung sounds, oxygen saturation, temperature, and pulse rate.
- Telemedicine software that offers low-bandwidth audio and video conferencing and integrated patient medical records storage.

Enter Microsoft, with funding support and business input, and the stage is set to scale this technology offering across villages to deliver a much-needed service to the most underdeveloped district in Bihar.

Linking patients with doctors at the other end is Janani, a nongovernment organization working on healthcare. For two hours every day, Janani, based in Patna, provides the services of its doctors for remote consultations. According to Dr. Nita Jha, project manager for e-health, the reason they joined this venture was because they felt that this was a really good, sound mechanism of e-healthcare implementation. “In a state like Bihar, where most people tend to go to quacks or RMPs [rural medical practitioners] if there are no good doctors available, giving them an opportunity to avail [themselves] of benefits which are generally available to the people living in urban areas is an excellent idea,” says Nita.

“All the kiosk owner needs is a little bit of computer knowledge and training to understand how to use the BP and ECG [electrocardiogram] equipment,” says Bharateesh PL of Neurosynaptic. The computer engineer, who has spent the last three months in the Madhubani district training the Drishtee kiosk owners, contends that the remote diagnostic kit has been specially designed to give people living in rural areas the changes to access quality medical care through ICT.

In a district where the paucity of affordable health services is exacerbated by a shortage of medical staff, this e-health venture comes as a boon. The response to the telemedicine initiative in one of the villages, Ballia, has been so overwhelming that patients, young and old, have been queuing up at the Drishtee Information Center. As the word spreads that



people can discuss their problems with doctors in Patna through video conferencing, more and more people turn up.

Seventy-two-year-old Mahakali Devi and her 70-year-old neighbor, Nageshri Devi, who are residents from neighboring village Raiyam, are even prepared to pay in advance to ensure that they get an opportunity to talk to the doctor.

“Everyone has the right to demand good health services,” says Bipin Mishra, the Drishtee kiosk owner in Ballia. “Before this program began, people would go to private clinics here even though they operated under extremely unhygienic conditions, because government health centers meant for residents of Raiyam and Ballia remain closed most of the time. Although Internet connectivity is a problem, at least the people have a choice.”

At present, Madhubani lies at the bottom of the health development index in India, ranking 577 out of the 590 districts in the country. There is a long way to go yet—but with this e-health initiative, Microsoft and Drishtee have paved the way for significant changes in vital development indicators. For the people of Madhubani, this is proof that ICT can play an active role in helping them overcome fundamental barriers to better living conditions and actually give them the affordable and quality healthcare that they have long hoped for.

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