SUPPORTING INNOVATION THROUGH COLLECTIVE ACTION

INDIA HEALTH FUND

A TATA TRUSTS INITIATIVE

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ENABLING ACCESS TO HEALTHCARE INNOVATIONS

Collective action is at the heart of the approach taken by India Health Fund to support the development and deployment of innovations which will help in the fight against TB, malaria, COVID-19 and future pandemics by improving outcomes in diagnosis, treatment and prevention of communicable diseases.

COLLECTIVE ACTION POWERING IMPACT

Three recent examples of collaborations which are enabling the development of innovations and delivering last mile health outcomes.

FIND x IHF x MCGM

The Foundation for Innovative New Diagnostics (FIND) and IHF will support testing efforts led by the Municipal Corporation of Greater Mumbai (MCGM) for both COVID-19 and tuberculosis (TB), by deploying five Truenat™ machines – an innovative, multi-disease diagnostic platform developed by Goa-based Molbio Diagnostics – at select MCGM-run hospitals in Mumbai. India Health Fund has supported the development of Truenat as a diagnostic tool for TB, and this was adapted to develop a test for COVID-19 – using the same platform.

Ramping up testing in Mumbai to meet the dual challenges of COVID-19 and TB includes implementing recent bi-directional screening guidelines. The deployment of Truenat will enhance rapid COVID-19 confirmatory testing, at the same hospital, for symptomatic people who test negative to rapid antigen tests. Each of the MCGM sites are now being equipped with the Truenat platform, requisite laboratory staff, test cartridges and consumables.

The testing facilities will be in the same premises or in close vicinity of the rapid antigen testing site(s), which will minimize sample collection and transportation challenges, reduce waiting times for patients, and limit the chances to spread COVID-19. As a result, more cases of COVID-19 should be identified, better patient management will be possible, and hotspots can be rapidly identified – in line with MCGM's 4T (Tracing, Tracking, Testing and Treating) strategy.

IHF x Villgro

IHF and Villgro Innovations Foundation (VIF), one of the world's largest social enterprise incubators, announced the launch of a first-of-its-kind collaborative platform - I4ID - Innovate for the fight against Infectious Diseases. The collaboration will support the development of affordable, point-of-care health technologies and digital innovations to prevent, control, and eliminate infectious diseases and supplement India's efforts to prevent future pandemics.

Both IHF and Villgro will collaborate with a consortium of partners with the right expertise to support—innovations at various stages of development through mentorship, incubation, market access funding and enabling their deployment.

The partnership will involve Villgro supporting innovations from proof-of-concept ready stage till the development of a prototype ready for initial pilot, and subsequently, IHF will support innovations which have a ready prototype and initial pilot data to enable their validation, regulatory approvals, market entry and scale up.

The platform will support the development of innovations across three themes:

- Screening and Diagnosis of Infectious Diseases
- Infection Control
- Antimicrobial Resistance

[Read more](#)

IHF x Qure.ai x MCGM

In partnership with ACT grants and MCGM, IHF and Qure.ai deployed qXR, an AI driven software, for COVID-19 screening and triaging of patients among Mumbai's general population when the pandemic was at its peak. To supplement the MCGM's testing efforts, the innovative solution undertook 25,000 chest scans at 15 sites including hospitals and mobile units. India Health Fund has supported the development of qXR as a tool for diagnosis of TB, and this was adapted to develop a screening tool for COVID-19 – using the same platform.

The collaboration was instrumental in:

- Ensuring early diagnosis of COVID-19 –
  - Resulting in zero to minimal loss to follow-up cases,
  - Improved clinical outcomes of co-morbid patients
- Enabling detection of asymptomatic cases – that was one of the key challenges in preventing the COVID-19 transmission
- Strengthening the capacity of MCGM's healthcare system – reducing the burden on frontline workers & dependence on radiologists allowing non-specialists to screen using chest X-rays

Read more

PORTFOLIO HIGHLIGHTS

India Health Fund has a growing portfolio of solutions which are developing steadily to become ready for deployment and help improve patient outcomes.

SURVEILLANCE

          Disease – Vector borne

A new addition to our portfolio - TrakItNow Technologies has developed a disruptive Smart Mosquito Surveillance and Control System using Internet of Things and Artificial Intelligence for effective control of mosquito-borne diseases by enabling a scientific and data driven approach. A critical component of controlling mosquito-borne illnesses is monitoring the mosquito population density to provide health system the information on where and when control is required and efficacy of the control efforts.

TrakItNow's 'Moskeet' solution overcomes the time & resource intensive vector surveillance by automating the process along with higher accuracy & real-time data sharing for 15 species of mosquitoes. Moskeet is currently the only holistic and scalable solution of mosquito surveillance that operates autonomously & provides real-time data both by location and species.

• IHF is supporting the TrakitNow Technologies team to validate the Moskeet solution by facilitating the improvement in accuracy of detecting mosquito species through field deployment. The support from IHF will validate Moskeet as a platform solution with cross-applications in malaria, dengue, chikungunya, Japanese encephalitis, and filariasis.

SCREENING

Stellar Diagnostics   Disease - TB

A new addition to our portfolio – Stellar Diagnostics has developed a novel antibody-based point-of-care TB pre-confirmatory test that is affordable, allows rapid testing in 20 minutes and requires no laboratory infrastructure with minimal training of health care workers.

It is also the only biomarker-based TB triage test currently ready and available for validation and regulatory approval.

- IHF is supporting the Stellar Diagnostics team by facilitating the improvement in test accuracy through field trials in 2 phases necessary for the regulatory approval and establish the test as rapid and affordable by adapting it to finger-prick blood testing

qure.ai   Disease - TB and COVID-19

- IHF is supporting the development of the qXR tool for analog X-ray-based screening of adult and paediatric tuberculosis.

Progress
- Performed 3,77,000 scans of adult and paediatric chest X-rays
- Improved the AI algorithm to detect TB by annotation of X-rays. 50% of X-rays captured by qXR were processed and labelled using machine learning
- Finalised 3 sites for pilot-scale deployment of qXR application to screen TB patients

DIAGNOSIS

Hemex Health   Disease - Malaria*

- IHF is supporting Hemex Health for validation of the Gazelle platform through a clinical partnership with the National Institute of Malaria Research and the National Institute for Research in Tribal Health.

Progress
- The Gazelle device has received Central Drug Standard Control Organisation (CDSCO) registration allowing the device to be marketed in India for diagnosis of malaria – an important milestone
- Clinical studies are underway for mosquito species differentiation at the National Institute of Malaria Research (New Delhi) and the National Institute of Tribal Health
- Validation studies on 1,300 patients have shown promising results. The diagnostic will be tested on additional 4,000 patients.

CisGEN

Disease – TB *

- IHF is supporting CISGEN for prototyping and validation of the point-of-care testing kit for identification of TB among infected animals.

Progress
- Validation of point of care animal TB alert kit done at animal TB testing centres and wildlife centers in India
- Initial testing with reference sera shows CISGEN testing kit having better specificity and sensitivity than commercially available Idexx kit.

VALETUDE PRIMUS HEALTHCARE

Disease – TB *

- IHF is supporting VPH towards clinical validation in partnership with various institutions.

Progress
- A milestone reached with prototype of the device developed and the assay for detection optimised
- Clinical validation of device is underway through a multi-centre study.

* Adapted for COVID-19

WAY FORWARD

In the months ahead, we aim to scale up the efforts of co-creating and continued deployment of these innovative solutions to raise capacities of prevention, screening and diagnosis of infectious diseases in close collaboration with our partners.