



# ANNUAL REPORT 2025

# Reflection on 2025

**“We want to work on research and strategic areas that need the most attention but receive the least—like cancer, thalassemia, other genetic disorders and support trials for quality biologicals and medicines that will make the country self sufficient..”**

As 2025 ends, I reflect with deep gratitude and pride on the journey of ideSHi and the collective efforts that continue to shape our work. Throughout this year, ideSHi has taken meaningful steps to strengthen its systems, broaden its reach, and enhance the quality of its scientific and operational work. We have focused on building sustainable platforms for research, diagnostics, and clinical studies, while fostering stronger collaboration between academia, industry, and public health institutions.

2025 also marked a year of listening and learning. Through active engagement with partners, regulators, professionals, and communities, ideSHi gained valuable insights that are guiding improvements in our research practices, CRO operations, quality standards, and long-term strategic planning. These interactions reinforced the importance of accountability, rigor, and adaptability in everything we do.

We want to work on research and strategic areas that need the most attention but receive the least—like cancer, thalassemia, other genetic disorders and support trials for quality biologicals and medicines that will make the country self-sufficient. In Bangladesh, the burden of cancer is high and diagnosis is often unaffordable. At ideSHi, we are committed to making diagnosis accessible and preventing diseases through early detection and omics related therapy.

None of this progress would be possible without the dedication of the ideSHi team and the trust of our collaborators and supporters in Bangladesh and abroad. As we move forward, ideSHi remains committed to advancing science with purpose and ensuring that research translates into real benefits for society and is implemented in the country.

With sincere appreciation,

Dr. Firdausi Qadri  
Founder & Lead, ideSHi



## Reflection on 2025

As Chief Operating Officer of institute for developing Science & Health initiatives (ideSHi), I am pleased to present our 2025 Annual Report. This year, we strengthened the operational systems that enable ideSHi to deliver scientific innovation with rigor, efficiency, and measurable impact.

We optimized CRO operations, laboratory workflows, data integrity systems, and procurement processes to support research in oncology diagnostics, cancer research, genetic disorder screening, infectious diseases, and clinical trials, while ensuring strong monitoring and compliance.

This year also marked key institutional progress, including the introduction of a more structured HR policy, a digitalized HR management system, and the launch of ideSHi's Annual Report to enhance transparency and organizational management.

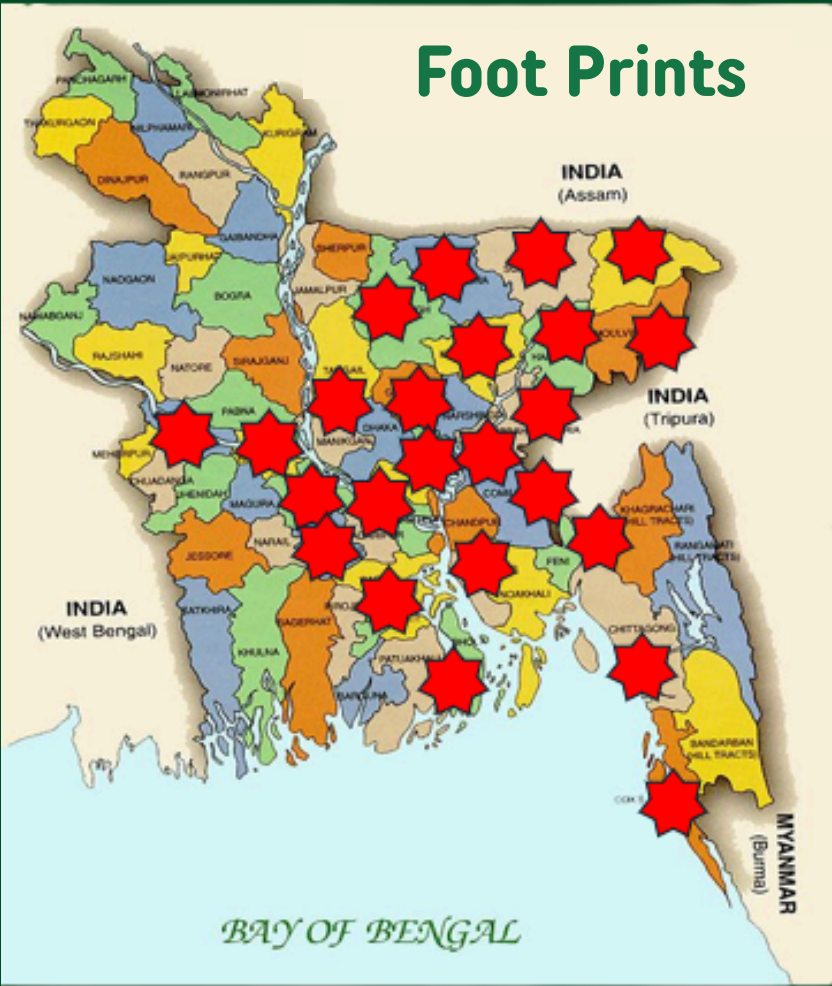
Staff development and hands-on training in laboratory techniques, bioinformatics, and clinical operations remained a priority. Through these efforts, ideSHi successfully implemented HPV awareness initiatives, thalassemia screening programs, rapid diagnostic kit validations, and several ongoing research and public health projects.

We sincerely thank our Board members, staff, partners, donors, and communities for their continued trust and support as we work to translate research into improved health outcomes for Bangladesh.

With appreciation,

Dr. Md. Rofiqur Rahman  
Chief Operating Officer, ideSHi





# ideSHi at a glance

institute for developing Science & Health initiatives (ideSHi) was established in 2014 as a non-profit foundation with the mission to create awareness, strengthen capacity, and drive innovation to position Bangladesh as a global leader in biomedical sciences and translational research. The institute was founded following the Christophe Rodolphe Grand Prize awarded to Dr. Firdausi Qadri in 2012.

ideSHi operates across multiple settings, serving as a platform for research, diagnostics, clinical trial services and capacity building for students, scientists, and medical professionals. Its primary focus was on inborn errors of metabolism (IEM) and genetic disorders, including Thalassemia and congenital hypothyroidism, while also addressing infectious diseases like typhoid, hepatitis and pneumonia, antimicrobial resistance, arboviral diseases and nationwide surveillance of SARS-CoV-2.

ideSHi has further expanded into oncology, women’s health, and preventive public health, implementing community-based programs such as HPV and typhoid vaccine awareness.

Through strong leadership, advanced facilities, and multi-sector collaborations, ideSHi continues to strengthen national research capacity and address critical health challenges in Bangladesh.

**2014**  
Established

**57+**  
Publications

**100+**  
Employees

**BSL 2+**  
Biosafety Level 2+ Facility

**50+**  
Training Sessions

**13**  
Ongoing Projects

# 2025 Highlights



ideSHi welcomed 2025 with cake, flowers, balloons, and shared smiles, celebrating moments of warmth, gratitude, and hope as a team. As ideSHi steps into the year ahead, it looks forward to new opportunities, stronger collaborations, and a continued commitment to advancing research and public health.

## January is Cervical Cancer Awareness Month!

The month was marked by ideSHi through field-based activities. Schools across Habiganj, Sunamganj, and Moulvibazar were visited to raise awareness on HPV infection, vaccination, and cervical cancer. Schoolgirls, teachers, parents, community leaders, and health workers were engaged to help close the knowledge gap and support WHO's 90-70-90 target to eliminate cervical cancer by 2030.

Together, the next generation can be protected.



ideSHi successfully hosted another meeting for Cervical Cancer Awareness Month, proposing the establishment of a Cervical Cancer Elimination Consortium, with participation from the Ministry of Health and Family Welfare (MIS, NIPSOM, EPI), BSMMU, PKSF, Ispahani Eye Hospital, WHO (former consultant), PATH, Bangladesh Mahila Samity, Friendship, HerStory, Incepta, and Aristopharma.

# 2025 Highlights



Several advanced hands-on training workshops on Molecular Biology, Immunology, Clinical Biochemistry, Microbiology, and Genomics were successfully conducted by ideSHi, engaging students, researchers, and professionals in advanced biomedical techniques. Heartfelt thanks are extended to all participants and trainers for making the workshops a great success.

On February 9, 2025, ideSHi and the Rotary Club of Dhaka North organized a Thalassemia Awareness and Free Carrier Screening Program at Kushtia Medical College. The program featured discussions on thalassemia prevention, carrier detection, and early screening. Medical students were engaged and empowered with essential knowledge on the disorder. A free carrier screening was conducted to promote genetic awareness. Gratitude is extended to Kushtia Medical College, speakers, and students for their support.



ideSHi team achieved notable success at the 2nd RSG Bangladesh CompBioSymposium 2025, winning three awards for oral and poster presentations. Mst. Sharmin Aktar Mukta and Mohammad Mamunur Rashid secured Runner-up Awards, while Ibtida Nusayba won the Champion title for her outstanding presentation.



Ms. Hien and Ms. Hao students of VinUniversity, Vietnam visited ideSHi.

# 2025 Highlights



When the students were asked, “What do you want to be when you grow up?” the classroom erupted with excited voices shouting, “A Doctor!” So many bright young girls dream of wearing the white coat and saving lives. But as they work toward their future, they must also be protected from the health risks they may face—one of them being Cervical Cancer. To safeguard these future doctors, daughters, and changemakers, the Government of Bangladesh introduced the HPV vaccine into the routine immunization program! But vaccine hesitancy remains a challenge. That is why ideSHi is taking action!

ideSHi proudly joined the TOT Workshop on “Vaccines to Vaccination” held on April 7–8, 2025, in Colombo, Sri Lanka—organized by the International Pediatric Association and hosted by the Sri Lanka College of Pediatricians, with support from GSK and the Serum Institute of India.

Dr. Firdausi Qadri co-chaired a powerful session on Vaccine Hesitancy, sparking vital discussions on trust, communication, and community engagement.



Dr. Seth Ari Sim-Son Hoffman from Stanford University, USA visited ideSHi as part of the collaborative project “Quantifying the True Burden of Pediatric Salmonella Typhi Infection Under 10 Years of Age in Dhaka, Bangladesh.” He visited ideSHi to train the field team and initiate the project, marking an important step toward its successful implementation.

# 2025 Highlights



ideSHi participated in the 1st S.N. Bose National Science Festival 2025 at Curzon Hall, University of Dhaka.



Dr. Jonathan Hoffmann from Fondation Mérieux paid an insightful

visit to ideSHi and its PneumoDX study sites within the FDMN camps in Ukhiya, Cox's Bazar. The agenda was rich with activity—spanning appraisal of ongoing fieldwork, review of study progress, and exploration of prospective research collaborations. During Dr. Jonathan Hoffmann's visit to Ukhiya Dr. Md. Rofiqur Rahman, COO, ideSHi and other scientists were also present.

On World Thalassemia Day, ideSHi organized an awareness and screening program at Bhulua Degree College, Noakhali to educate students and the community on thalassemia prevention. Dr. Firdausi Qadri, the keynote speaker, highlighted the urgency of early diagnosis and genetic awareness.



ideSHi was honored to host Dr. Steve Luby from Stanford University and his team at ideSHi as they prepare to start a new typhoid research project focused on improving detection and understanding of the disease burden in children under 10 years in Dhaka, Bangladesh.



Dr. Volcan Sayin and Dr. Sama Sayin from the University of Gothenburg, Sweden were warmly welcomed at ideSHi. An opportunity was provided to exchange thoughts on translational oncology, research collaboration, and future prospects in biomedical science.

# 2025 Highlights



A productive meeting was held with Mr. Neeraj Jain, PATH India, where PATH's work was presented. Dr. Firdausi Qadri shared an overview of ideSHi's facilities, research, and team, highlighting its commitment to biomedical innovation.



ideSHi organized a dissemination session on HPV Awareness Program at the EPI office, attended by the Program Manager and Line Director of EPI Bangladesh, along with representatives from UNICEF Bangladesh, PATH, and other EPI officials. The session was highly encouraging, with ideSHi receiving positive feedback for its ongoing HPV awareness campaign



ideSHi organized an insightful training session focused on Good Clinical Practice (GCP) and Good Laboratory Practice (GLP) – two essential pillars that uphold the integrity, safety, and quality of biomedical research. The session brought together ideSHi's dedicated scientists, researchers, and staff to strengthen their understanding of international guidelines, ethical standards, and lab protocols. Continuous learning like this helps ensure that ideSHi's work remains at the forefront of excellence and compliance.



ideSHi proudly celebrated the milestone of reaching 100 employees with a small cake-cutting and food-sharing gathering. The moment marked the steady growth of the ideSHi family and reflected the dedication, teamwork, and collective efforts of its staff.

# 2025 Highlights



A two-day training session was organized by ideSHi for the newly recruited field force for TCV Awareness Campaign, with facilitation from EPI and UNICEF Bangladesh. The interactive training included case studies and discussions, where EPI experts shared key insights on the TCV vaccine and its registration process. UNICEF representatives provided guidance on effective communication and motivational strategies for campaign outreach. The training equipped the team with the necessary knowledge and skills to support the TCV vaccination campaign effectively.

An initiation meeting on the Typhoid Conjugate Vaccine (TCV) awareness campaign was held at the DNCC office. During the session, ideSHi received clear guidance on its role in supporting the campaign.

The meeting was chaired by Brigadier General Imrul Kayes Chowdhury, Chief Health Officer, DNCC, along with Dr. Firdausi Qadri, Lead, ideSHi. Other respected representatives from DNCC and ideSHi were also in attendance, contributing to meaningful discussions and shared commitments.

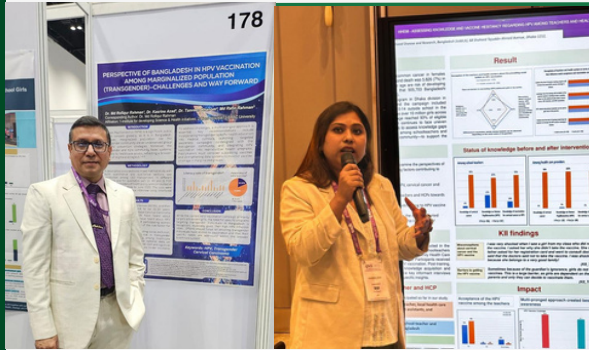


ideSHi was honored to take part in the “CEAB-CCRTB International Conference 2025 – Molecular Insights, Therapeutic Advances & Policy Innovation in Cancer Care”, held at Senate Bhaban, University of Dhaka.

This prestigious event provided an excellent platform to share knowledge, foster collaborations, and discuss innovative strategies in cancer research, treatment, and policy advancement.



# 2025 Highlights



ideSHi attended IPVS 2025 in Bangkok, Thailand. The event provided a valuable opportunity to connect with global experts, exchange knowledge, and gain insights into ongoing efforts to prevent HPV and related diseases worldwide.



TCV Awareness Campaign at Kollanpur Notun Bazar Area.

**Validation of a Rapid Diagnostic Kit for Detection of Hepatitis E Virus (HEV):**  
By incorporating urine-based rapid diagnostics into HEV surveillance programs, ideSHi aims to strengthen case identification, enable faster outbreak detection and response, and support evidence-based public health decision-making. This initiative aligns with ideSHi's broader mission to advance innovative, context-appropriate solutions for infectious disease surveillance and control in Bangladesh.



On World Cervical Cancer Elimination Day 2025, the day was observed at Dhaka Cantonment Board Adarsha Bidya Niketon arranged by ideSHi in collaboration with Cervical Cancer Elimination Consortium Bangladesh. The program included a vibrant rally, an awareness Olympiad, survivor experience sharing, a discussion session, and a prize-giving ceremony. Students participated enthusiastically in the rally, wearing teal T-shirts and white caps while carrying cervical cancer awareness placards.

# 2025 Highlights



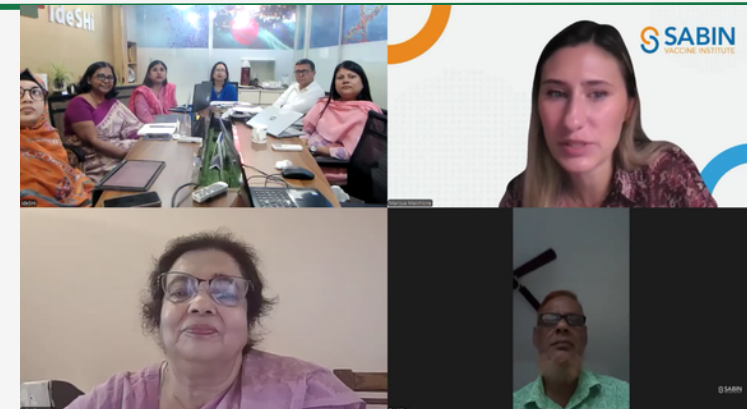
The Cervical Cancer Elimination Consortium Bangladesh, organized

a seminar at the SSQ Conference Hall, ideSHi, to observe World Cervical Cancer Elimination Day 2025. The seminar aimed to strengthen and accelerate national efforts toward eliminating cervical cancer in Bangladesh.

The event was graced by Mr. Md. Saidur Rahman, Secretary, Health Service Division, Ministry of Health and Family Welfare, as the Chief Guest. Distinguished participants included Prof. Dr. Sayeba Akhter, Chairman, BMRC; representatives from WHO and UNICEF; Dr. Syed Hasan Abdullah, Country Head, Safety Net; Dr. Quamrun Nahar, Country Ambassador, IPVS; along with other key stakeholders and experts.

ideSHi participated in a webinar that shared key lessons learned from the recent HPV vaccination campaign in Bangladesh, co-hosted by Sabin's Boost Community and the Global HPV Consortium.

The webinar explored how insights from Bangladesh—particularly effective use of social media to engage communities—can help inform strategies for future HPV vaccination campaigns worldwide. ideSHi was pleased to be part of this important knowledge-sharing platform contributing to global efforts toward cervical cancer prevention.



Camille Escadafal, Senior Scientist, and Camille Beatrice G. Bionda Valera, Data Scientist, from University of Geneva visited ideSHi laboratory and the project site of the Validation of a Rapid Diagnostic Kit for Detection of Hepatitis E Virus (HEV). They observed ongoing activities, interacted with the project team, and reviewed the progress of the validation work, supporting strengthened laboratory practices and coordination.



**Genetic Disorder**  
IEM, Thalassemia

**Clinical Biochemistry**  
HB electrophoresis, Hormone, Hematology

**Immunology**  
Serology, Vaccine Immune Response

**Cell Culture**  
Neutralization Assay

**Microbiology**  
AMR, Automated Culture, Pathogen Detection

**Translational Oncology**  
Cancer, HPV

**Molecular Biology**  
Genomic DNA Extraction, DNA Quantification,  
PCR, RT-PCR, Gel Electrophoresis

**Genomics Bioinformatics**  
Genomic Surveillance, Bacterial Whole Genome,  
Metagenomics

**Awareness**  
Thalassemia, HPV, Typhoid Conjugate Vaccine (TCV)

**CRO**  
Clinical Trial, PD, PK, Safety, Efficacy

**ideSHi**

## **Laboratory Resources**

- Biosafety Containment BSL 2+ Facility
- Nucleic Acid Extraction: Manual & automated
- Pathogen Detection: PCR, Gel Doc, RT-PCR
- Next Generation Sequencing: MiniON, Miseq
- Automated Culture: Vitek 2, Bact/Alert
- Pseudovirus Neutralization Assay
- ELISA (Epoch 2, EON)
- Automated Biochemistry Hormone Analyzer
- Capillary Electrophoresis
- Automated Hematology Analyzer
- High Throughput Computational Resources

# ideSHi's Current Project and Research Activities

SL	Project Title
1.	<a href="#"><u>A nation wide facility based study for determination of prevalence of 'Inborn Errors of Metabolism' among high risk neonates and children in Bangladesh.</u></a>
2.	<a href="#"><u>Thalassemia Awareness and Free Carrier Screening Program</u></a>
3.	<a href="#"><u>Respiratory Virus Genomic Surveillance in Bangladesh</u></a>
4.	<a href="#"><u>Testing and scaling messaging for HPV vaccine uptake in Bangladesh</u></a>
5.	<a href="#"><u>Hepatitis E virus (HEV) diagnostic test validation</u></a>
6.	<a href="#"><u>pneumoniaDX: Improving diagnosis and case management of childhood pneumonia in limited resource settings</u></a>
7.	Microbiome: Epidemiological Insights and Respiratory Microbiome Diversity in Upper Acute Respiratory Tract Infections: Assessing Risks in the Aftermath of the COVID-19 Pandemic
8.	<a href="#"><u>Antimicrobial Resistance (AMR): The Global Threat</u></a>
9.	D43, NIH Training Grant, MGH (Harvard Medical School)
10.	<a href="#"><u>RO1, Antibody mediated immunity against Klebsiella pneumoniae</u></a>
11.	To support "national public health strategy of laboratories for infectious diseases"
12.	Service agreement between Fondation Merieux, Institute for developing science and health initiatives foundation and BITID
13.	<a href="#"><u>Evaluation of a Non-Invasive Prenatal <math>\beta</math>-Thalassemia Screening Method</u></a>

# ideSHi's Services

SL	Title	Detail
1.	Capacity Building	Advanced Hands-on Training, Training for Centre for Medical Biotechnology (CMBT)
2.	CRO	Clinical Trial, PD, PK, Safety, Efficacy, Monitoring Service
3.	Diagnostic	Hematological Tests, Basic Neurometabolic Disorder Tests, Immunological Tests, Biochemical Tests, Clinical Microbiology Tests, Urine Tests, Oncology (Lung, Colorectal, Breast, Ovarian and Cervical Cancer)
4.	Vaccine	Meningitis, Rabies, Cholera, Typhoid, Tetanus, Influenza, Hepatitis A, Hepatitis B, HPV
5.	ideSHi IRB	ideSHi has its own Institutional Review Board (IRB) (#IRB00013389) authorized by Office for Human Research and Protection (OHRP) of National Institute of Health (NIH), USA with its Federal Wide Assurance Number (# FWA00032057) This registration is listed on the website at <a href="#">Hepatitis E virus (HEV) diagnostic test validation</a> . It is a 12-membered committee that reviews and meets at a regular interval or upon requirement for approving ethical permission to submitted proposals.
6.	Staff Clinic	ideSHi has its own staff clinic where our medical officers provide consultations dedicated to our staff. Basic medicine and first aid facilities are also available.



Vaccine Training Session Conducted by Incepta Pharmaceuticals Ltd. at ideSHi



Health Check-Up for Clinical Trial Participants



Advanced Hands-On Technical Training Session

# ideSHi's Current Project and Research Activities

## Quantifying the True Burden of Pediatric Typhoidal Salmonella Infection Among Children Under 10 Years of Age in Dhaka, Bangladesh

Dr. Umme Kulsum

Assistant Scientist, ideSHi

### Evidence

Typhoidal Salmonella remains a major cause of illness among children in Bangladesh, yet routine blood culture-based surveillance substantially underestimates infection burden due to limited sensitivity and healthcare access barriers. Emerging serological methods provide compelling evidence that a large proportion of infections are mild or asymptomatic and therefore undetected. This study applies validated Hemolysin E (HlyE), LPS IgA, and IgG serological assays within a population-based cohort to generate robust estimates of total and symptomatic infection incidence. In previous community surveys in Dhaka, Bangladesh, this assay predicts 44-fold higher incidence of infection than traditional community-based blood culture surveillance. The protocol is ethically approved and developed in collaboration with international academic partners, reflecting strong scientific rigor and alignment with global priorities for typhoid control. The study is conducted in collaboration with Stanford University and funded by the “Thrasher Research Fund”.

### Challenges

Key challenges include maintaining longitudinal follow-up in densely populated urban communities, participant mobility, and caregiver fatigue during extended monitoring periods. Ensuring consistent symptom reporting and specimen collection also requires intensive community engagement and field supervision. Additionally, reliance on referral-based blood culture for febrile cases may still underestimate clinically apparent disease. Logistical constraints related to field operations, specimen transport, and laboratory coordination in resource-limited settings present ongoing operational challenges.

### Outcomes

The study establishes a scalable, low-cost Sero surveillance framework capable of capturing the true burden of pediatric typhoidal Salmonella infection. Expected outcomes include population-level estimates of total and symptomatic infections, improved understanding of age- and gender-specific risk, and evidence to support typhoid conjugate vaccine policy, antimicrobial resistance monitoring, and water, sanitation, and hygiene interventions. Beyond scientific outputs, the project strengthens local research capacity, enhances international collaboration, and positions ideSHi as a leader in innovative infectious disease surveillance in Bangladesh.

# ideSHi's Current Project and Research Activities

## Evaluation of a Non-Invasive Prenatal $\beta$ -Thalassemia Screening Method

Rumana Mahtarin  
PhD Fellow, ideSHi

### Evidence

$\beta$ -thalassemia is a major public health concern in Bangladesh, with a carrier frequency of ~11.89%, leading to thousands of affected births annually. The presence of fetal DNA in maternal peripheral blood paved the path for non-invasive prenatal testing for many genetic disorders, including thalassemia. A prospective observational pilot study is ongoing at ideSHi, enrolling 30 pregnant couples at risk of  $\beta$ -thalassemia-affected childbirth. Amplification Refractory Mutational System (ARMS)-PCR has been performed to detect paternally inherited mutations in the  $\beta$ -globin (HBB) gene. The results have been compared with invasive prenatal diagnostic methods (amniocentesis, chorionic villus sampling).

### Challenges

- Low fetal fraction in maternal plasma DNA may reduce sensitivity of ARMS-PCR.
- Primer design and amplification specificity required careful optimization.
- Need for rapid sample processing and specialized kit posed resource challenges.
- Scaling up requires infrastructure, trained personnel, and cost-effective workflows.

### Outcomes

- Demonstrated that ARMS-PCR can detect paternally inherited  $\beta$ -thalassemia mutations in maternal plasma, with concordance to invasive methods.
- Potential to reduce reliance on invasive procedures, lowering risks for mothers and fetuses.
- Offers a foundation for developing safer, cost-effective prenatal screening strategies in Bangladesh to improve maternal and child health outcomes.

Let's create awareness and prevent Thalassemia

# ideSHi's Current Project and Research Activities

## Validation of a Rapid Diagnostic Kit for Detection of Hepatitis E Virus (HEV)

Dr. Mubasshir Washif

Assistant Scientist, ideSHi

### Evidence

The purpose of this study is to evaluate the feasibility, sensitivity, and specificity of detecting HEV in suspected cases of acute jaundice syndrome (AJS) utilizing urine-based rapid diagnostic tests (RDTs).

Hepatitis E virus (HEV) outbreaks are often caused by contaminated drinking water, and the virus is still a major public health concern in low- and middle-income nations like Bangladesh. We have started a study to evaluate HEV diagnosis utilizing a non-invasive urine-based rapid antigen test because of the high prevalence of HEV and the related problems, especially in pregnant women. By offering an affordable and easily accessible substitute for conventional molecular and serological diagnostics, this innovative method seeks to enhance early detection and outbreak control in environments with limited resources.

Clinical specimens (Blood and Urine) were collected from patients presenting with acute jaundice symptoms. Standardized RT-PCR procedures were used for the molecular detection of viral infections, and ELISA was used to identify HEV antibodies.

The project was supported by the Gates Foundation, contributing to capacity strengthening and international research collaboration.

### Challenges

The project was implemented smoothly with minimal operational challenges. Coordination for sample processing and laboratory works required structured planning, which was effectively managed through established standard operating procedures. Overall, the study progressed efficiently.

### Outcomes

In this project, till now we have tested 658 cases. Using ELISA and blood RT-qPCR as reference standards, Assure exhibited the highest sensitivity (1.00 and 0.968, respectively), whereas CTK showed the highest specificity (1.00 and 0.975, respectively) among the three IgM RDTs. In contrast, urine antigen RDT demonstrated relatively lower sensitivity (54.1%) despite high specificity (97.2%) compared to RT-qPCR in either blood or urine. After analysis of the complete study cohort, our findings will provide definitive estimates of diagnostic accuracy and reliability for each assay to offer a roadmap for scalable HEV screening strategies in high-burden, resource-limited settings.

The findings strengthen laboratory capacity, enhance epidemiological understanding, and support evidence-based public health preparedness through national and international collaboration.

# ideSHi's Current Project and Research Activities

## ACSM activities in TCV campaign in Bangladesh

Dr. Danny Theotonius Gomes  
Program Supervisor, ideSHi

### Evidence

Typhoid fever is a major public health concern in Bangladesh, an endemic country with high disease incidence, especially among children aged under 15 years. The disease, driven by contaminated food and water, has high rates of antimicrobial resistance (AMR), including emerging resistance to commonly used antibiotics. Bangladesh successfully conducted a major nationwide Typhoid Conjugate Vaccine (TCV) campaign in October 2025 targeting over 50 million children aged 9 months to under 15 years, vaccinating 42.5 million children with over 97% coverage. During this campaign ideSHi played a specialized role in Advocacy, Communication, and Social Mobilization (ACSM) to support the government-led initiative. With the support of PATH, ideSHi conducted ACSM (Advocacy, Communication, and Social Mobilization) activities in Zone 3 and Zone 4 of Dhaka North City Corporation including 2 slum areas (Kallyanpur Pora Bosti and Gabtoli City Colony Bosti) and in Ward- 55, 56 and 57 of Kamrangirchar thana including 2 slum areas (Sylheti Bazar Bosti and Nilachol Bosti) of Dhaka South City Corporation.

### Challenges

While conducting this mammoth task Team ideSHi faced many challenges, some of which are alluded below.

- Misinformation: Rumors that the vaccine was an “experimental trial” and the locals were used as “guinea pigs”.
- Skepticism: Questions regarding clinical trials and why western nations did not prioritize the same vaccine.
- Religious hesitancy: Madrasa teachers and local religious leaders feared that the vaccine was “unislamic” and not “halal”.
- Fear of side effects: Some parents feared post vaccination side effects such as- severe allergic reaction, fever, pain etc.
- Systemic issues: Requirement of mandatory online registration was the biggest hurdle as many candidates lacked certificates; others couldn't get them because their parents also lacked digital IDs.
- Resource gap: Shortage of manpower to perform this task was also a huge barrier.

### Outcomes

- ideSHi promoted awareness regarding “Typhoid Conjugate Vaccine” in 100 schools, 70 madrasas, 4500 households in the community across both city corporations.
- ideSHi has helped in almost 55,000 registrations including 30,000 in the community and 25,000 in schools across both city corporations.

# ideSHi's Current Project and Research Activities

## Thalassemia Awareness & Free Carrier Screening Program

Dr. Anwarul Karim

Program Supervisor, ideSHi

### Evidence

As of late 2025, Thalassemia remains a critical challenge in Bangladesh, with a 11–12% carrier rate (approx. 17–22 million people). Annually, 6,000 to 13,000 children are born with Thalassemia Major. This diagnosis acts as a "poverty trap," with monthly treatment costs (8,000–30,000 BDT) far exceeding the reach of average families, who bear 74% of expenses out-of-pocket. ideSHi focuses on decentralized prevention through education and premarital screening to break this cycle.

### Challenges

- **Misconceptions:** High prevalence of "Contagion Myths" (viewing it as an infectious disease) and confusion between healthy "carriers" and symptomatic "patients."
- **Stigma & Fear:** Anxiety regarding marital rejection ("undesirability") and social ostracization leads to screening hesitancy.
- **Fatalism:** A "fate-based" mindset and needle phobia often reduce proactive participation among youth.
- **Logistics:** Heavy academic schedules and a lack of health curriculum integration require ideSHi to build awareness from the ground up for non-medical students.

### Outcomes

Impact (2017 – May 2025): Supported by First Security Islami Bank PLC, Rotary Club of Dhaka North, and individual donors, ideSHi has implemented 36 national programs. Our approach combines diagnostic precision with genetic counseling, preventing lifelong physical and financial hardship for thousands of families.

### Screening Data Summary

Category	Total Figures
Total Individuals Screened	4,508
Total Carriers Detected	694
Overall Detection Rate	15.4%

### Carrier Breakdown by Variant

Hemoglobin Variant	Number of Carriers	Percentage
HbE Carrier	491	11.00%
Beta Thalassemia	180	4.00%
Alpha Thalassemia	15	0.30%
Other (HbS, HbD)	8	0.18%

# ideSHi's Current Project and Research Activities

## Testing and Scaling Messaging for HPV Vaccine Uptake in Bangladesh

Dr. Kasrina Azad

Assistant Scientist, ideSHi

### Background

Cervical cancer remains a major public health concern in Bangladesh, with persistent gaps in awareness, prevention, and early intervention. Human papillomavirus (HPV) infection is the primary cause of cervical cancer, yet knowledge of HPV transmission, its link to cancer, and the benefits of vaccination has historically been low among adolescents, parents, and community influencers. In October 2023, Bangladesh launched its national HPV vaccination program, initially in Dhaka division and later expanding nationwide, targeting school-going girls in Grades V and IX and out-of-school girls aged 10–14 years. By the end of 2024, national coverage reached 88% of eligible girls.

This project was designed to complement the national rollout by testing and scaling effective messaging strategies that could improve awareness, acceptance, and demand for HPV vaccination. The initiative focused on strengthening message content and delivery through schools, communities, healthcare providers, and digital platforms, while aligning closely with government-approved communication materials. By integrating behavioral insights, community engagement, and advocacy, the

project aimed to support sustained vaccine uptake and contribute to cervical cancer prevention efforts in Bangladesh.

### Challenges

Despite the national progress in vaccine coverage, several challenges affected HPV vaccine acceptance and uptake. Limited baseline knowledge of HPV infection and its link to cervical cancer was a major barrier, particularly among parents and caregivers. Cultural sensitivities around discussions of sexually transmitted infections, menstruation, and reproductive health further constrained open communication, especially in conservative and low-resource settings.

Misinformation and uncertainty regarding vaccine safety, eligibility, cost, and service delivery locations also influenced decision-making. While vaccines were provided free through government programs, lack of clarity around access points and schedules reduced confidence among some communities. Digital outreach faced disparities in access and engagement, particularly among populations with limited internet connectivity or lower digital literacy. Additionally, teachers and frontline health workers initially had varying levels of confidence and training to effectively communicate HPV-related information. Addressing these challenges required coordinated messaging, trusted intermediaries, and culturally appropriate engagement strategies.

# ideSHi's Current Project and Research Activities

## Testing and Scaling Messaging for HPV Vaccine Uptake in Bangladesh

### Outcomes

The project achieved significant improvements in knowledge, attitudes, and intent related to HPV vaccination. Awareness of cervical cancer increased from 55% before the intervention to 94% after, while awareness of HPV rose from 14% to 89%. Understanding of the causal link between HPV and cervical cancer increased from 47% to 86%, and knowledge of HPV vaccination rose from 45% to 94%. Recognition of key symptoms and risk factors improved significantly across intervention areas ( $p < 0.001$ ).

Willingness to receive the HPV vaccine increased substantially, from 17% pre-intervention to 83% post-intervention.

Advocacy efforts strengthened institutional support, with approximately 5,000 school headteachers trained across four divisions and around 80% actively sharing HPV-related information during parent-teacher meetings, reaching an estimated 4,000 schools. Qualitative findings from parents indicated improved understanding of cervical cancer prevention, while cost and access remained key concerns, informing future policy and community engagement efforts.

Overall, the project demonstrated that coordinated, multi-channel, and community-based messaging can effectively support national HPV vaccination efforts and advance cervical cancer prevention in Bangladesh.



# ideSHi's Current Project and Research Activities

## Epidemiological Insights and Respiratory Microbiome Diversity in Upper Acute Respiratory Tract Infections: Assessing Risks in the Aftermath of the COVID-19 Pandemic

Imtiaz Mahamud  
Research Officer, ideSHi

### Evidence

This project investigates epidemiological trends and respiratory microbiome diversity among patients with Upper Acute Respiratory Tract Infections (URTI) in the post-COVID-19 period. The study assesses changes in pathogen circulation, co-infection patterns, and microbial diversity following the COVID-19 pandemic.

Clinical specimens (nasopharyngeal swabs) were collected from patients presenting with acute respiratory symptoms.

Molecular detection of viral/bacterial pathogens was performed using standardized RT-PCR protocols.

Metagenomic analysis was conducted in collaboration with the Christophe Mérieux Laboratory (CML) at the National Institute of Pathogen Biology, Chinese Academy of Medical Sciences (CAMS), Beijing, China. The project was supported by the Mérieux Foundation, contributing to capacity

strengthening and international research collaboration.

Demographic and clinical data were systematically analyzed to evaluate risk factors such as age distribution, seasonal trends, prior COVID-19 exposure, and clinical severity.

### Challenges

The project was implemented smoothly with minimal operational challenges. Coordination for sample processing and inter-laboratory collaboration required structured planning, which was effectively managed through established standard operating procedures. Overall, the study progressed efficiently.

### Outcomes

The study provides important insights into post-pandemic respiratory infection dynamics in Bangladesh. It identifies shifts in circulating pathogens and demonstrates the value of integrating metagenomic approaches into respiratory disease surveillance.

The findings strengthen laboratory capacity, enhance epidemiological understanding, and support evidence-based public health preparedness through national and international collaboration.

# ideSHi's Current Project and Research Activities

## Antibody-Mediated Immunity Against *Klebsiella pneumoniae* (Kpn) Among Pregnant Mothers and Children: A Longitudinal Study Investigating Maternal and Neonatal Immune Responses, Colonization Dynamics, and the Role of Household and Environmental Sources in Transmission in Dhaka, Bangladesh

Md. Mehedi Hasan Emon  
Research Officer, ideSHi

### Evidence

*Klebsiella pneumoniae* (Kpn) is an opportunistic pathogen that colonizes the human intestine and persists in environmental and animal reservoirs, enabling horizontal gene transfer and making it a major driver of antimicrobial resistance (AMR). The World Health Organization (WHO) has identified it as a priority target pathogen due to its role in causing enteric diseases and significant mortality worldwide, particularly among neonates. Despite this substantial and disproportionate burden, Kpn remains underappreciated, highlighting the urgent need for preventive interventions, including vaccine development, to reduce infection, limit AMR spread, and prevent deaths in vulnerable populations. With the findings of this project, we hope to improve the development of targeted prevention and intervention strategies for neonatal populations.

We aim to investigate the maternal and neonatal carriage of Kpn and its potential implications for neonatal health. We seek to evaluate the carriage rates of Kpn in pregnant women in Dhaka, Bangladesh, assess maternal antibody responses to

Kpn and their association with neonatal gut colonization and neonatal sepsis, and characterize the dynamics of neonatal gut colonization with Kpn. By addressing these objectives, we hope to gain critical insights into the transmission pathways, immune interactions, and colonization patterns of Kpn in the maternal-neonatal context.

### Challenges

Sample collection poses significant challenges. Since the patient group consists of women, socioeconomic barriers and cultural perspectives make it difficult to obtain samples from pregnant mothers. Collecting neonatal samples is equally problematic, as mothers and family members are often reluctant to consent. Fear and misconceptions further contribute to hesitancy and suspicion toward participation. Additionally, the requirement for multiple time-point collections complicates tracking and consistency, leading to a high attrition rate.

### Outcomes

This project will provide critical insights into how Kpn is transmitted to neonates, its colonization patterns, and the role of maternal immunity in protecting newborns. By identifying carriage rates, sources of neonatal colonization, and circulating serotypes, the study will inform targeted prevention strategies and support the development of maternal and neonatal vaccines, ultimately aiming to reduce neonatal morbidity, mortality, and antimicrobial resistance.

# ideSHi's Current Project and Research Activities

## Genomic Characterization and Serotype Dynamics of the 2023–2024 Dengue Outbreak in Bangladesh

Md Ridwan  
Research Officer, ideSHi

### Evidence

With frequent outbreaks in recent years, Dengue fever remains a critical public health threat in Bangladesh. The virus exists as four distinct serotypes, which are called DENV-1, DENV-2, DENV-3 and DENV-4. Historically, DENV-3 was the predominant serotype until 2019; however, recent epidemiological data suggest a possible shift in serotype dynamics. In 2023, Bangladesh recorded its highest global mortality (n=1,705) and second-highest case count (n=321,179). The dengue season typically begins in early July and continues through December; however, in 2023, the outbreak started in late June. This earlier onset may be associated with climatic factors that facilitate the transmission of mosquito-borne diseases. This study aimed to identify the predominant dengue virus serotype during the 2023–2024 outbreak and to characterize the spatial and temporal genomic dynamics of circulating strains using RT-PCR and whole-genome sequencing on the Oxford Nanopore MinION platform.

### Challenges

- Conducting this study during a high-mortality outbreak presented significant logistical and technical hurdles.
- Managing and processing a large volume of clinical blood samples (n=395) required rapid coordination during peak infection periods.
- From the technical perspective, optimizing the modified ARTIC multiplex PCR approach for whole-genome sequencing (10,171 bp) required multiple rounds of trial-and-error refinement to ensure uniform coverage across the entire viral genome.

### Outcomes

The study successfully identified a major serotype shift, with DENV-2 predominating in (282; 71.4%) of cases, followed by DENV-3 (105; 26.6%), with few DENV-4 (7; 1.8%) and DENV-1 (1; 0.2%) among 395 samples. Phylogenetic analysis confirmed that these contemporary Bangladeshi DENV-2 viruses form a distinct regional lineage that shared a recent common ancestor with Indian sequences but evolved into a dominant 2023 clade with multiple co-circulating lineages in 2024. Our results revealed strongly negative Tajima's D (-1.41 to -2.50) and low dN/dS ratios (<0.18), particularly in the NS1, NS3, and prM genes. This indicates a rapidly expanding viral population under strong purifying selection with limited external introductions, providing critical molecular insights into the evolution of DENV-2 within the regional context of Bangladesh.

# ideSHi's Current Project and Research Activities

## Improving Diagnosis and Case Management of Childhood Pneumonia in Limited Resource Settings

Dr. Nabid Anjum Tanvir

Local Consultant

### Evidence

Childhood pneumonia remains a leading cause of under-five mortality, particularly in humanitarian and resource-limited settings where access to radiology and laboratory diagnostics is minimal. Among the Forcibly Displaced Myanmar Nationals (FDMNs) in Cox's Bazar, prior ideSHi research documented a high burden of bacterial pneumonia, with *Streptococcus pneumoniae* identified as a predominant pathogen.

To address diagnostic gaps, this quasi-experimental study evaluates the integration of point-of-care pulse oximetry and automated respiratory rate (RR) counters, alongside structured training for frontline healthcare providers, to improve pneumonia classification and case management. The study is being implemented across four primary healthcare facilities in Rohingya camps, enrolling children under five with moderate to severe pneumonia, alongside healthy controls for pneumococcal serotype surveillance.

As of January 2026, a total of 644 participants has been enrolled out of the planned 1,000. This includes 346 pneumonia cases (175 intervention and 171 non-intervention) and 298 healthy controls, with high completion rates for scheduled follow-ups. The intervention arm facilities have demonstrated improved adherence to severity assessment protocols,

systematic identification of hypoxemia, and more consistent triage and referral practices compared to non-intervention sites.

### Challenges

Recruitment of moderate to severe pneumonia cases progressed more slowly than anticipated due to lower case presentation rates at selected facilities. Additionally, maintaining follow-up compliance in a highly mobile refugee population required intensified field coordination and repeated caregiver engagement. Operational challenges included staff turnover at facilities and the need for repeated refresher training to maintain quality clinical assessments.

### Outcomes

The study has reached nearly two-thirds of its target sample size, with robust follow-up completion and high data quality. The project has strengthened frontline diagnostic capacity through routine use of pulse oximetry and automated RR measurement, reducing reliance on subjective clinical judgement alone. Early findings suggest improved classification of pneumonia severity and more appropriate case management decisions at intervention sites.

In parallel, the collection of nasopharyngeal samples from cases and controls is building a valuable biobank to inform ongoing surveillance of circulating *S. pneumoniae* serotypes. The evidence generated will contribute to improved pneumonia management strategies in humanitarian settings and support national-level policy discussions on pneumococcal conjugate vaccine (PCV) implementation and serotype replacement dynamics.

# ideSHi's Current Project and Research Activities

## Service Agreement between Fondation Mérieux, Institute for Developing Science and Health Initiatives (ideSHi) Foundation, and Bangladesh Institute of Tropical and Infectious Diseases (BITID)

Md. Zahirul Islam

Senior Research Officer, ideSHi

### Evidence

Under the Service Agreement, BITID implemented diagnostic, quality assurance, research, and capacity-building activities. BITID continued to function as a major tuberculosis diagnostic center in Chattogram, conducting routine GeneXpert MTB/RIF Ultra testing and AFB smear microscopy using fluorescence methods.

Laboratory quality systems were strengthened through active participation in Laboratory Quality Stepwise Implementation (LQSI) activities. SOPs and laboratory forms were developed in alignment with ISO 15189:2022 standards. An external ISO audit conducted in December 2025 provided recommendations, and corrective actions were initiated accordingly.

Multiple collaborative research projects were implemented. These included Dengue and Cholera studies in collaboration with Chittagong Medical University, for which wet laboratory work was completed, and data analysis and manuscript preparation are ongoing. Collaborating with Fondation Mérieux, the RISK4KIDS study has launched to improve the differential diagnosis between tuberculosis and pneumonia in pediatric patients. Laboratory investigations included CBC, CRP, digitalized chest x-ray with computer-aided detection (CAD)

software developed by Qure.ai, GeneXpert MTB/RIF Ultra testing, and bio banking of blood samples at  $-80^{\circ}\text{C}$  for downstream molecular analysis of RISK6 signature, a combination of six host gene transcripts.

Additional public health services included supervision of DOPE testing for professional drivers. They also supported capacity building by providing structured internship training to university students and PCR laboratory support to postgraduate research.

### Challenges

A professional and cooperative working environment at BITID facilitated the effective implementation of activities under the Service Agreement, enabling timely support and coordination without major operational constraints. While a small number of routine challenges were encountered, such as

- Time-intensive documentation and corrective actions required to meet ISO 15189:2022 standards
- Coordination across multiple institutional partners and projects

### Outcomes

Through structured technical support and collaborative engagement, the following key outcomes were achieved

- Sustained delivery of reliable TB diagnostic services
- Improved laboratory quality systems aligned with ISO 15189:2022 standards
- Strengthened institutional collaboration and human resource capacity building.

## ideSHi Cancer Genomics Initiative: Transforming Precision Oncology in Bangladesh

Rahena Yasmin Ph.D. Assistant Scientist, ideSHi  
&  
Manos Aditya Sarker, Senior Research Officer, ideSHi

The institute for developing Science & Health initiatives (ideSHi) approaches cancer genomics from the perspective of applied, translational research and public health impact in Bangladesh. Our work emphasizes strengthening local capacity in advanced genomic techniques to address specific local health challenges, particularly the high burden of cancers like lung cancer, colon cancer, breast cancer, prostate cancer, thyroid cancer, endometrial cancer, bladder cancer and cervical cancer.

### ideSHi's Perspective on Cancer Genomics

ideSHi integrates cancer genomics within its broader mission to provide practical solutions to public health problems in Bangladesh, focusing on prevention, early diagnosis, and targeted treatment strategies. A major focus is on the elimination of cervical cancer through awareness campaigns, HPV vaccination programs, and early screening. We explore the connection between HPV infection and cancer from a public health perspective.

In Bangladesh BRCA associated ovarian cancer is still unknown. ideSHi actively researches the prevalence of BRCA mutations in women with high-grade epithelial ovarian cancer. The goal is to inform gynecologic oncologists about effective genetic testing and personalized treatment options, such as PARP inhibitors, which can improve patient outcomes. We also offer advanced molecular diagnostic services for solid tumor cancers using Next-Generation Sequencing (NGS) and Real-Time PCR (RT-PCR) platforms. We provide Specialized panels for identifying mutations in solid tumors, including breast, ovarian, lung, prostate, thyroid, endometrial, bladder and colorectal cancers and using Illumina MiSeq NGS system which is a versatile bench top sequencer here in Bangladesh. Recently we have introduced Microsatellite Instability (MSI) testing in ideSHi. In Bangladesh it is an emerging, crucial component of cancer diagnosis, particularly for colorectal cancer to precision treatment. It is primarily used to identify Lynch syndrome (hereditary cancer) and to determine eligibility for immunotherapy or chemotherapy, with studies showing its relevance to the younger demographic of cancer patients in the region. We use Capillary Electrophoresis (fragment analysis) method to perform MSI testing. ideSHi also emphasizes collaboration with national and international partners, including the National Institute of Cancer Research and

# ideSHi's Current Project and Research Activities

Hospital (NICRH) and pharmaceutical companies. These partnerships help in conducting clinical trials and making advanced diagnostics and therapeutics (e.g. Antineoplastic drugs) more accessible and cost-effective in the local market.

## Challenges

Genomic research requires expensive Next-Generation Sequencing (NGS) equipment and reagents, which must be imported, often incurring heavy taxes. Challenges also exist in managing high-quality, often archived, specimens (like formalin-fixed paraffin-embedded samples,

temperature maintenance) for precise genomic profiling. The gap between bench research and applying these findings to routine clinical care, such as personalized medicine, remains difficult.

## Outcomes

In essence, ideSHi's perspective on cancer genomics is highly practical, focusing on using cutting-edge science to solve immediate and significant public health problems in Bangladesh while simultaneously building sustainable local scientific infrastructure and human capacity.

**OUR REPORTING STANDARDS**

- MSI-HIGH (dMMR)** | Predicts favorable response to immunotherapy
- MSS (pMMR)** | Indicates eligibility for standard chemotherapy
- EXPERT VERIFICATION** | Validated by a team of molecular biologists and doctors

Powered by **ideSHi**  
(Ensuring Quality & Accuracy in Molecular Diagnostics)

**UNLOCK THE POWER OF PRECISION ONCOLOGY**  
**COMPREHENSIVE MICROSATELLITE INSTABILITY (MSI) ANALYSIS**

Predict Immunotherapy Response with Confidence using the Gold-Standard TrueMark™ MSI Assay.

**WHAT IS MICROSATELLITE INSTABILITY (MSI)?**

It is a condition of genetic hyper mutability resulting from impaired DNA mismatch repair (MMR). Detecting MSI status is important as it serves as a predictive biomarker for immunotherapy response in solid tumors.

**WHY THIS TEST IS CRUCIAL?**

- Immunotherapy Decisions
- Lynch Syndrome Screening
- Prognostic Value
- Tissue Agnostic Marker

**WHY CHOOSE ideSHi?**

The TrueMark™ Advantage (13-Plex Panel) utilizes MSI Panel, targeting 13 specific microsatellite loci.

**Higher Sensitivity** | Analyzes 13 markers including BAT-25, BAT-26, NR-21, NR-24, NR-27, and 8 proprietary markers (AB1-16 to AB1-208)

**Visual Evidence** | electropherograms (graphs) for every marker

**Chromosomal Mapping** | across different chromosomes to avoid false negatives

**Comprehensive MMR Evaluation** | Confirm defects in Mismatch Repair (MMR) proteins—MLH1, MSH2, MSH6, and PMS2—with greater accuracy

**Methodology** | Fragment Analysis

**Specimen Type** | FFPE Tissue Block

**Turnaround Time** | 5 Working Days

**Test Price** | 12,000 BDT

## ideSHi CRO: Advancing Clinical Research in Bangladesh

Arif Mahmud Howlader  
Assistant Scientist, ideSHi

From a broader national perspective, ideSHi CRO represents a strategic advancement in Bangladesh's journey toward strengthening its clinical research ecosystem under the regulatory oversight of the Directorate General of Drug Administration (DGDA). In alignment with the latest DGDA clinical trial guidelines, which emphasize ethical conduct, Good Clinical Practice (GCP), safety monitoring, data integrity, and regulatory transparency, ideSHi has developed a comprehensive, quality-driven CRO platform capable of supporting Phase I–III clinical trials, bioequivalence (BE) studies, bioanalytical services, pharmacovigilance, regulatory affairs, and medical writing. By integrating project feasibility assessment, financial and resource management, ethics committee coordination, site activation, clinical monitoring, data management, Trial Master File maintenance, and statistical analysis within a structured quality management system, ideSHi ensures compliance with both national requirements and international benchmarks such as ICH-GCP, GLP, and GCLP. Its Institutional Review Board (IRB), registered with the U.S. Office for Human Research Protections (OHRP) (No.: IRB00013389; FWA00032057), reinforces adherence to global ethical standards while operating within the Bangladeshi regulatory framework.

The technical support received from the United States Pharmacopeial Convention (USP) through the USAID PQM+ program has further strengthened ideSHi's infrastructure, documentation systems, and operational procedures to meet international GxP standards, particularly for conducting bioequivalence studies of essential medicines prioritized by national health programs. This initiative, supported by DGDA, reflects a broader national objective of reducing dependence on foreign CROs and enabling local manufacturers to pursue regulatory approval and WHO prequalification through high-quality, locally generated data. ideSHi's portfolio of studies—including biosimilar evaluations, antiviral clinical trials, vaccine-related immunogenicity assessments, performance validation of diagnostic kits, and bioanalysis of complex biologics—demonstrates its capability to manage sophisticated investigational products while maintaining regulatory compliance and scientific rigor.

In recent years, ideSHi has successfully conducted and supported high-impact studies, including the biosimilar evaluation, a double-blind randomized trial of Favipiravir for COVID-19, rabies virus neutralizing antibody testing using FAVN assay in collaboration with Incepta Vaccine Ltd., performance evaluation and validation of multiple COVID-19 RT-PCR and antigen kits leading to DGDA approval for local manufacturers, and bioanalysis of a few biologics in collaboration with icddr,b. Currently,

## ideSHi CRO: Advancing Clinical Research in Bangladesh

ideSHi is close to completing pivotal randomized controlled trials, including a crossover PK/PD and immunogenicity study comparing a locally manufactured product and a non-inferiority trial comparing a specific mab with a Novartis product (as reference) in patients with diabetic macular edema, reflecting its growing capacity to manage complex biologics, biosimilars, and advanced therapeutic trials within Bangladesh.

Through active engagement with major

national pharmaceutical companies such as Incepta, Beximco, Square, ACI, Beacon Pharmaceuticals, and others, and by maintaining strict adherence to DGDA regulatory pathways, ethical standards, audit readiness, and quality systems, ideSHi is positioning itself as a trusted, nationally capable, and internationally aligned CRO. Overall, ideSHi functions not only as a service provider but as a national capacity-building platform that aligns with DGDA's regulatory modernization efforts, strengthens ethical and scientific governance, and positions Bangladesh as an increasingly credible destination for quality clinical research in South Asia.



# Publication 2025

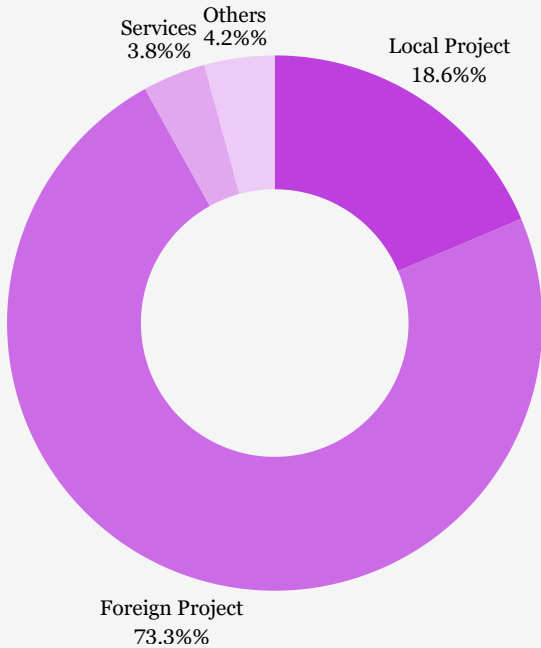
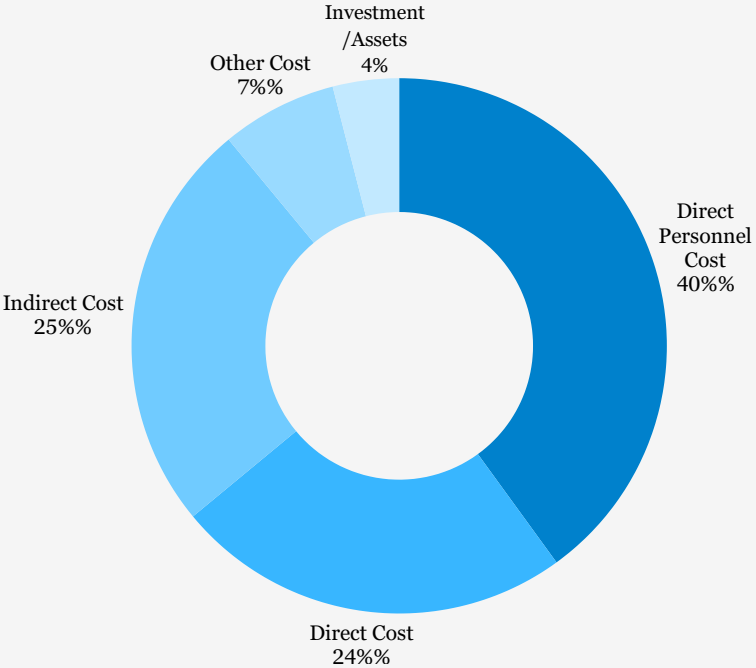
- Altered carnitine-acylcarnitine profiles in levothyroxine-treated congenital hypothyroid patients with fatigue: An LC-MS/MS-based study from Bangladesh
- Pulmonary function and comparative SARS-CoV-2 RBD-specific IgG antibody response among the COVID-19 recovered group
- Efficacy, Safety, and Immunogenicity of Biosimilar Adalimumab Advixa® Compared With Reference Product Humira® in Patients With Rheumatoid Arthritis in Bangladesh
- Altered carnitine-acylcarnitine profiles in levothyroxine-treated congenital hypothyroid patients with fatigue: An LC-MS/MS-based study from Bangladesh
- Effects of a multimedia campaign to increase human papillomavirus vaccine acceptance in Dhaka, Bangladesh
- Perspective of Bangladesh in HPV vaccination among marginalized population (transgender) - challenges and way forward

# Financial Highlights 2025

## Expenses 2025 Revenue 2025

■ Direct Personnel Cost 
 ■ Direct Cost 
 ■ Indirect Cost  
■ Other Cost 
 ■ Investment/Assets

■ Local Project 
 ■ Foreign Project  
■ Services 
 ■ Others



# Team ideSHi – With Pride and Best

## Wishes

**“At ideSHi, we don’t just do research — we work to save lives.”**

**- Dr. Yasmin Ara Begum  
Consultant**

**“Proud to be part of ideSHi, where science meets social impact.”**

**- Dr. Kasrina Azad  
Assistant Scientist**

**“Working at ideSHi means turning knowledge into hope for communities.”**

**- Dr. Umme Kulsum  
Assistant Scientist**

**“ideSHi is such an inspiring place, where the spirit of scientific innovation, teamwork, and dedication to improving public health continually motivate us.”**

**- Arif Mahmud Howlader  
Assistant Scientist**

**“At ideSHi, research is more than data — it’s a promise to build a healthier future.”**

**- Mubasshir Washif Ph.D.  
Assistant Scientist**

**“ideSHi is a multisectoral hub bridging the gap between research, diagnostics and clinical applications, proud to be a team member of this institution.”**

**- Rahena Yasmin Ph.D.  
Assistant Scientist**

## **Team ideSHi – With Pride and Best Wishes**

**“At ideSHi, our work today protects someone’s tomorrow.”**

**- Sayla Khan  
Media Manager**

**“Every idea explored at ideSHi has the power to become a breakthrough that changes lives.”**

**- Dr. N. I. Khan  
Research Physician**

**“At ideSHi, science finds its heart, and innovation saves lives.”**

**- Manos Aditty Sarker  
Senior Research Officer**

**“At ideSHi, we organized data and turned into impactful insights.”**

**-Yasin Mollah  
Statistician**

**“At ideSHi, I have the privilege of turning scientific curiosity into research that protects lives.”**

**- Dr. Khandoker Tasmia  
Research Physician**

**“Working at ideSHi inspires me to bridge science and service for a healthier future.”**

**- Dr Ruhul Amin  
Research Physician**

# Acknowledgement & Gratitude

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## National

MOH&FW

DGHS

DGDA

Institute of Epidemiology, Disease Control and Research (IEDCR)

icddr,b

Centre for Medical Biotechnology (CMBT)

Bangladesh Institute of Tropical and Infectious Diseases (BITID)

National Institute for Cancer Research and Hospital (NICRH)

Bangladesh Medical University (BMU)

Dhaka Medical College Hospital (DMCH)

National Institute of Neurosciences (NINS)

Kurmitola General Hospital (KGH)

Mugda Medical College and Hospital

Universal Medical College & Hospital

National Gastro-liver Institute

University of Dhaka, Bangladesh

North South University, Bangladesh

Dhaka Community Medical College

HOPE Foundation

Green Life Medical College & Hospital

First security Islami Bank (FSIBL)

Popular Med College

Thalassemia Somity Hospital

Bangladesh Specialized Hospital (BSH)

## International

Fondation Mérieux, France

GABRIEL Network, France

Massachusetts General Hospital (MGH), USA

Massachusetts General Brigham (MGB), USA

National Institute of Health (NIH)

Harvard Medical University, USA

Broad Institute, USA

Wellcome Trust, UK

Stanford University, USA

University of Nottingham, USA

Johns Hopkins University

Erasmus Medical Center, Rotterdam, Netherland

University of Utah

Gates Foundation, USA

Path

UpSwell

Capulet

We sincerely appreciate the invaluable support and meaningful contributions of our alumni, whose ongoing involvement continues to strengthen our mission and enrich our community.

# THANK YOU

ideSHi Family, December 2025



## Editorial Panel

**Advisor:** Dr. Firdausi Qadri & Dr. Md. Rofiqur Rahman

**Editor:** Sayla Khan

**Editorial Board:** Yasin Mollah, Rynak Rahmat, Md Ridwan



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