

Anti-Microbial Resistance (AMR)

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Devices



Apps



Analytics

Jun 2024

PARTNERSHIP

Innominds has partnered with SCIINV Biosciences, a Hyderabad based start-up for the development of AMRx – a culture free, AI/ML led, digital diagnostic tool to combat AntiMicrobial Resistance (AMR)

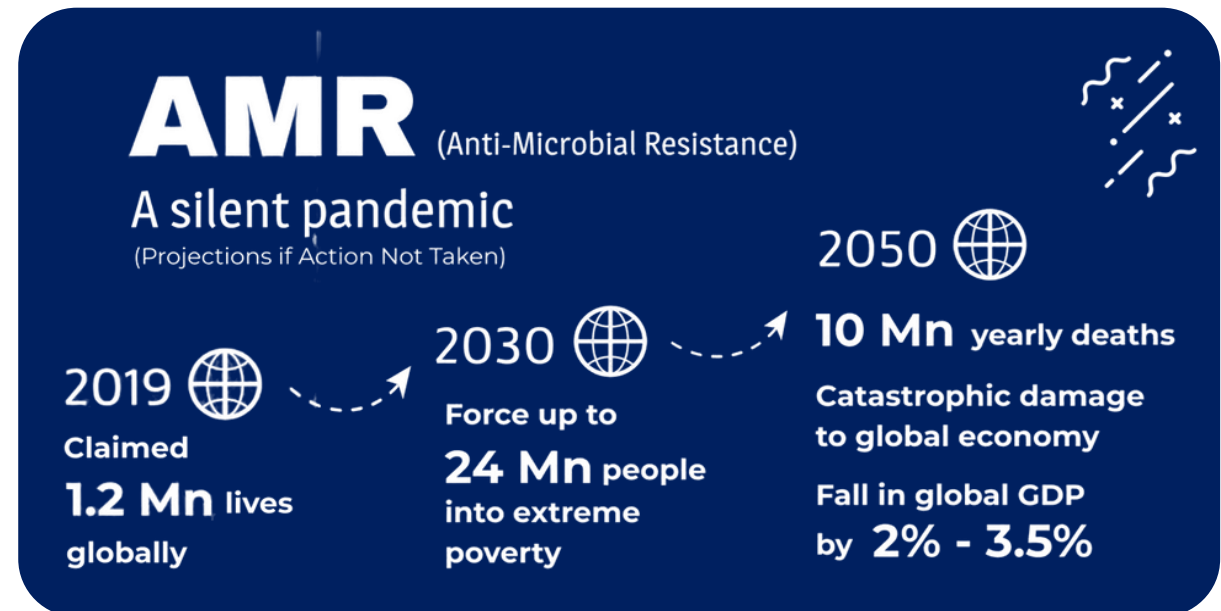


Introduction - Anti-Microbial Resistance (AMR)

World Health Organization lists Anti-Microbial Resistance (AMR) among top-10 threats for global health.

A Silent Pandemic in Brewing

- AMR is responsible for an estimated 1.2 Mn deaths worldwide in 2019.
- By 2050, those numbers could increase to 10 Mn globally
- Every 45 sec* a person dies from an antibiotic-resistant infection

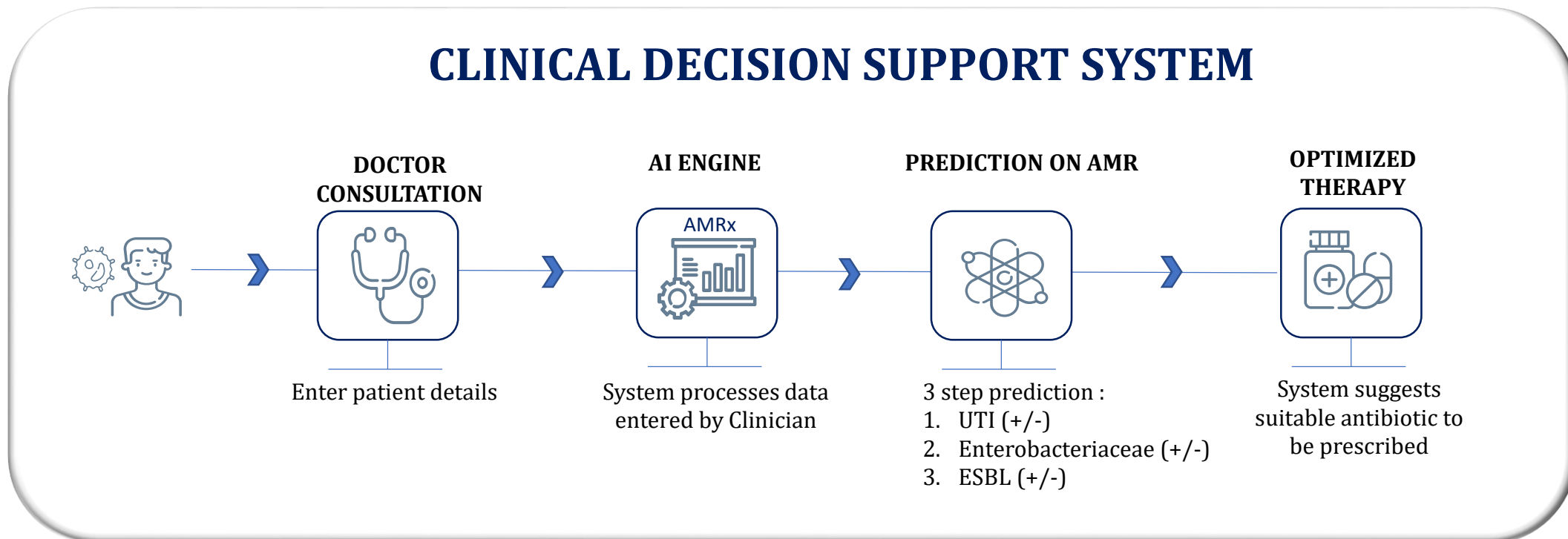


<https://www.connectheor.com/>

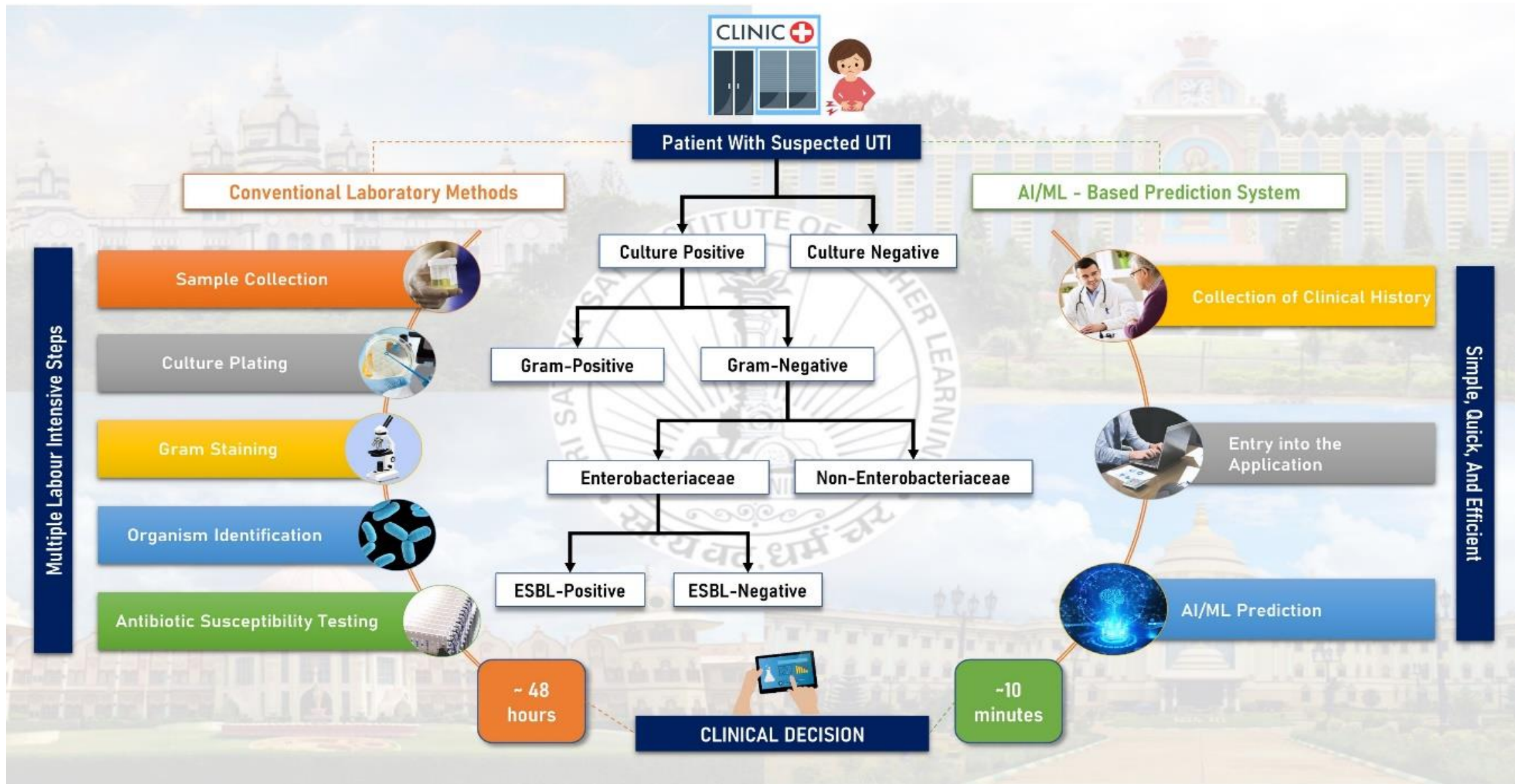
* [Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis - The Lancet](#)

AMRx™ : A Culture-free, AI/ML Based Companion Diagnostic Tool

AI based platform for investigating AMR in patients with UTI. Solution helps in picking up the right data points from the available information from patient history to understand whether the bacterial strain is antibiotic resistant or sensitive.



AMRx™ vs Conventional Laboratory-based diagnostics



8000 De-identified clinical data of patients suspected of Urinary Tract Infection (UTI)

170 clinical parameters including patient's clinical history, presenting symptoms and current complaints

Pathogenic enterobacteriaceae isolates are made into glycerol stocks and frozen at -150° C at the AMR Repository, SSSIHL.

Culture report data and Antibiotic susceptibility test report of Enterobacteriaceae group of **3700** pathogens

Data and samples collected from **7** Tertiary care hospitals (trial sites)

- AMRx™ : A patented*, culture-free, companion diagnostic tool developed using patient's clinical history to predict Urinary Tract Infection (UTI), causative organism (Enterobacteriaceae) and the antibiotic resistance / susceptibility patterns.
- AMRx™ helps in reducing unwarranted clinical investigations. Its application will be useful in resource limited settings and can be deployed as a clinical decision support tool for appropriate empirical antibiotic prescriptions.
- AMRx™ will save time, effort and resources, while also ensuring early prognosis and treatment of infections.
- Compliant with HIPAA and GDPR regulations

*Patent cooperation treaty (PCT) - International Application number - PCT/IB2023/057299

*Indian patent application number - 202241041495

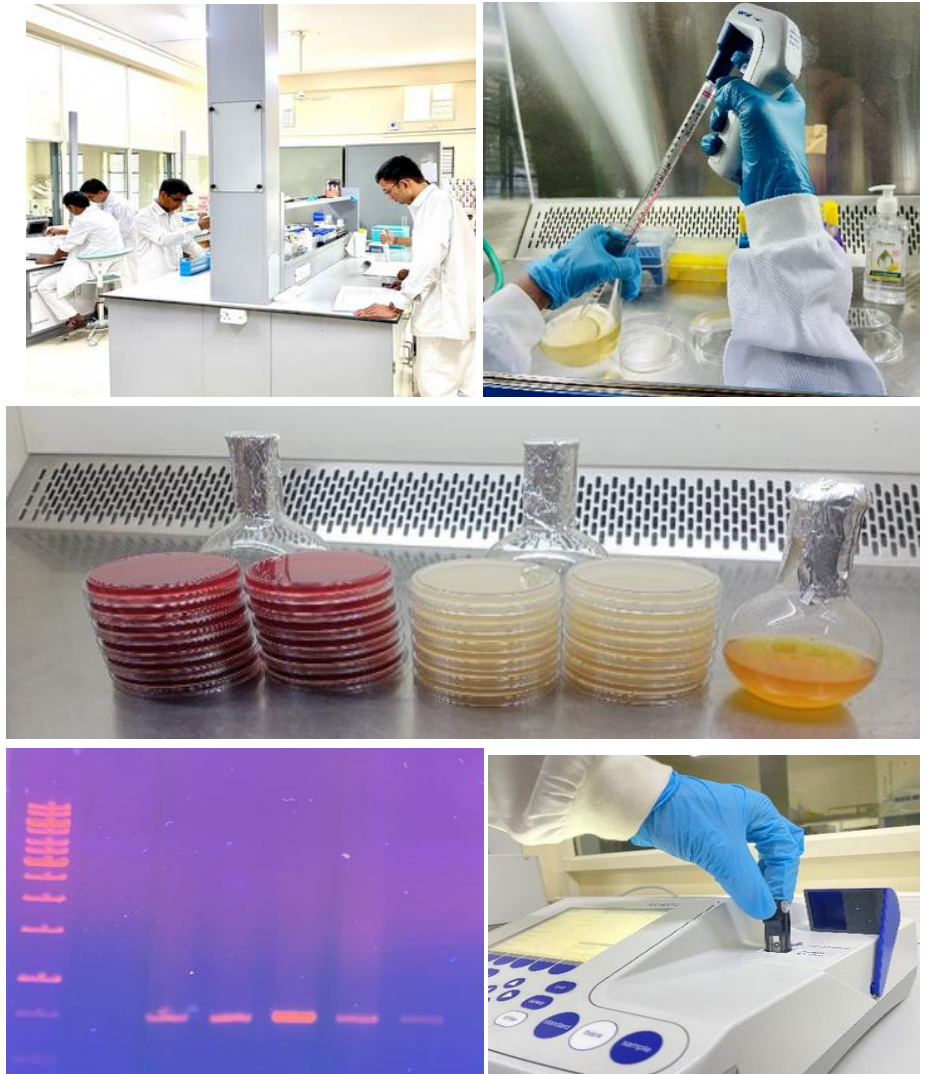
AMR Lab

Antimicrobial resistance (AMR) Laboratory is headed by Dr. B. E. Pradeep, Department of Biosciences, Sri Sathya Sai Institute of Higher Learning (SSSIHL).

AMR Lab's mission is to decipher the mechanisms associated with the emergence of AMR among clinically isolated bacteria and develop tools for interventions to mitigate the disastrous effect of AMR.

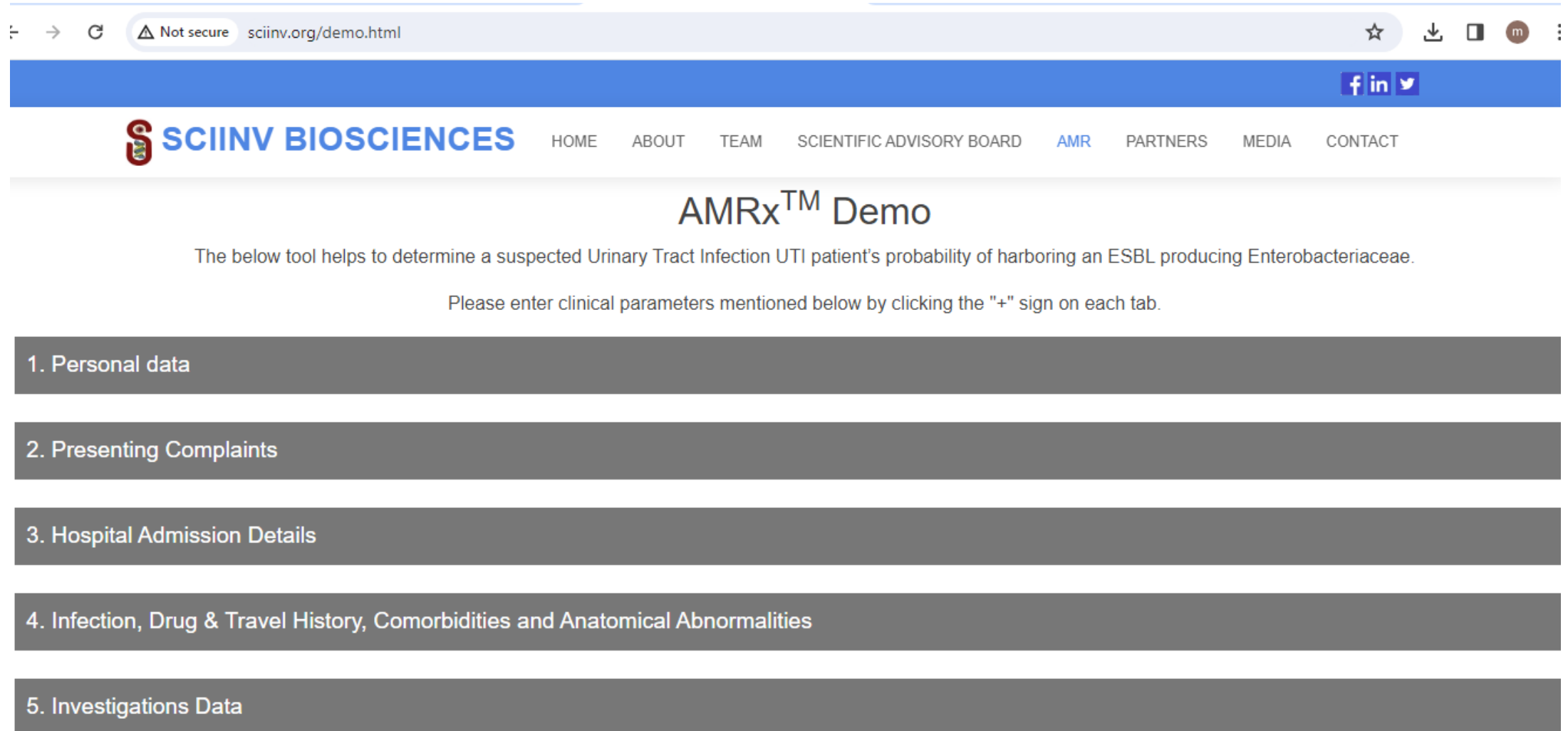
The laboratory employs state-of-the-art tools that include whole-genome sequencing, transcriptomics, Artificial Intelligence & Machine Learning (AI/ML).

<https://www.sssihl.edu.in/faculty/b-e-pradeep/>



AMR Lab at SSSIHL

Snapshot of AMRx tool



sciinv.org/demo.html

SCIINV BIOSCIENCES

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AMRx™ Demo

The below tool helps to determine a suspected Urinary Tract Infection UTI patient's probability of harboring an ESBL producing Enterobacteriaceae.

Please enter clinical parameters mentioned below by clicking the "+" sign on each tab.

1. Personal data
2. Presenting Complaints
3. Hospital Admission Details
4. Infection, Drug & Travel History, Comorbidities and Anatomical Abnormalities
5. Investigations Data

Reset Submit

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Thank You!