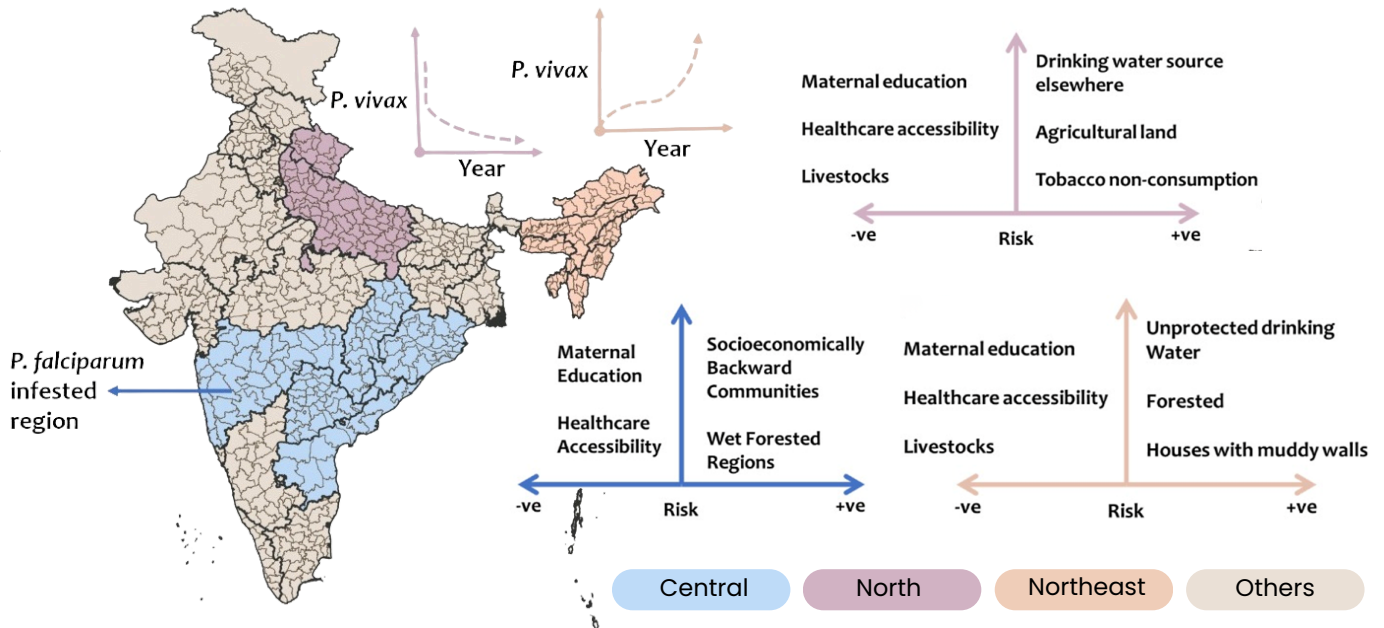


Welcome to the sixth issue of our newsletter, covering updates, activities and highlights from January to March 2026.

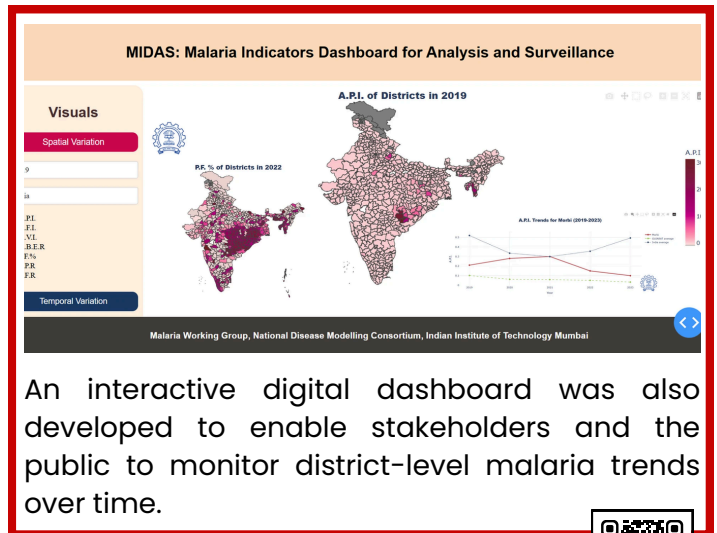
Modelling Highlights



Prof. Harish C. Phuleria (Leading the Malaria Group) and **Avik Kumar Sam** investigated malaria trends across 700+ districts in India from 2019 to 2023. With less than two years remaining to meet the national goal of zero indigenous cases by 2027, the study used spatiotemporal mapping and region-specific ensemble models, combining district-level malaria data, socio-economic indicators, and environmental inputs to identify key drivers of transmission.

Key Results

- Post-pandemic patterns indicate a geographic expansion of *P. vivax* in north-eastern India, alongside a persistent *P. falciparum* burden in central and north-eastern regions.
- The findings highlight increased vulnerability among socio-economically marginalised groups, with factors such as water practices, maternal education, and healthcare access playing significant roles, highlighting inequity-driven transmission
- Risk factors and transmission patterns varied across regions, emphasizing the need for region specific control policies.



An interactive digital dashboard was also developed to enable stakeholders and the public to monitor district-level malaria trends over time.

For detailed study: <https://rdcu.be/ffP6a>



The 3rd meeting of the **Disease Specific Advisory Group (DSAG) for Malaria** was held on 19 February 2026, marking the first meeting with the reconstituted advisory group. Discussions focused on strengthening predictive modelling, integrating entomological and programmatic data, and enhancing surveillance for early outbreak detection and targeted interventions.





Roundtable discussion on diabetes modelling, March 25 – 26, 2026

The diabetes modelling team, led by **Prof. Mithun Mitra** (NDMC), convened a discussion with leading diabetologists and researchers to present ongoing work and seek expert input on model development and disease burden estimation.

The session included presentations on model structure and data-driven burden estimation, followed by expert discussions on clinical pathways, risk factors, and disease progression. It provided valuable insights to refine modelling approaches and inform future diabetes prevention and intervention strategies.

Roundtable discussion on Antimicrobial Resistance (AMR) burden estimation, March 20, 2026

A roundtable discussion, led by **Prof. Saket Choudhary** (NDMC), brought together leading experts, including distinguished clinicians, researchers, and policymakers, to deliberate on progress, methodologies, and challenges in estimating the burden of AMR.

The session featured presentations on AMR surveillance, data analysis, and burden estimation, followed by expert discussions. It generated key methodological insights and laid the groundwork for strengthening AMR burden estimation and fostering future collaborations.



NDMC Talk Series



February 9, 2026:

Dr. Madhavi Bhargava, Professor of Community Medicine, Yenepoya Medical College & **Dr. Anurag Bhargava**, Professor, Department of Medicine, Kasturba Medical College, Mangalore on **“Nutrition in Disease Care and Prevention: The RATIONS trial and Tuberculosis as an exemplar”**



March 18, 2026:

Dr. Aniket Biswas, Assistant Professor, Department of Mathematics, IIT Kharagpur on

“Too Many Tests, Not Enough Truths”



Workshop on Operational Frameworks for One Health: National Vision and State Action, March 18, 2026

Prof. Satish Agnihotri (NDMC) delivered a talk on “Disease Modelling for Pandemic Preparedness in the One Health Domain”. The session brought together key stakeholders to advance the One Health approach in India. He highlighted ongoing modelling work on tuberculosis, measles, malaria, visceral leishmaniasis, and AMR, generating interest for potential collaborations.

NDMC Talk Series March 25, 2026



Dr. S. V. Madhu, Head, Department of Endocrinology, UCMS, New Delhi on **“Strategies for Prevention of Type 2 Diabetes & its complications”**

Dr. Nikhil Tandon, Professor & Head, Department of Endocrinology and Metabolism, AIIMS, New Delhi on **“technology and Task-sharing: A strategic approach for Managing Diabetes ”**



March 26, 2026



Dr. Ashok Das, Professor of Eminence & Director Academic, MGMCRI, Puducherry, on **“Diabetes, Hypertension, Heart and Kidney- The Deadly Quartet”**

Dr. V. Mohan, Chairman, Dr. Mohan’s Diabetes Speciality Centre, Chennai on **“Epidemiology of diabetes in India and its subtypes”**



Regional stakeholder meeting: Digital Health for NCD Surveillance and Universal Health Coverage, March 24, 2026

A regional stakeholder meeting organised by NDMC in collaboration with the Women’s Collective Forum focused on digital health for NCD surveillance and universal health coverage. Among the contributors, Dr. Rashmi Tiwari (NDMC) delivered a talk on “From Data to Decision: Disease Modelling as a Tool for NCD Prevention and Control,” with participation from distinguished experts, clinicians, and policymakers.

National workshop on systematic review and meta-analysis - SARANSH 2.0 February 23 - 27, 2026

Dr. Suchita Nath-Sain, **Dr. Namrata Kharat** and **Dr. Rashmi Tiwari** participated in the National workshop on “Systematic Reviews and Meta Analysis - SARANSH 2.0” organised by ICMR - National Institute for Research in Tuberculosis.

Did you know?

The same mathematical models used to track diseases are also used to predict viral trends on social media – showing how ideas and infections spread in surprisingly similar ways.

Meet the Team:

Tuberculosis Disease Modelling Group

The TB team at IITB develops India-specific transmission models for estimating the national TB burden. These models incorporate the natural history of disease, care cascade, and patient treatment outcomes to evaluate the impact of interventions aimed at reducing TB incidence and mortality. By integrating large-scale programmatic data with statistical, machine learning, and mathematical modelling techniques, the team generates actionable insights aligned with the National TB Elimination Program.

Current modelling efforts focus on evaluating the impact of interventions such as Active case finding, health systems improvements, and TB prevention therapy for high-risk groups. Complementing this, a recent study, drawing on programmatic data, identified key factors associated with unfavourable treatment outcomes in Maharashtra. The team is also developing a machine learning model to predict mortality risk among patients undergoing treatment. Furthermore, Dr. Ranjana (Public Health Foundation of India, PHFI) and her team bring expertise in nutritional interventions in TB control, using modelling to assess the long-term epidemiological impact of India’s Nikshay Poshan Yojana.

The team, along with the epidemiologists from ICMR-National Institute of Epidemiology and ICMR-National Institute for Research in Tuberculosis, actively engages with policy and programmatic stakeholders to address critical research questions of national importance.



Prof. Sarika Mehra
Principal Investigator (PI)
Chem. Engg. Dept, IITB



Prof. Mithun Mitra
Co-PI
Physics Dept., IITB



Dr. Ranjana Singh
Partner Investigator
PHFI



Dr. Yashi Raj
Modeller
IITB



Dr. Zafri Borboruah
Modeller
IITB



Dr. Sumit Godara
Modeller
IITB



Dr. Raghavan Parthasarathy
Epidemiologist
IITB



Dr. Khushboo Balani
Policy Specialist
IITB



Dr. Nabanita Majumder
Demographer
IITB



Dr. Rubina Mulchandani
Research Consultant
PHFI



Dr. Serin Lopez
Research Associate
IITB



Mehek Agrawal
Data Scientist
IITB



Sayan Rana
Modeller
IITB