Hospital train provides lifeline to rural India

Patralekha Chatterjee reports on the work of India’s Lifeline Express—a train turned into a hospital, which has been helping the country plug the gaps in its health-care system for nearly 20 years.

“Don’t move your eye”. That is the one phrase in Mandarin that Indian neuro-ophthalmologist Navin Jayakumar knows well. He used it often while doing cataract surgeries on board the Lifeline Express—a four-carriage hospital train that runs from Hong Kong to remote areas of China.

Jayakumar, formerly with Shankar Netralaya, a well-known charitable eye hospital in Chennai, southern India, got involved with China’s hospital on rails project while he was teaching at the Chinese University of Hong Kong, Shatin. On board the Lifeline Express he supervised and did cataract operations. “It was the first time I had an interpreter in the operating theatre. The patients came from remote backwaters. I was working alongside Chinese eye surgeons. It was a phenomenal experience”, the Indian eye specialist tells The Lancet.

The Chinese initiative, which aims to bring affordable eye surgery to the doorsteps of some of the poorest people in that country’s hinterland, is modelled on India’s Lifeline Express, the world’s first hospital train. The latter was created in 1991 by the Impact India Foundation, a registered public trust organisation promoted by the UN Development Programme, UNICEF, and WHO. Currently, the Lifeline Express is run by the Impact India Foundation in collaboration with the Indian Railways, and the Indian health ministry, and is funded by multiple agencies and individuals, including Impact UK.

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Besides China, the hospital train model has been replicated in other countries such as Zimbabwe and with a river boat hospital in Bangladesh. Within India, it has inspired innovations like the Red Ribbon Express—an exhibition train spreading awareness about HIV/AIDS and health-related issues as part of India’s National Rural Health Mission.

Lifeline Express’ mission is to help people with disabilities. In the country of its birth, the hospital train has completed nearly 120 projects so far, benefiting more than 600 000 Indians, who mostly live in rural areas and face an acute scarcity of facilities and medical specialists. Its team of anaesthetists and medical specialists do operations to restore movement, hearing, and sight, and correct cleft lip. This feat has been possible by the voluntary services of 100 000 surgeons and medical personnel from across India and abroad.

The model is that of a public-private partnership. Typically, the sponsor—a private foundation—chooses the location of the camp. Impact India’s only condition: it should be in a suitably remote location. Project work begins long before the train reaches the station. An awareness campaign is mounted to spread the news about the train and urge people to register at the nearest community welfare centre or primary health centre.

Impact India’s Lifeline Express has been honoured by a national postage stamp. But its success draws attention to the glaring inequalities in India’s health system. Large parts of the country have little access to quality medical care even as super specialty hospitals continue to crop up in big cities to cater to the country’s rich and medical tourists from abroad.

Umaria, a small town in Madhya Pradesh state, central India, where the Lifeline Express was stationed during April and May this year, exemplifies the paradox. Inside the air-conditioned hospital train equipped with two state-of-the art operating theatres, an auditorium, a public announcement system, and closed-circuit cameras, The Lancet witnessed specialist doctors and surgeons doing tympanoplasty (ear drum repair) on patients from villages far and near.

There is a huge demand for ear operations. “People bathe in dirty water. This often leads to infections in the ear. If left untreated, this can cause severe hearing loss”, says Rakesh Shukla, head of the ear, nose, and throat department of the Government Medical College at Jabalpur, Madhya Pradesh. Shukla came with a team of volunteer doctors to do ear surgeries in the Lifeline Express parked on the railway tracks in Umaria.

In India, 63 million people have substantial auditory loss, according to 2005 estimates by WHO. Nationwide surveys have estimated hearing loss to be the second most common cause of disability. Unhygienic practices and a lack of awareness and health-care facilities have aggravated this largely
avoidable problem. Distressingly, children younger than 14 years account for most of those with hearing loss. In extreme cases, ear infections can even be life-threatening.

The Government of India has launched a National Programme for Prevention and Control of Deafness. But in Umaria district, for example, there is no one who can deal with ear, nose, and throat surgeries, nor are there any orthopaedic surgeons. The Umaria District Hospital is also handicapped by lack of infrastructure. “These are intricate operations requiring special ENT [ear, nose, and throat] microscopes. Very few hospitals in these parts have the necessary equipment. Here, in the Lifeline Express, we have state-of-the-art equipment. This hospital train offers the possibility of surgeries to disabled people in remote areas who otherwise would not have had access to them”, says Shukla.

One such beneficiary is 15-year-old Sunita Kumari who sits with a bandaged ear on a bed in a special ward in the Umaria district hospital. Sunita had a damaged ear drum—the result of untreated infection, which led to hearing loss and affected her studies. But no one in her family had taken her to a hospital early on. The hearing loss led to sluggish performance in school and Sunita started lagging behind. “We hope she will be able to hear well soon and absorb lessons in class more easily”, says her father.

“The district administration was keen to have the Lifeline Express come to this area”, A P Dwivedi, superintendent of Umaria District Hospital, tells The Lancet. “Preparations started at least 6 months before the train’s arrival. The collector [head of the district administration] convened a meeting of local journalists to spread the word. Health workers distributed handbills informing the public about the services offered by the Lifeline Express. Teachers, local non-governmental organisations, and members of the public have all pitched in with contributions. Even local restaurant and hotel owners contributed by providing free accommodation and transport to visiting doctors.” Additionally, a special ward in the Umaria district hospital was allocated for post-operative care of those who had undergone operations in the Lifeline Express.

Although the hospital train alone cannot plug the gaps in India’s public health system, it can be effective in bringing about change. The very arrival of the Lifeline Express raises awareness about disability and adds to the demand for treatment. People who thought they could not walk now have hopes of walking. People who were visually impaired think all is not lost. At the Umaria district hospital, young people were queuing up to have their ears tested. Many came from neighbouring districts to be treated aboard the Lifeline Express. Most were from tribal communities and those officially classified as below the poverty line.

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“Ear perforations are more common in rural areas”, says Chaitanya Bharadwaj, an ear, nose, and throat specialist from Mumbai’s Hinduja Hospital, who was one of several specialists volunteering as a surgeon on Lifeline Express. Bharadwaj also carried out pre-operative checks at the district hospital.

The hospital train has brought corrective surgery for disabilities even to areas considered dangerous because of left-wing extremism, points out Colonel Randher Singh Vishwen, a retired army officer who is in charge of the Lifeline Express. “We have had no problems with anyone to date. In November, 2009, the Lifeline Express was parked near a village in West Bengal’s Bankura district, supposedly in the heart of Maoist territory. We were there for 3 weeks. Large numbers of people who were hard of hearing turned up for the hearing aids we were offering. Those who needed ear surgery were operated upon”, Vishwen tells The Lancet.

“We hope Lifeline Express will draw the attention of the government to the great need for health services to be readily available to the rural poor of India. Then our mission will be achieved”, says Zelma Lazarus, chief executive officer of Impact India.

The hospital train has many challenges ahead. These include diversification and expansion of the services, greater visibility of its achievements, more sponsors, and better alliances with regional health authorities for quality postoperative care, adds Lazarus.

It may be a long time before Umaria district gets to host the Lifeline Express again. But local health officials like Dwivedi are upbeat. The state’s health minister who met patients receiving post-operative care at the Umaria district hospital after they were operated on by surgeons on the Lifeline Express has promised that much-needed specialist doctors will be posted in the hospital within 2 months. “The hospital train has toned up the local health system”, says Dwivedi.

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