Helping Cities Respond to Pandemics with Digitization

aws partner network

The Customer

The National Health Mission in Assam, known as NHM Assam, falls under the NRHM - National Rural Health Mission of India. The NRHM was launched in 2005 to provide accessible, affordable, and quality healthcare services to limited resources and rural areas in India. As part of its mission, NHM Assam aims to provide equal opportunity of access to affordable healthcare services across the State of Assam by focusing on encouraging community participation in the healthcare services system to help those with limited access living in villages, urban slums, and tea garden community in Assam.

Identifying Challenges

Assam was one of the top states in India to record an outbreak of COVID 19 cases in 2020. Despite restrictions and strict curfew imposed by the Assam government, rural and tea garden areas in Assam's districts have been reporting a substantial number of cases every day. With nearly 31 million population distributed in 33 districts; 150+ hospitals and quarantine centers; 250+system users; 150 screening centers and more than 20K bed capacity in hospitals, it was challenging for NHM Assam to efficiently manage healthcare facilities and administration using a traditional manual system. The state officials realized the need to look for solutions aiming to control the spread of the virus and contain the increased number of cases.
Access to the right data, at the right time in the right format, was a pressing requirement to enable NHM Assam to act using a data-driven approach for pandemic management and control.

The Solution

NHM Assam partnered with Quantela, a technology company that offers end-to-end infrastructure digitization solutions to help cities and communities meet their economic, social, and environmental objectives, to create a robust data management system for Covid-19 processes in the State of Assam. A single solution that enables NHM Assam to collect, collate, maintain, update, analyze and archive data across administrative divisions, healthcare facilities, laboratories, etc.

Quantela introduced the Coronavirus Emergency Response (CoVER) platform, an Integrated Command and Control Centre (ICCC) for Crisis Management. The cloud-based solution aims to aggregate data from multiple sources, store it, analyze it, and take appropriate decisions. Quantela's CoVER platform empowers cities around the world to boost their ability to monitor, predict and respond to the COVID-19 pandemic. The solution runs on Amazon Elastic Compute Cloud (Amazon EC2) and uses Amazon Simple Storage Service (Amazon S3) to store data for analysis, thus allowing swift access to data in the cloud and leveraging the full scalability offered by the CoVER platform. The project started in 2020 and was completed within 4-6 months with the required digitization to capture the data through web forms.

About The State of Assam

According to the 2011 census, the population stands at about 31 million

The state area is 78,438 km2

State is in northeastern India, south of the eastern Himalayas along the Brahmaputra and Barak River valleys

Famous for its tea and silk products

Home to two-thirds of the world's one-horned rhinoceros

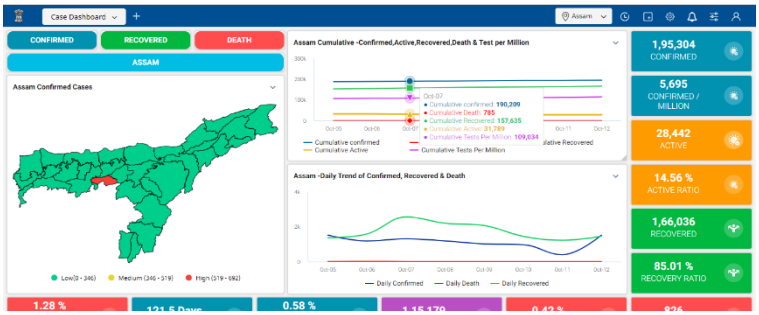
Known for its beautiful scenery, wildlife sanctuaries, rich culture, and people's hospitality

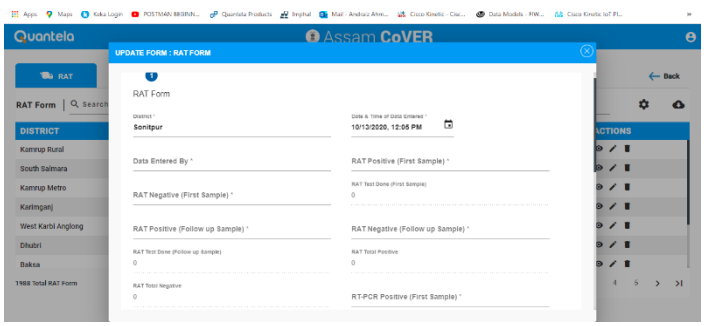
CoVER platform enabled NHM Assam to gain real-time data insights on healthcare facilities capacity and quarantine centers. PTPCR tests were tracked to identify positive cases and monitor their contact with other citizens. Furthermore, the platform's predictive analysis leverages AI to highlight and identify patterns and predict the next outbreak areas in the state so authorities can take preventive actions. Also, NHM Assam gained live tracking of quarantined patients from testing to discharge. Authorities were able to speed up the allocation of patients to hospitals with available capacity, monitor medical supplies including PPE kits, N95 masks, and ventilators and distribute oxygen supplies where needed the most. WebEx Conferencing System was facilitated through the platform for coordination and control between authorities. The CoVER platform provided a single dashboard to monitor the overall status of the Assam State in terms of covid patients, increase or decrease trends in the short-term period to understand the potential waves, tests, results, etc., as well as display comparisons with other states in India and around the world.

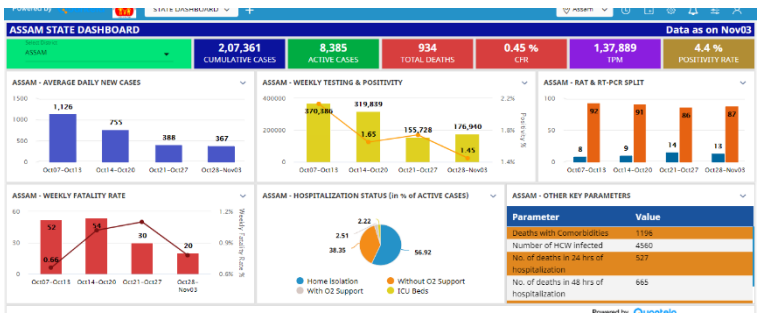
The Outcome

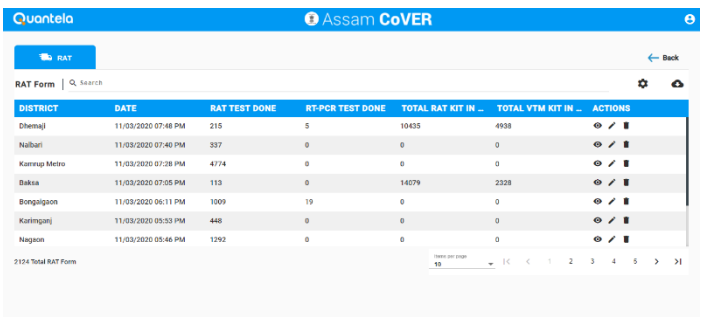
- Efficient control of positive cases and increased recovery rate to **99%**
- **70%** reduction in manual operations through the digitization of processes and administration which resulted in an increased of medical response
- **50%** reduction in oxygen availability turnaround time by real-time monitoring
- Increased efficiency in healthcare resources management and monitoring of **more than 250K patients**

Deployment Screenshots

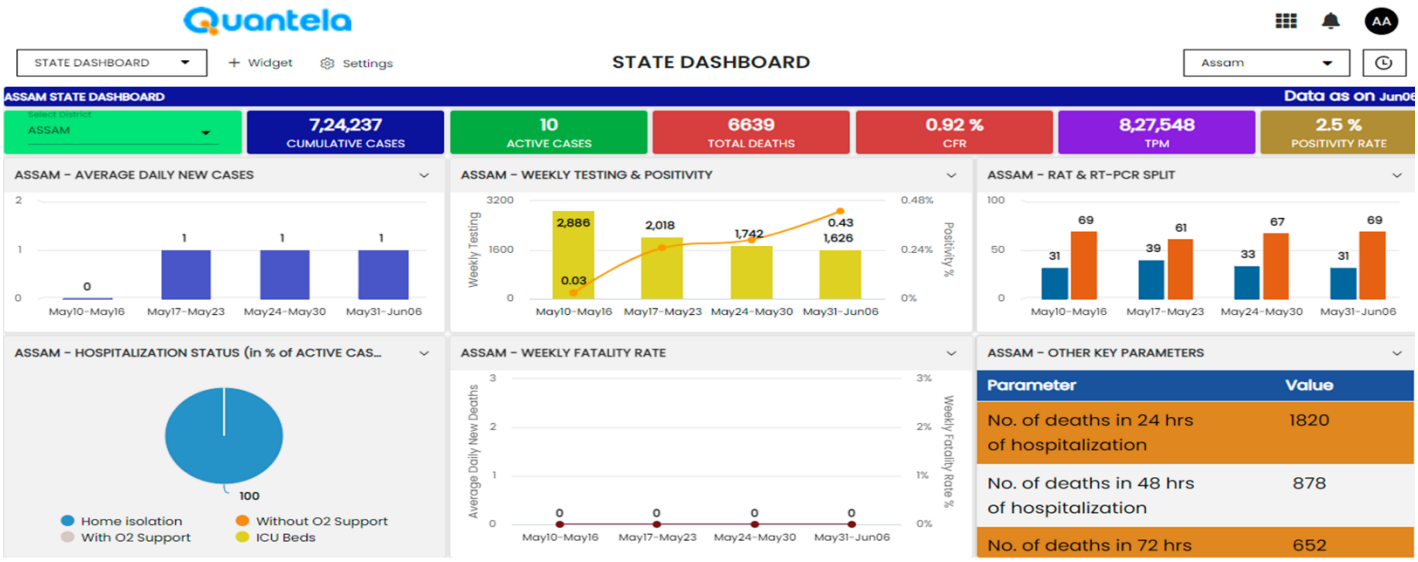


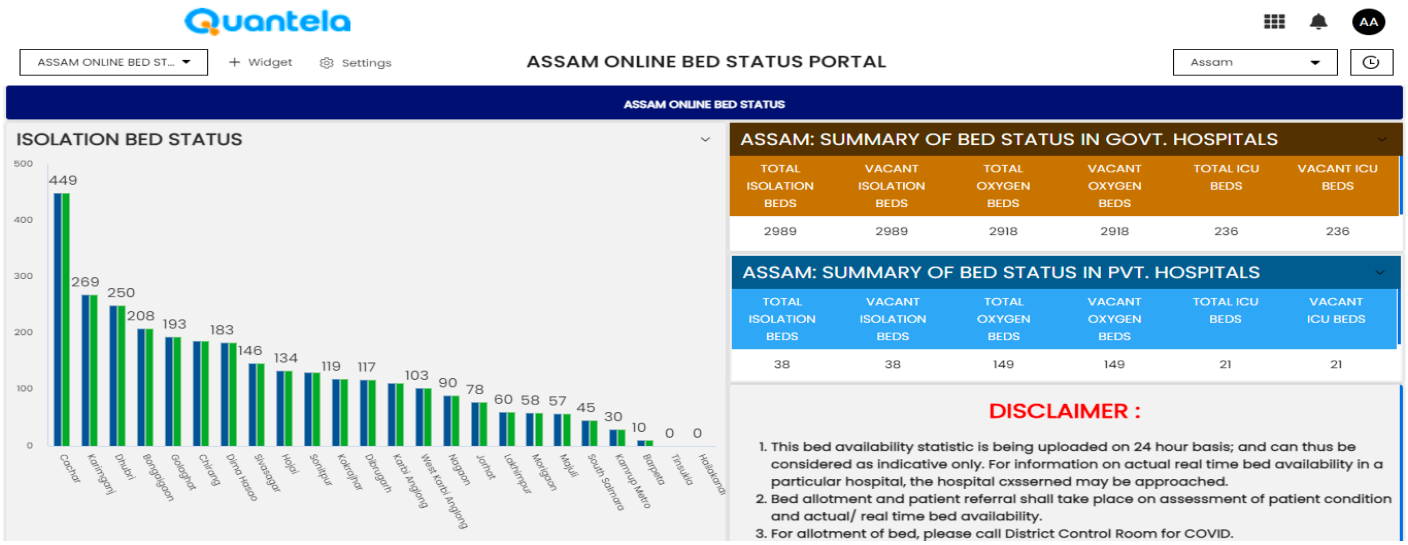






Monitoring confirmed cases, recovered cases, and deaths





Bed capacity vs utilization to understand the occupancy rate

About Quantela Inc.

Quantela Inc. founded in 2015, is a technology company that offers end-to-end infrastructure digitization solutions to help cities and communities meet their economic, social, and environmental objectives. Unlike other technology companies, we tailor our offerings (what we can digitize) and the business model (how we partner with our customer to deliver that digitization) to drive measurable impact where our customers need it most. Today, working with cities and towns; utilities, and public venues, our team of 400+ experts offer a vast array of outcomes business models through technologies like digital advertising, smart lighting, smart traffic, and digitized citizen services. We are supported by our key investors, Digital Alpha, a leading alternative asset manager focused on digital infrastructure; and Energy Impact Partners, a global investment platform leading the transition to a sustainable energy future. The company is headquartered in Massachusetts, USA with offices across Europe, the Middle East and Asia.

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