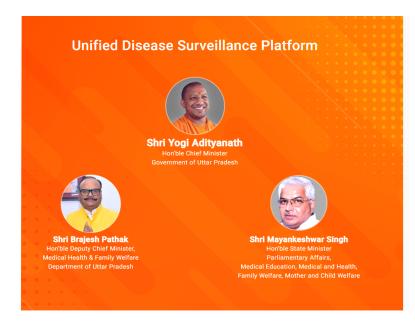# UNIFIED DISEASE SURVEILLANCE PLATFORM
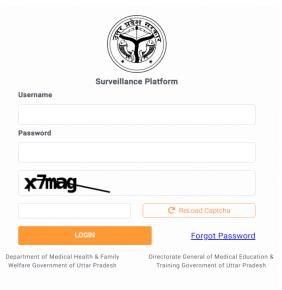
Journey from Idea to Implementation

Recognizing the Need for Digital Solutions Amid COVID-19

In early 2020, the COVID-19 pandemic introduced unprecedented challenges, prompting the Uttar Pradesh government to revisit its dormant digital roadmap. The pandemic highlighted the need for a robust system to handle testing, isolation, and mortality tracking. Uttar Pradesh Health Department with the strategic support of UP-TSU, developed and implemented a comprehensive COVID-19 surveillance system, swiftly deployed across the state despite restrictive conditions like lockdowns. This system, managing vast amounts of data over two years, built confidence in the potential of digital tools for managing public health.

Unified Disease Surveillance Platform

Shri Yogi Adityanath
Hon'ble Chief Minister
Government of Uttar Pradesh

Shri Brajesh Pathak
Hon'ble Deputy Chief Minister,
Medical Health & Family Welfare
Department of Uttar Pradesh

Shri Mayankeshwar Singh
Hon'ble State Minister
Parliamentary Affairs,
Medical Education, Medical and Health,
Family Welfare, Mother and Child Welfare

Surveillance Platform

Username

Password

x7mag

ReLoad Captcha

LOGIN   Forgot Password

Department of Medical Health & Family
Welfare Government of Uttar Pradesh

Directorate General of Medical Education &
Training Government of Uttar Pradesh

Home Isolation App: A Targeted Response to COVID-19 Challenges

Managing home isolation became a critical aspect of pandemic control. With strategic foresight, the government, supported by UP-TSU, developed a Home Isolation App to monitor patients. This app facilitated the work of the rapid surveillance response team by enabling them to:

- Validate whether individuals were staying at home during isolation.

- Monitor recovery progress, ensuring that patients were improving within the expected time frame of 10-12 days.

- Extend isolation periods if necessary, based on individual recovery rates.

- Conduct audits and confirm causes of death when patients did not survive, ensuring accurate mortality tracking.

The web-based and mobile components of the COVID portal empowered the surveillance team to perform these tasks efficiently, ensuring accurate and reliable data collection.

Revisiting the Digital Roadmap: Vision for Comprehensive Disease Surveillance

The success of the COVID-19 surveillance system sparked renewed interest in a broader digital vision. Strategically, the government, under the directive of the Chief Minister, aimed to create a platform capable of managing a dynamic set of diseases, based on the nation/state level need for surveillance. This laid the groundwork for a Unified Disease Surveillance Platform (UDSP), that would handle various infectious diseases, including malaria, chikungunya, and measles. enabling real-time data capture and swift responses across Uttar Pradesh's population of 250 million.

Building UDSP: Strategic Design for Scalability and Integration

The development of UDSP was an intensive process that spanned approximately a year. The platform was designed to be a generic, scalable solution capable of supporting both public and private healthcare facilities. Remarkably, it now encompasses all public hospitals, clinics, and labs, along with over 4,000 private facilities. UDSP monitors 12 notifiable diseases, including malaria, chikungunya, measles, and Japanese encephalitis, all of which are critical due to their infectious nature.

Whenever a patient is tested for one of these diseases at any public health facility, the data is immediately captured and reported in real-time to the central dashboard. This system enables health authorities to view statistics and trends in real time, a process that used to take weeks or months when relying on paper-based surveillance, across the state. The rapid visibility of data enables swift responses to emerging health threats, exemplifying the transformative potential of UDSP.

Lab Results and Citizen Access

UDSP has revolutionized how lab results are managed and accessed. When a lab reports results through UDSP, the system not only tracks the data but also provides significant benefits to citizens. The Ministry of Health and Family Welfare (MOHFW) website now features a portal where citizens can access their health certificates. By pulling information from UDSP, the portal allows users to:

- View the latest lab results.

- Download lab reports and QR-coded wellness certificates.

This system enables citizens to access their health information from the comfort of their homes, enhancing convenience and transparency. Recognizing the value of this system, plans are underway to develop a citizen-centric app. This app will offer additional features, such as personalized reminders for upcoming events, ambulance support requests, and more. The government has included this initiative in their Project Implementation Plan (PIP), reflecting its commitment to leveraging technology for public benefit.

Integration with eKavach – Dastak Campaign

To strengthen community based surveillance and make the platform more comprehensive, health authorities integrated UDSP with eKavach. This integration allows ASHA workers to report cases of fever and other symptoms directly from villages. The system ensures that symptomatic individuals are quickly referred to the nearest lab or facility, and their test results are recorded in UDSP.

The integration provides a seamless flow of information from the community level to the state level. Once a patient's test results are available, the ASHA worker receives them directly through the app, enabling immediate follow-up actions, such as advising on precautions and ensuring the patient receives the necessary medication.

Presentation of Health Data

Recognizing the importance of data visualization and actionable insights, dashboard functionality was developed in UDSP for clear, actionable insights. By providing state and district authorities with daily tracking reports and exception reporting, the system ensured that health officials could grasp critical metrics swiftly, improving decision-making and response times.

Extending Surveillance to Vaccine-Preventable Diseases (VPDs)

With the success of its initial deployment, UP is expanding UDSP to include Vaccine-Preventable diseases (VPDs). Historically, the surveillance of VPDs was managed by international organizations like WHO and UNICEF, which provided systems and data analysis summaries to the government. Uttar Pradesh felt the need to give actionable information to surveillance team to respond to outbreaks and conceptualized UDSP while continuing to report to GoI systems.

Interface to National System:

The Government of India developed the National Integrated Disease Surveillance Programme (IDSP) and the Integrated Health Information Platform (IHIP) for disease surveillance. UDSP updates and transmits data to these platforms in near real-time, every 10 to 15 minutes, enabling monitoring and reporting at the national level.

Outbreak Identification and Response

Work is underway to enhance UDSP's real-time monitoring capabilities by incorporating outbreak identification and management functions. The platform is being designed to trigger alerts when infection rates surpass predefined thresholds, enabling rapid deployment of response teams to contain potential outbreaks efficiently. This proactive strategy ensures timely interventions, such as sending rapid response teams to affected villages, providing necessary medical support and treatment, and investigating the causes of any fatalities to prevent further risks.

Extending the Vision: Empowering Uttar Pradesh Through UDSP

The Uttar Pradesh government is undergoing a transformative shift in advancing its healthcare management systems, emphasizing greater autonomy over health data and infrastructure. This strategic move reflects the state's commitment to address its unique healthcare challenges independently, reducing reliance on health partners or government of India. By managing its health data, Uttar Pradesh aims for a more tailored and responsive approach to public health issues, while still sharing essential information with national digital systems. The Unified Disease Surveillance Platform (UDSP) stands as a key tool in this initiative, exemplifying the state's vision for localized data control and application deployment.

Sustainability

UDSP represents a significant milestone in Uttar Pradesh's journey towards a comprehensive, integrated health information system. From the early days of the digital roadmap to the rapid deployment of the COVID-19 surveillance system, and now the expansive capabilities of UDSP, the state's commitment to leveraging technology for public health is evident. By providing real-time data, enabling swift responses to health threats, and integrating various health applications, UDSP is transforming how health data is managed and utilized in Uttar Pradesh. The state's proactive approach, combined with continuous innovation and adaptation, sets a benchmark for other regions looking to enhance their health information systems through digital transformation.

The sustainability of the UDSP hinges on its capacity to adapt to the changing healthcare landscape through continuous updates and enhancements. Led by Uttar Pradesh Health Department under the leadership of Principal Secretary, Medical, Health & Family Welfare Department and the State Surveillance Officer, the evolution of UDSP is critical to addressing emerging health challenges and integrating new technologies.

A dedicated team should manage its maintenance and development, ensuring user-friendliness for frontline workers and health officials while focusing on areas for improvement. Establishing regular feedback loops will be essential for evaluating the platform's effectiveness and facilitating its evolution to meet shifting healthcare demands.

Way Forward: From Disease Surveillance to OneHealth

In line with the global strategic shift in disease surveillance, Uttar Pradesh is looking forward to integrate: monitoring weather patterns and animal populations, the state aims to forecast diseases like malaria and zoonotic threats, enabling pre-emptive action. By bringing together these diverse data sources, UDSP aims to create a predictive model that can help the state prepare for and mitigate the impact of disease outbreaks.