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Friendship's 3-Tier Healthcare System: An Innovative Approach to Delivering Healthcare to Geographically and Socially Remote Areas

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FRIENDSHIP'S 3-TIER HEALTHCARE SYSTEM: An Innovative Approach to Delivering Healthcare to Geographically and Socially Remote Areas

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The hardest communities to reach and treat often live in the most remote, harsh landscapes. On the nomadic islands of the Brahmaputra in Bangladesh, poor migratory communities are so cut off from urban centres that medical treatment is virtually unheard of. Runa Khan, Executive Director of Bangladeshi NGO Friendship, shares the difficult and inspired journey to build a mobile healthcare system using hospital ships, mobile clinics and community medics.

The basin of the Brahmaputra in Bangladesh has some of the most unpredictable land movements in the world, enhanced by climatic undependability. It is a land of 'living geography' hosting 6 million of the world's bottom billion who are living below any documented poverty line. No dependable health care delivery mechanism has ever been implemented in this region owing to the lack of any viable and dependable delivery service.

The chars and riverbank areas along the major rivers of Bangladesh are highly prone to erosion and flooding and are thus isolated from the mainland in terms of physical distance and infrastructure. Bangladesh is the "Land of a Thousand Rivers" and the largest deltaic plain on the planet. The River Brahmuptra is considered the most volatile river in the world - ten times more so than the Mississippi. The unstable landmass is broken and reconstructed continuously

Runa Khan

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by this river, where people's homes, livelihoods, and lives may be washed away within hours. These chars are often on tributaries which may be more than 20 km wide, with currents of over 7 knots, within which are huge whirlpools. Communities live in clusters of more than 1500 people per sq km and are too poor to acquire boats, which are necessary to cross rivers that suddenly flood. Inundated in summer, families often resort to living on rooftops for weeks. In winter the sand and silt deposition decreases access of any sort as people often need to walk over 4 kilometres of sand to reach habitation.

The fragile physical environment and the risks it poses limit the kind of income opportunities and acquisition of assets available to the communities residing there. The remoteness, absence of mainland institutions and the debilitating effects of natural disasters collectively contribute to making char dwellers one of the most vulnerable communities in the world.

Non-government organisations (NGOs) and the Government of Bangladesh (GoB) are unable to provide the healthcare needed in these areas despite high mortality and morbidity rates, compared to the national average. Health problems range from maternal and child mortality, outbreaks of diseases, untreated cases of common ailments, high rates of rare diseases such as the Berger Syndrome[1], eye, orthopaedic problems and cases needing reconstructive interventions. Add to these the continuous influx of new infectious agents due to in-migration and the health problems look simply insurmountable. Yet some of the diseases and conditions that are often left unaddressed can be controlled by the most basic of interventions.

AN INNOVATIVE HEALTHCARE MODEL BASED ON A MOBILE 3 TIER SYSTEM

The Friendship 3-tier Healthcare Programme aims, for the first time in Bangladesh, to provide dependable quality healthcare at the door-steps of 6 million ultra poor migratory people. The programme's goal is to ease suffering through a comprehensive system that incorporates the unpredictable geography of the chars and delivers services through hospital ships, mobile clinics, community medics, and river ambulances. In the near future, the plan will include telemedicine services at the field level. The programme uses innovative approaches in the design of boats and ships, as well as a delivery model that is sustainable. The latter is being achieved by ensuring that people can have access to government services; by training local community members and by creating stronger links between donors, recipients and service providers.

THE FLOATING HOSPITALS

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Lifebuoy Friendship Hospital

Emirates Friendship Hospital

The greatest challenge that Friendship faced in implementing these initial projects was, quite simply, the lack of any existing models to learn from. No hospital ships had successfully operated at such low cost in such remote areas anywhere in the world.

With this premise in mind, we began the work of approaching donors and multinationals to fund this innovative initiative. At that juncture, the idea of a mobile hospital rendering health care in such remote areas was so new that the project was rejected by everyone the organisation approached. Finally, a corporate organisation, Unilever, agreed to sponsor the project. Friendship was founded in 1998 to open the first mobile floating hospital in Bangladesh.

In 2001, Friendship introduced Lifebuoy Friendship Hospital (LFH), the country's first floating hospital designed to provide quality and affordable healthcare to char dwellers. This French river barge was equipped to function as a mobile primary health clinic, with 2 doctor's rooms, one minor operating theatre, a small ward and living quarters for a 22 member team of medical and technical staff. Besides primary health care, which focused on assisting mothers with children, immunisation, treatment for common diseases and limited curative care we also provided access to pathological services, x-rays, dental and eye care.

The greatest challenge that Friendship faced in implementing these initial projects was, quite simply, the lack of any existing models to learn from. No hospital ships had successfully operated at such low cost in such remote areas anywhere in the world. As Executive Director, I did not have any experience in the medical or non-profit sectors. So, in essence, Friendship was born out of a realisation that medical care in this region was in dire straits. We responded to that need, despite our lack of experience to tackle the challenges that lay ahead.

The ship functioned as a medical hospital and hotel combined into one facility. Though we began the work knowing that these communities lived in some of the most remote parts of Bangladesh, there were other challenges involved. For one, most of the people we encountered had not seen, let alone consulted with, a doctor their whole lives. Introducing medical assistance also required a process of winning trust and acceptance into the community. Security measures also had to be put in place as we were told that visiting doctors were fearful to provide treatment in the community. Most carried guns with them when they visited patients. We hired professional staff with experience in running NGO hospitals. But much of what they knew had to be shelved, so that a new system of medical care could be created to specifically respond to the needs of these river-dwelling communities.

Friendship began with a target of helping 600 to 1,000 patients a month. Right from the start, we began tackling difficult questions. How does one deal with communities that think a foreign hospital ship has come to cut off their eyes and lungs for sale? How does one respond when a mother of a child who has cerebral palsy asks, "If nothing can be done, can I kill the child?" Simple, everyday rituals are complicated affairs in the chars. To buy a box of matches, one has to commute 3 hours by foot and boat to the nearest provision shop. Under these circumstances, it wasn't even viable to propose long-term contracts for staff. But without that consistency and continuity, the communities were unlikely to trust the organisation and our work. Navigating through this difficult terrain, we also re-defined the idea of "sustainability". For our work, the term articulated the ability to provide continuous, quality care to a community over time, so that they would come to trust and depend on the healthcare service we wanted to provide. At the same time, for our project to become sustainable, we had to ensure that security measures were implemented and came from within the community. We also had to ensure our staff would be able to work under these circumstances over a long-term period.

The idea of providing subsidised healthcare also did not work in practice in a community where the average daily income of the sole breadwinner in a family of eight, amounted to US$1.25. Family members did not have any savings for medical services. On our part, we quickly realised that providing subsidised healthcare would neither work, nor aid our own goal to become a sustainable organisation. There was no point in rendering advice when people needed intervention. So we changed our strategy and decided that we would not charge anything for services which are also provided by the government and should be accessible to all as citizens of the country. We decided to keep a very nominal registration fee between US$0.05 to US$0.20 so that the community felt respected. When AFP (Agence France Presse) asked a patient who had travelled 4 hours by river why they came to

the ship and not to another hospital 4 hours away, the person said "It is like an angel to us."[2] This truly reflected the goal of the project: to ease suffering and cure people.

Knowing that a little extra intervention could dramatically change the lives of many of the beneficiaries we were working for, we decided to introduce secondary healthcare services. The ship had not been equipped to provide anything other than primary healthcare. Therefore changes had to be made to the work models and structure. We added another operating theatre, constructed a separate houseboat for visitors and arranged for prefabricated patient wards which could be constructed on the banks of the river where the ship stopped. We also invited and at times, requested that doctors from both Bangladesh and abroad come to give some of their time to communities who would otherwise never have access to quality care. Today, each year, over 80 local and foreign medical specialists provide secondary health care to the people of the chars.

In 2008, Friendship introduced its second floating hospital, the Emirates Friendship Hospital (EFH) to meet the growing need of medical services in the chars. This is the first trimarine ship in Bangladesh, equipped with two operating theatres, a unit specialising in women and child care and general outdoor consultation rooms.[3] The floating hospital also has dentistry, ophthalmic and pathology rooms. It has provisions for 26 staff and 6 volunteer doctors to be on board at any given time. Currently, Friendship serves 7,500 patients each month through these two floating hospitals. To date, we have served 421,404 people directly through our various floating hospitals.[4]

THE SATELLITE CLINIC PROGRAMME

In 2002, a little child died in an island opposite the moored LFH hospital. The child died of diarrhoea and the mother did not have US$0.10 to take a boat to bring the child across the river to the hospital. The pathos of the situation convinced Friendship that prevention must be integrated into the health care system beyond access to basic check-ups and medicines. Thus mobile medical teams were sent out to visit the surrounding islands twice a month, to teach basic health and deliver primary medical services.

This was the inception of Friendship's Satellite Clinic Programme. A satellite clinic consists of a paramedic, a health assistant and a helper who may either be a part of the team or a Friendship-trained community member. With community participation and input, pre-planned locations are identified for camps to be set up on the chars bimonthly or weekly. For 20 days a month, medical teams set out early in the morning on boats from the nearby villages and towns like Gaibandha, Chilmari and Kurigram in the north and Shoronkola, Kuakata and Taltoli in the south. The clinics address rural social education; primary health care; maternal and child care; expanded programme on immunisation (EPI)[5]; diet and nutrition; family planning and provide subsidised or free medication and identify needs for secondary care interventions.

A snapshot of Friendship's regular Satellite Clinics, a mechanism which delivers healthcare to the char population on a weekly basis. Satellite Clinic activities consists of paramedics providing general treatment, family planning, referral services and interactive health education sessions. P*hoto taken by: Friendship*

The Lifebuoy Friendship Hospital docked by a char. Wherever Friendship's hospital ships go, they attract a large number of local people, which include both patients and curious onlookers. *Photo taken by: Paolo Pelligrin*

Today there are 229 satellite clinics in operation throughout the chars, bringing primary health care to the doorstep of beneficiaries. In all the satellite clinics combined, the number of patients served to date is 1,001,323. Every month Friendship's satellite clinics serves an average of 14,770 people.[6] Although the floating hospital made healthcare both accessible and affordable, Friendship realised this service alone was not enough to deliver adequate health services. The char populace lacked the motivation to seek out healthcare unless they were gravely ill and accepted poor health as a part of life. For the char dwellers, common bouts of diarrhoea and respiratory infections, malnourished children, anaemic mothers and unsafe deliveries were not reasons to seek out medical help. Friendship's Satellite Clinic Programme was also initiated to educate the communities so that they would begin to see healthcare as a fundamental human right. But the approach also allowed our staff to build rapport with the people – particularly women and children who were less mobile. It also enabled our staff to share knowledge on health and well-being.

FRIENDSHIP'S COMMUNITY MEDICS (FCM) PROGRAMME

By 2005, the Satellite Clinic Programme was serving 32 islands. But on days when there were no mobile teams on the ground, daily emergencies went untreated and people could not buy basic medicines such as Disprin or Burnol.[7] Friendship continued to believe that donor dependence to provide primary healthcare was not a feasible long-term solution to these problems. Having created a demand for health services, Friendship decided to provide basic training to identified community members who could provide continuous services to the islands, thereby earning an income from within the island. Through them the community could access basic medicines, identify emergencies and secondary healthcare needs. This led to the inception of the Friendship Community Medics (FCM) Programme.

As static clinics and continuous deliverance of care was not possible on the chars, this revolutionary tier in the healthcare delivery system promised the care the char populace required. FCMs are usually trained women from the community who have been selected with the sole purpose of creating a self-sustaining, primary healthcare service provision mechanism in the char areas. We focused on training women so that they could address maternal and child health, nutrition and family planning issues in the char.

The FCM programme started in 2005 with funds from the LFH (Lifebuoy Friendship Hospital). Today, as the programme grows, other donors have come forward to fund the project. A total of 224 FCMs are currently operating or being recruited in 104 chars.[8]

FCMs are believed to be an effective and efficient means of improving community health because they serve a vital link between communities and other parts of the healthcare system. Accordingly, they are trained as an asset to the community, equipped to deal with primary health care (PHC) issues, record keeping (eligibility for family planning, pregnancies etc.), and referral services. Each FCM undergoes an intensive residential training programme on PHC, diseases, maternal and child care, Acute Respiratory Infections, diet and nutrition, safe delivery, first aid, family planning and the use of basic medicines. The FCMs are also trained in emergency management so that they can also work in disaster-prone areas and in the aftermath of calamities. Friendship has identified and partnered with various institutions to undertake this training. Through Gonoshashthya Kendra (GK) we train them in basic health, technical assistance

which includes, but is not limited to, organising and facilitating training, workshops and orientation of Training of Trainers (TOT), FCMs and paramedics. Some of this is also provided by the Chars Livelihoods Programme (CLP) and EngenderHealth.[9] They are then trained trainers of Friendship. The Government of Bangladesh (GoB) assists in providing training and logistical assistance. We collaborate with GoB through satellite clinics for family planning, especially for long acting and permanent methods. Friendship also has programs to teach beneficiaries how to access governmental services in the region. A total of 16 FCMs have been given Training for Trainers (TOT) by Help Doctors and HumaniTerra International, France.

Satellite clinics and FCMs are primarily responsible for the prevention and cure of Limited Curative Care (LCC) providing health service activities such as creating health awareness, facilitating prevention of diseases, Mother and Child services (M&C), and nutrition interventions, among others. They also identify referral cases and secondary care patients. FCM provide house-to-house services as well as community meetings for behavioural change communication (BCC).[10] They are stocked with basic medicine for minor ailments, delivery kits, nutrition and family planning packs and are required to refer to satellite clinics for other health issues. FCMs register all newly married couples and motivate them and other non-users to use family planning (FP) while monitoring users of FP. FCMs are responsible for bringing pregnant women to satellite clinics for Antenatal Care (ANC), Prenatal Care (PNC) and new born care, eligible couples for family planning, and children for immunisation (done in collaboration with GoB). They are also required to inform community members of, and be present at, the weekly satellite clinics to assist the paramedics.

The efficacy of the 3-tier healthcare model developed by Friendship cannot be understated. Friendship's programmes of economic development and sustainability, education including primary and functional literacy for adults, and disaster prevention schemes are all inter-connected and work to ensure sustainable development.

THE WAY FORWARD

To turn the 3 tier mechanism into a 4 tier comprehensive system, Friendship is working to provide Telemedicine to remote communities.

Today, Friendship directly serves more than 22,000 patients each month through its hospitals and outreach programmes, focusing on the most remote and underserved areas of the country. By the end of 2009, Friendship had also served over 6,000,000 people through its education, relief and rehabilitation, income generation and cultural preservation projects.

The Friendship Healthcare Programme has a holistic approach to health service and is based on three objectives: To enable people to access health care services when donors are no longer there; to ease suffering; and to empower communities so that development, innovation and hope for the future are as readily available to the communities of the chars as they are to urban-dwelling citizens across the developing world.

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1 The symptoms of this disease are weakness and paraesthesia of the lower limbs. O. Berger, "Über eine eigenthümliche Form von Paraesthesie," *Breslauer aerztliche Zeitschrift* (1879) 1:60-61.

2 "Hospital on the water offers hope to Bangladesh's poorest," *Sunday Observer*, Agence-France Presse, April 18, 2004. http://www.sundayobserver.lk/2004/04/18/wor01.html

3 Ships are equipped with varying number of hulls. A trimarine ship has three hulls.

4 See Friendship website for more up-to-date information on its current programmes http://friendship-bd.org/

5 EPI generally tackles immunization for 3-5 month old children, from various diseases including polio and diphtheria.

6 See note 4 above.

7 Disprin, commonly used for headaches, migraines, inflammation and the common flu, http://www.disprin.com. Burnol, Indian antiseptic cream, commonly used in the treatment of burns, cuts, wounds and abrasions, http://www.abbott.com.pk/Burnol.htm.

8 See note 4 above.

9 Chars Livelihood Programme, http://www.clp-bangladesh.org. EngenderHealth, http://www.engenderhealth.org/index-main.php.

10 "Behavior change communication (BCC) is the strategic use of communication to promote positive health outcomes, based on proven theories and models of behavior change". Centre for Global Health Communication and Marketing, http://www.globalhealthcommunication.org/strategies/behavior_change_communication