

# NMMC: Revolutionizing Healthcare at Grassroots Level

Nanda is a health care worker in New Mumbai. Every morning, before she sets out on her health care rounds, she first checks in at the OPD dispensary in Nerul. She downloads patient demographic data into her PDA (Portable Digital Assistant). Her English is not very strong, but the digital data is available in Marathi, as well. Nanda knows the areas she has to cover on a given day. Downloaded into her PDA is all the data she would need on that day.

When Nanda returns to the clinic in the evening, she has visited nearly a hundred households, disseminating medical information to the people she has met and counseling them regarding various medical issues. If a house had a new-born baby, Nanda provided information about the baby's immunization schedule to the parents. If a woman was pregnant, Nanda referred her to a mother-and-child hospital nearby. She noted these details in her PDA, to upload to the central database server in the evening.

Earlier Nanda would spend hours aggregating information collected on her rounds and updating patient files. No longer so. Now digitally equipped, she can record data easily and she doesn't depend on bulky paper files. Nanda is not alone. In India, health care workers play an essential role in bringing medical services to the masses, and the NMMC clinics employ hundreds of such workers. Now they can track and share medical and related information about the thousands of patients they serve, with relative ease.

## The Computerization Project

In 2008, NMMC, a forward-looking municipal corporation in India, decided to undertake an ambitious computerization project. It envisioned linking its central hospital in Vashi to the four

mother-and-child hospitals providing gynecological and pediatric care, as well as the twenty-two OPD dispensaries such as the one Nanda is part of. The central administrative office in Belapur (New Mumbai) would be linked to this network as well. Complete data would be available to the Commissioner and Deputy Commissioner to help with planning and administration.

At that time, NMMC could well have been the first municipal hospital network in India to initiate such a project. Few government hospital networks had attempted something on this scale. Maharashtra's MEDD (Medical Education and Drugs Department) was just completing the pilot for its eight-year-long project to computerize and electronically connect all teaching hospitals and medical colleges in Maharashtra. They had chosen the Amrita Hospital Information System, an enterprise-grade solution that adhered to international standards. In a landmark decision, NMMC also decided to use the same software.

This Amrita software had earlier been used by another hospital in Mumbai to connect a hospital network with a similar configuration of main-and-several-satellite hospitals. Moreover, the Amrita software ran on the open-source operating system Linux and stored data in the popular open-source database, MySQL, resulting in a cost savings of lakhs of rupees in license fees. It was compliant with international healthcare standards and promoted the best-in-class workflows and processes. The decision was made and the contract awarded. A six-month implementation plan was drawn up and the work began.

## Paper, Paper Everywhere ...

NMMC's main hospital in Vashi has a *Records Room*, with stacks upon stacks of files that reach out to touch the ceiling of the room. Old medical

records and other details of patients are stored here. NMMC hospitals cater to nearly ten lakh people which explains why the records are so bulky and numerous.

“We are proud to be among the first municipal corporations in India that promote environmentally-friendly practices,” states Mr. Rao, Engineering Head, who is overseeing the solution’s implementation. “Next we are looking at issuing health cards to all our citizens. These smart cards will have patient information including unique health ids and will interface fully with our Hospital Information System.”

NMMC’s multi-tier health infrastructure, setup with the support of a World Bank grant, consists of dispensaries, mother-and-child clinics and the Vashi central hospital. In addition, the network now includes a mobile education and communication van and several mobile clinics. “A big advantage is that the digital data will now be easily available to all,” further shares Mr. Rao. “It will be only a mouse click away.”

The complete benefit of this easily available data will perhaps be felt over time, as correct data will now be available to aid planning and

administration. For example, a clerk at the central office can fairly accurately predict, say, the number of immunization doses that will be needed in a given area during the next month. Senior administrators can mine the data to help with decision-making.

### **The Future**

Going house-to-house, disseminating medical information, Nanda’s job has been to help with prevention as well as early diagnosis of disease. She has diligently done this for nearly two decades. She is excited about the big change recently made possible by the computerization project. “Our dispensary provides highly subsidized healthcare services to people living in this area,” she says, speaking through a translator. “Now I am confident that we are being even more effective in providing these services.”

Nanda could well be a healthcare worker in Europe or the US, and she would not be better equipped digitally. Perhaps we can eagerly await a future India where every healthcare worker is thus enabled to reach out to our masses.

## **About Amrita Hospital Information System**

Amrita Hospital Information System is a fully-integrated Information Technology solution that ensures world-class healthcare delivery. This highly scalable and high performance system has become the preferred one-stop-solution in the healthcare industry, catering to varying needs of hospitals of different sizes across the globe. The system seamlessly integrates clinical modules with administrative and financial workflows of a hospital. It allows for centralized access to all organizational and patient data through one single web interface for any authorized user. For more information, please visit the website <http://www.amritatech.com/>.

To request for a free demo at your hospital, please email [info@amritatech.com](mailto:info@amritatech.com)