

# Molecular cancer diagnosis in Bangladesh

STAR HEALTH REPORT

Praava Health, a network of family health centres in Dhaka, has opened molecular cancer diagnostics laboratory in Bangladesh. Praava will soon offer immunohistochemistry services and expanded cancer risk panels to provide more nuanced cancer diagnoses.

Data on the cancer burden in Bangladesh are unreliable and sparse. It is estimated that there were more than 100,000 cancer deaths in 2018 — accounting for 10% of all deaths in the country. New cases are predicted to rise from 150,781 cases in 2018 to 250,726 cases in 2035.

With limited reliable diagnostics technology in the country, many sophisticated tests are shipped abroad for analysis, resulting in unnecessary delays and risk of contamination. As a result, many Bangladeshis are left with conflicting laboratory results that delay treatment and increase risk of death.

"This is extremely personal for me," said Sylvana Sinha, Founder, Managing Director, and CEO of Praava Health. "Several of my relatives with cancer were wrongly diagnosed by doctors in



Nucleic acid isolation from blood collected from a cancer patient.

PHOTO: COURTESY

Bangladesh, resulting in countless extra doctor visits and scares for our family. When I founded Praava Health, one of my biggest priorities was to offer a full range of world-class diagnostics services, including for cancer."

Treatment of cancer in Bangladesh is also sometimes limited. Clinical oncology has traditionally relied on tumour

location, grade, stage and a patients' overall physical condition to determine the right treatment approach. Because of the distinct nature of each tumour, this one-size-fits-all approach often leads to ineffective treatment and poor patient outcomes.

Diagnostics that identify specific cancer characteristics can help doctors provide more tar-

geted treatment. Praava Health's state-of-the-art facility enables patient-specific tumour profiling that translates into personalised therapies.

Additionally, Praava's laboratory uses a process called liquid biopsy, which isolates and analyses DNA and RNA samples from patients' blood and tissue. This technique provides fast and reli-

able results and helps patients avoid invasive and painful tests.

The laboratory was established under the leadership of Dr Zaheed Husain, a cancer immunologist who spent many years running a laboratory at a world-class teaching hospital of Harvard Medical School.

"Modern day cancer therapy is all about personalising medicine," said Dr Husain. "The techniques we use in our lab allow us to detect very small changes in patients' tumour samples, allowing the clinician to find the right treatment for each patient."

Praava's molecular cancer diagnostics lab is currently focused on early detection of cervical, breast, colorectal and non-small cell lung cancer (NSCLC) — some of the most prevalent cancers in the country. The molecular cancer diagnostics laboratory has already processed more than 500 tests in Bangladesh.

In addition to cancer diagnostics, Praava Health offers consultations with family health doctors and specialists, other lab and imaging diagnostics, and an in-house pharmacy. More information about Praava Health is available on their website [www.praavahealth.com](http://www.praavahealth.com)

## HEALTHbulletin



### Up to 13 million cases of cervical cancer could be prevented by 2050

Cervical cancer could be eliminated as a public health problem in most countries by the end of the century by rapid expansion of existing interventions, according to a modelling study published in The Lancet Oncology journal.

The estimates, which are the first of their kind at a global-scale, indicate that combining high uptake of the human papillomavirus (HPV) vaccine and high HPV-based cervical screening rates in all countries from 2020 onwards could prevent up to 13.4 million cases of cervical cancer within 50 years (by 2069), and the average rate of annual cases across all countries could fall to less than 4 cases per 100,000 women by the end of the century—which is a potential threshold for considering cervical cancer to be eliminated as a major public health problem.

Rapid vaccination scale-up to 80–100% coverage globally by 2020 using a broad-spectrum HPV vaccine could prevent 6.7–7.7 million cases—but more than half of these would be averted after 2060.

Interview

## Glaring need to making EMS more effective in Bangladesh

STAR HEALTH DESK

Emergency Medical Services (EMS), also known as ambulance services or paramedic services or pre-hospital transfer services, are emergency services which treat illnesses and injuries that require an urgent medical response, providing out-of-hospital treatment and transport to definitive care.

Usually, these emergency services bring patients to a hospital facility for further treatment. Patients may end up admitting to the surgery or casualty department, Intensive Care Unit (ICU) or elsewhere. The objective of emergency medical services is to keep the patient safe during the transfer and connect them to the next level of care. It is not only the transfer of the patient in an ambulance but also providing care during that period which may involve cardio-pulmonary resuscitation (CPR), ventilation or any other life-saving maneuver.

Intensive care medicine, or critical care medicine, is a branch of medicine concerned with the diagnosis and management of life-threatening conditions that may require sophisticated life support and intensive monitoring.

Dr Raghib Manzoor, Founder, Managing Director and Chief Consultant of CritiCare Research Centre Pvt Ltd, who has been working in this sector for many years



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shared his views regarding the current scenario of EMS in Bangladesh, the immediate need and suggested some way forward.

Dr Raghib, who is also known as the "emergency man", said that the critical care discipline is comparatively new in Bangladesh in comparison to other disciplines of medical practice. We have a shortage of manpower to deal with a huge number of demanding patients. There is not a sufficient number of post-graduation programmes on this discipline.

That is why we have a shortage of doctors. There is also a shortage of other healthcare professionals like the nurse, paramedics etc. The government needs to be proactive in launching robust medical education programmes in different medical institutes to create a sufficient number of professionals.

In Bangladesh, most of the ambulances are mainly just converted from ordinary vehicles. They are not equipped with the machinery and facilities to support patients until reaching to the healthcare facilities. Alongside there are resource constraints in the number of ambulances in different healthcare facilities.

In the urban areas, roads are so congested that they hardly provide any space for clearing off the ambulance. People including the authorities need to be more aware to help the ambulatory patients.

Dr Raghib pointed out that if we can create a network of ambulances to deliver EMS, we can help many people despite the limitations. This could be mobile app based networks that would trigger an ambulance from the nearest source whenever there is a need.

Scan the QR code to watch the interview of Dr Raghib Manzoor in Facebook.



DID YOU KNOW?

### Delayed antibiotics could be linked to sepsis and death

Delaying antibiotics for elders with urinary tract infections (UTI) may put them at increased risk for sepsis and death, according to a retrospective study in The British Medical Journal (BMJ).

U.K. researchers examined the medical records of 157,000 adults aged 65 and older who were diagnosed in primary care with at least one UTI. Some 313,000 suspected or confirmed, uncomplicated UTIs were included: Antibiotics were prescribed immediately for 87%, were delayed but prescribed within a week for 6%, and were not prescribed at all for 7%.

The rates of bloodstream infection and mortality within 60 days were significantly higher when antibiotics were delayed or not prescribed than when they were prescribed immediately. In particular, the researchers calculate that one excess bloodstream infection would occur for every 37 untreated patients and for every 51 who received delayed treatment, and one excess death would occur for every 27 untreated patients and every 83 who received delayed treatment.



New Treatment

### Nasal spray as an adjunctive treatment for depression

The US Food and Drug Administration (FDA) has approved a nasal spray for treatment-resistant major depressive disorder in adults. Esketamine is a chemical mirror image of ketamine. It must be taken with an oral antidepressant.

Approval was based, in part, on findings from three 4-week randomised trials. In one of the trials, a statistically significant effect on depression severity was seen in patients treated with esketamine, compared with placebo recipients. In an additional, longer study, patients who continued esketamine had a significantly longer time to relapse.

Because of the possibility for misuse, the drug was approved with a risk evaluation and mitigation strategy. Additionally, the label contains a boxed warning about risks for dissociation, sedation, and suicidal thoughts.

Patients self-administer the spray, but they must do so in a clinician's office so they can be monitored. The recommended dosing schedule is twice weekly for weeks 1–4, once weekly for weeks 5–8, and once every 1 or 2 weeks thereafter.

Esketamine will cost \$590 for a 56-mg dose and \$885 for an 84-mg dose. The month-long induction phase will have a list price between \$4700 and \$6800.



## 6 Symptoms You Shouldn't Ignore

Most aches and pains aren't a sign of something serious, but certain symptoms should be checked out. See a doctor if you feel any of these things:

### 1. Weakness in Your Arms and Legs

If you get weak or numb in your arm, leg, or face, it can be a sign of a stroke, especially if it's on one side of your body. Caught early, it is often reversible," says internist Jacob Teitelbaum, MD.

### 2. Chest Pain

When it comes to chest pain, it's better to be safe than sorry. "Any chest pain, especially accompanied by sweating, pressure, shortness of breath, or nausea, should be evaluated by a medical professional right away," says Shilpi Agarwal, MD, with One Medical Group in Washington, DC.

### 3. Tenderness and Pain in the Back of Your Lower Leg

Teitelbaum says you can also check for what's called the Homans sign. "If you flex your toes upward and it hurts, that's also suggestive of a blood clot," he says. "But don't rely on that. If it's hot, red, and swollen on one side, go to the

### 4. Blood in Your Urine

If you have blood in your urine and you also feel a lot of pain in your side or in your back, you may have kidney stones. A kidney stone is a small crystal made of minerals and salts that forms in your kidney and moves through the tube that carries your urine.

### 5. Wheezing

Wheezing can also be caused by pneumonia or bronchitis. Are you coughing up yellow or green mucus? Do you also have a fever or shortness of breath? If so, you may have bronchitis that's turning into pneumonia. "Time to see your doctor," Teitelbaum says.

### 6. Suicidal Thoughts

If you feel hopeless or trapped or think you have no reason to live, get help. Talking to a professional can help you make it through a crisis. Go to a hospital emergency room or a walk-in clinic at a psychiatric hospital. A doctor or mental health professional will talk to you, keep you safe & help you get through this tough time.



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