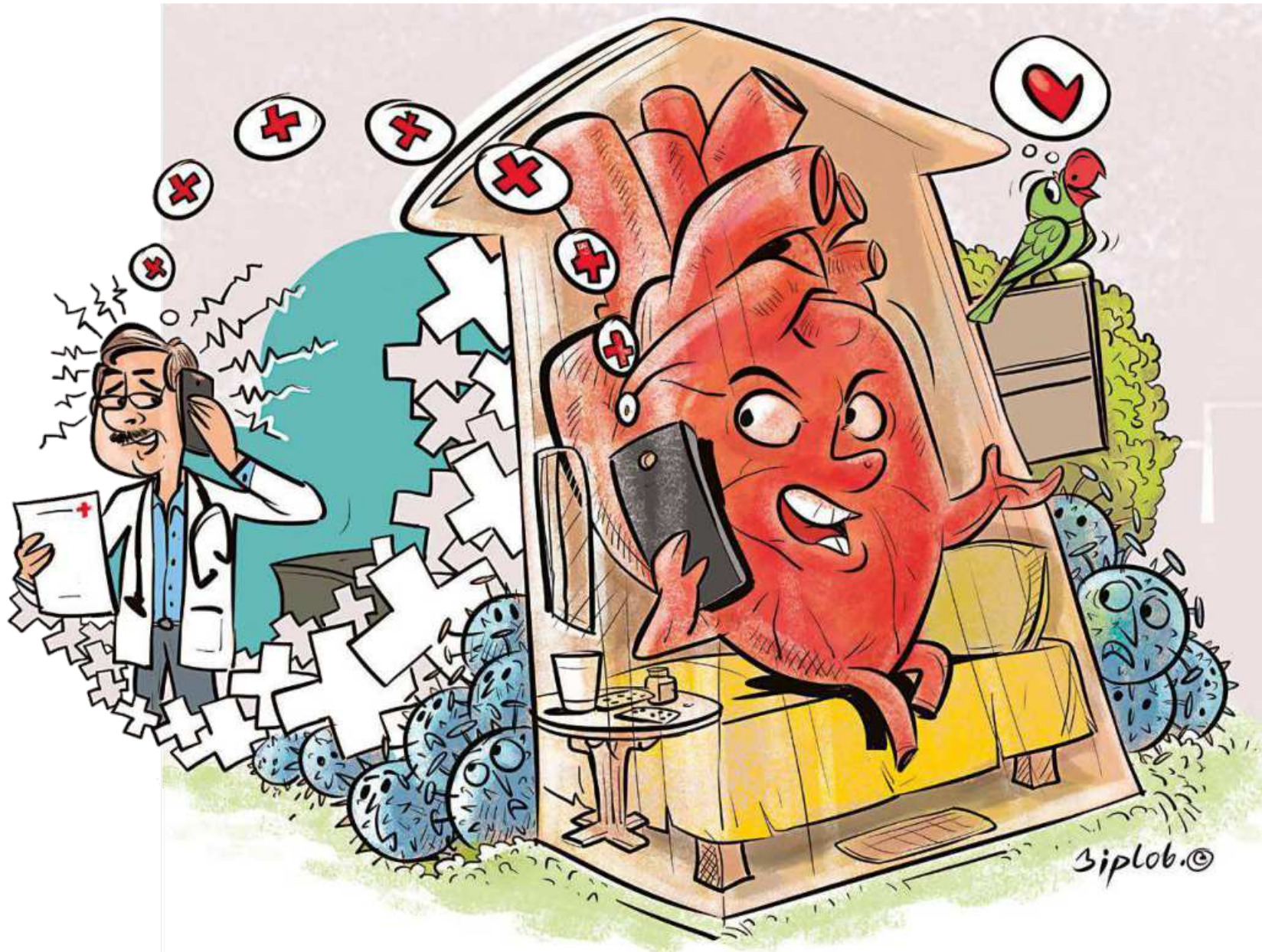


# Harnessing the power of digital health to improve heart care



WASIM BIN HABIB AND MOHAMMAD AL-MASUM MOLLA

Monir Hossain found himself in a precarious situation as soon as Covid-19 hit the country in March last year. The 70-year-old businessman from Faridpur has been suffering from heart disease for the past five years and as such, regularly visits Dhaka for check-ups.

But the pandemic-induced countrywide shutdown severely limited his access to in-person cardiac care, fearing that he may contract Covid-19 while travelling to the hospital. In turn, most healthcare centres in the capital refused to see patients at the time for the same reason.

It was during this difficult situation that he came to know about telemedicine services.

"I called up a health facility that provides telemedicine and got an appointment for a video call to consult a specialist doctor within one day of registration, Hossain said, adding that he is very satisfied with the service.

So, telemedicine services have come as a great relief for people with pre-existing cardiovascular conditions as it allows virtual access to healthcare for anyone in the country amid the ongoing Covid-19 pandemic.

Telemedicine, a system that enables patients to consult a doctor by means of telecommunication technology such as telephones and video calls, is not a new concept in Bangladesh.

However, Covid-19 has accelerated the pace with which telehealth is growing with cardiac care moving out of hospitals and into homes, offices, and outlying areas to cater to the underserved.

Cardiovascular diseases (CVDs) have always been an increasing cause of concern for Bangladesh and since Covid-19 has a particularly devastating impact on people with such pre-existing conditions, those afflicted are at the greatest risk of succumbing to the rogue virus.

Among non-communicable diseases, CVDs are the leading cause of death globally, accounting for nearly 17.9 million deaths worldwide in 2019, according to the World Health Organization.

The eighth Bangladesh Demographic Health Survey

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## United Hospital's Triumph in Cardiac Care

"While on a trip to Bandarban with a group of about 50 doctors and their families, I noticed a professor of surgery sitting on a bench with his wife screaming for help. With just one look, I could determine that he had gone into cardiac arrest," shares Dr N A M Momenuzzaman, Chief Consultant of the Cardiology department of United Hospital. Dr Momenuzzaman was quick on his feet and immediately started performing CPR, but there was no response. After almost half an hour, the patient awakened with a low pulse, in sweat and with chest pains. He was in need of immediate medical attention, so Dr Momenuzzaman contacted United Hospital. Soon, a helicopter ride was set up to transport the patient to the hospital for an echocardiogram (ECG) and subsequent cardiac interventional procedure (stenting). Although the patient was at high risk, expertise of Dr Momenuzzaman and quick response from United Hospital allowed the life of the patient to be saved, even leaving time for the doctor to rejoin his trip.

United Hospital has a massive team working round the clock to respond to such emergency cases and ensure quality care is provided every step of the way. Three dedicated Cath Labs at the hospital ensure 24/7 support for any emergency procedures like Primary Percutaneous Coronary Intervention (PCI) and temporary pacemaker implantations. "Besides, these labs are busy throughout the day for angiograms, angioplasty, device implantations and other interventional procedures," says Dr Tanveer Ahmad, a Junior Consultant who has worked in around 5500 Cardiac Procedures alongside Dr Kaiser Nasrullah Khan, senior consultant of the cardiology department.

"The most common surgery we carry out is the coronary artery bypass surgery or CABG, accounting for 80-90 percent of all cardiac surgeries," shares Dr Mohammad Rafiqur Rahman, a Junior Consultant of the Cardiac Surgery department who has been a part of over 3000 surgeries alongside the legendary cardiac surgeon, Dr Jahangir Kabir.

However, the doctors are constantly faced with more challenging cases, such as the one described by Dr Rezaul Hassan, an experienced Consultant of Cardiac Surgery

department who has been performing by himself as well as a part of almost 4000 surgeries with the Chief Cardiac Surgeon & Director of Cardiac Centre, Dr Jahangir Kabir.

"It was right after Eid. I was called in because an unconscious woman just over the age of 40 was admitted to the emergency ward. Before admission, a CT scan and echocardiogram (ECG) revealed her diagnosis of carcinoma. One of her renal veins was closed up, while the other was obstructed. The urine output had stopped and the increased blood-urea level caused the patient to lose consciousness," he narrates.

After discussing with the urologist, Dr Hassan decided to operate since there was a slight chance of the patient coming out alive. Kidney operations of such a nature cannot be properly carried out without a cardiac surgeon and the doctors were successful in identifying the issue. Although the surgery was high-risk, the patient survived.

Such procedures and operations may seem difficult to access in Bangladesh but United Hospital ensures its high-skilled medical team with extreme attention to detail and world-class facilities pave the way for proper healthcare, no matter how complicated the case is. There has been exponential growth and development in the healthcare system in Bangladesh and in this journey United Hospital has introduced one of the most advanced technologies to ensure the best care for its patients, according to Dr S M Zakir Khaled, an Associate Consultant of Cardiac Surgery department at the hospital who has worked in over 3500 surgeries alongside Dr Jahangir Kabir.

While doctors witness a wide range of patients with different levels of severity, it is essential for doctors to treat all of their patients equally. An important part of this is to ensure that they never give up on their patients, irrespective of how dire the circumstances might seem.

Dr Sayedur Rahman Khan, Consultant of the Cardiac Surgery Department at United Hospital recalls performing a rare surgery on a 50-year-old patient. During the post-operative stage, a hematoma had formed on the left side of the patient's heart, posing a challenge.

"The occurrence of a hematoma is quite

rare, it usually does not form. The heartbeat and the blood pressure of the patient were decreasing. Despite the use of a heart lung machine, the bleeding did not stop. By the time the bleeding finally stopped, the heart doubled in size and no longer fit within the chest cavity. As a result, we could not close the chest cavity. Leaving the heart open was a difficult decision that we had to make, as there is a risk of infections. On the third day, the patient finally stabilised and their

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heart slowly returned to its original size. Never give up on the patients and never lose hope. Always continue to strictly monitor them while the situation evolves," said Dr Rahman.

Doctors often have to make split-second decisions that could potentially save a patient's life. Dr Mirza Abul Kalam Mohiuddin, Consultant of the Cardiac Surgery department who has experience in over 6000 surgeries with Dr Jahangir Kabir, speaks about the challenge of operating on patients with a low rate of survival. He recounts the story of a 29-year-old patient whose heart had ruptured 15 days after

having a heart attack, leaving no choice but for an operation.

"Sometimes, the only choice we have is to operate, irrespective of the risk, because the chances of the patient dying without an operation is probably 100 percent," said Dr Kalam, continuing, "people need to start getting annual check-ups once they reach the age of 30. Alongside this, you should stop smoking, eat healthy home-cooked meals, get regular sleep and walk for 30-40 minutes for at least 5 days a week. Establishing a healthy lifestyle is key to ensuring ideal cardiac and bodily function."

Doctors and surgeons deal with many patients on a daily basis, but it's essential to provide the same level of care for each patient. Dr Reyan Anis, Senior Consultant of the Cardiology Department tells us that continuous and persistent care can improve heart conditions over time. She mentions a former patient, a 35-year-old male banker who was brought to the emergency room with severe shortness of breath. The patient had low blood pressure, heart failure and pneumonia. After an echocardiogram he was diagnosed with idiopathic dilated cardiomyopathy. The treatment was very difficult and prognosis was poor. It took 3-4 days just to stabilise the patient's urine and blood pressure.

"He only had 25 percent of heart function, and we were not sure whether he would be able to live for few years. However, through contributions from the doctors here at United, along with changes to his lifestyle, the patient was able to return to work and regain some level of normalcy in his life," says the interventional cardiologist Dr Reyan Anis.

When it comes to services related to cardiac patients, the renowned cardiologist, Dr Fatema Begum, Senior Consultant of the Cardiology department, discussed the astounding development of the cardiac treatment sector in Bangladesh. She emphasised that at the present, there is hardly any need to seek services abroad for cardiac conditions. United Hospital provides all range of services that might be required for the treatment of a cardiac patient. United Hospital facilitates international standard services for cardiac patients in Bangladesh.

This point is again stressed by Dr Arif Ahmed Mohiuddin, Junior Consultant

of the Cardiac Surgery Department who was present in over 1000 surgeries with Dr Jahangir Kabir. Dr Mohiuddin discussed how Covid-19 prevented cardiac patients from seeking services abroad.

"Covid-19 has made it difficult for a lot of patients to go abroad for regular check-ups and surgeries. Therefore, we are trying our best to provide a similar level of service to the patients and have been quite successful at doing so. For patients coming into our wing, we also have a particular phone number that they can call at night which allows them to talk to a cardiac surgeon directly. We do our best to never let our patients feel alone," said Dr Mohiuddin.

These services are not only restricted to state of the art machinery and diagnostic tools. United also has telemedicine services for both former and new patients, availability of a wide range of consultations options, and a coordinated team of doctors to support a patient's every need.

United Hospital's Cardiac Centre has successfully been carrying out more than 1300 surgeries every year, even during the COVID-19 pandemic with less than a two percent mortality rate. United Hospital has only been able to provide such high-quality services due to the many years of experience that their doctors have. The centre has modern electro-medical equipment and appliances including 3 catheterization laboratories including the most advanced Azurion Cathlab, Cardio Neuro iGS 520 Hybrid Cathlab and a 20 bed Coronary Care Unit (CCU) with specially managed CCU unit dedicated for COVID patients to carry out all necessary procedures related to diagnostic & interventional cardiology. In addition to this, United Hospital has a 15 bedded Cardiac High Dependency Unit (CHDU) and an 8 bedded Post Cath Section.

The Chief Cardiac Surgeon and Director of the Cardiac Centre, Dr Jahangir Kabir, understands quite well the socioeconomic situation of most patients in this part of the world. Hence, he approaches each of his patients by keeping this in mind and performing a cost-analysis that ensures the best possible treatment for his patients while charging them the most affordable amount for it. At the same time, he never falters on the quality of the treatment. This is a unique approach not seen in many doctors.

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