Reducing the rural access gap by driving fit-for-purpose innovations in primary health care products, services, and systems

Overview
PATH has been working to accelerate health equity through technology and innovation for over 40 years and served more than 70 nations. One of the key initiatives of Ayushman Bharat, a program run by the Government of India, is to deliver comprehensive primary health care (CPHC) through its Ayushman Arogya Mandirs. PATH has been engaged in enhancing the health care system in Satara district of Maharashtra. This effort focuses on bolstering comprehensive primary health care services, with the aim of establishing it as a model district for replication and expansion.

Through our PHC tech challenge, we brought together all the relevant stakeholders to advance efforts toward improving quality, access, and affordability of primary health care and introducing transformative solutions and innovations that can be demonstrated and scaled.

Through this effort, we were able to identify and spotlight innovations that can help accelerate near-ready primary care responsive solutions in screening and early diagnosis of common communicable and non-communicable diseases in a rural setting.

Current innovative deployments
Satara is progressing towards becoming a hub of innovation, with numerous innovative technologies being utilized to improve the screening and diagnosis of prevalent conditions. Presently, nine innovative solutions have been implemented in Ayushman Arogya Mandirs to enhance screening processes and ensure a seamless continuum of care.

* Maithri Niramai is an affordable, portable, radiation-free and non-contact test for breast cancer screening used to detect early-stage breast cancer.

* Rhemos Health Monitor is a point of care device to capture eight body vitals, such as blood pressure, heart rate, respiratory rate, ECG, blood oxygen levels, body temperature, and blood glucose levels.

* AiSteth is a smart stethoscope used to screen, detect, and predict cardiorespiratory disorders such as Valvular Heart Disorders (Adult), Pediatric / Congenital Heart Disorders (Paed), Respiratory Disorders (Asthma/COPD).

* Alveoair is a hand-held spirometer for primary screening of COPD and asthma.

* Qure.ai is an artificial-intelligence (AI) based Computer-Aided Technology (CAD), which helps screening chest x-rays to identify abnormal x-rays as well as determine presumptive tuberculosis and risk stratification for COVID-19.

* Serial Testing is a process innovation, which uses Ag-RDT for COVID-19 testing at facilities far away from RTPCR laboratories.

* Emvolio is a unit for effective cold chain management ensuring the safe storage and transportation of temperature-sensitive medical items.

* Periwinkle Smart Scope is a digital device for routine cervical screening. It is an AI-supported comprehensive single visit solution for cervical cancer detection.

* Panache Green Paint is a wall paint with heat reflective technology, which helps in reduction of heat generation at surface and keeps the interiors cool. This paint has been applied on the rooftops of Sub Health Centres to make the facilities patient friendly in summers.
Training of staff on the use of innovative device. Photo: PATH

Emvolio demonstration at Ayushman Arogya Mandir. Photo: PATH

Panache green paint applied at roof of Sub Health Centre, Trimali. Photo: PATH