

PROFILE: Narayana Hospital

Connecting patients to cardiac specialists in India and Africa



Challenge

For 70 percent of the Indian rural population, the patient-physician ratio is a mere 0.39 per 1000 people—compared to the country average of 0.7 per 1000 (World Bank World Development Indicators). The leading causes of death in India are ischemic heart disease, chronic obstructive pulmonary disease, and stroke, accounting for 30 percent of all deaths. And while access to primary care physicians is limited, access to specialists, such as cardiologists, is nearly impossible. As a result, rural patients are unable to receive the specialty care they need in a timely fashion, and often cannot afford the expenses that result from travel to urban areas, overnight stays, and expensive tests.

Innovation

Narayana Hrudayalaya (www.narayanahealth.org) recognized early on that slow medical response time, lack of availability of specialty care, and the stark urban-rural divide in terms of healthcare access and follow-up have made it all but impossible to get cardiac consultations in rural areas. In 2001, Narayana pioneered the concept of telemedicine in the country. The main telemedicine services Narayana provides are a Trans-telephonic Electrocardiogram (Tele-ECG) and a Tele-consultation. The interpretation of ECG tracings is an example of a process that is well suited to telemedicine. While an ECG is a simple test to perform, it takes significant amounts of training to interpret the tracing. Local healthcare providers can easily perform the ECG and send the tracings in bundles to those trained to interpret them. Narayana receives data from 600–700 ECGs per day, responding to each in under a minute.

The ECG is provided for free to the patient by implementing cost-saving methods such as accepting donations, relying on digital X-rays rather than more expensive films, and reducing inventory and processing times using comprehensive hospital management software, as well as increasing patient volume to maximize use of infrastructure and reach economies of scale. Narayana also provides tele-consultations at cost. Narayana charges according to the patient's ability to pay, and it cross-subsidizes its services for the poor—with approximately 60 percent of treatments provided below cost or for free. Narayana also provides medical education training via its telemedicine channels for doctors in other parts of India, Africa, or elsewhere in the world.

Impact

Today, Narayana's telemedicine program, one of the world's largest, connects 850 centers across the world to its specialty hospitals, providing low-income patients in rural areas access to quality cardiac care. The impact of providing access to ECG far exceeds its costs. Early detection of acute myocardial infarction or other abnormalities using ECGs, and transmission of information to a physician can accelerate management of the patient considerably. Even patients with pre-existing coronary artery disease and chronic heart failure can be managed more safely and effectively with regular telemedicine consultations, giving them ongoing access to follow-up care.

Scaling Up

Of its 850 centers, 53 are in sub-Saharan Africa. Narayana benefits from large economies of scale that allow it to cross-subsidize its patients. Taking ECG tracings can become an extremely standardized process, making it easier to work cost effectively. Moreover, prior to free software such as Skype being commercially available, telemedicine consisted of expensive customized medical software integrated with computer hardware along with the diagnostics instruments at each location, which was much more expensive to implement and upkeep. Skype is now the primary means of connecting doctors and patients, reducing costs.



This series on Inclusive Innovations explores business models that improve the lives of those living in poverty. Editors are Elaine Tinsley and Natalia Agapitova. Written and researched by Endevo and Ashley Insight with additional contributions by Madhusmita Hazarika.