

# WAGING WAR AGAINST COVID-19 IN KARNATAKA, INDIA

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Infosys brought together the IT Industry in India to help the Government of Karnataka battle COVID-19.

Mohammed  
Rizwan checked  
his temperature  
for the third time  
in as many hours.

99.6° F.



That's not really a fever, he thought to himself, trying to ignore the irritation in his throat that had been bothering him for the last couple of days.

Rizwan had arrived in his hometown of Bantwal, in the southern Indian state of Karnataka, a week ago on a special 'Vande Bharat' flight from Doha. The Indian government had banned all international flights from landing in the wake of the COVID-19 pandemic, and Rizwan was one of the 15,000 Indians stranded in various parts of the world. A sense of relief had come over him as he found a seat on the special flight to Mangaluru, the closest airport to his hometown.

In a bind, Rizwan paced about. Should he get tested? What is the best place to get the test? But what if he's actually negative and catches COVID-19 at the testing center? And what if he's positive and is putting his 68-year-old mother at risk?

**"Why don't you just ask Apthamitra?"**

**It was his mother, standing in the doorway.**

**"After all, it is supposed to guide you through all this, right?"**

'Apthamitra' is the Government of Karnataka's comprehensive COVID-19 citizen response system. By helping the government track, trace, test and treat millions of COVID-19 patients in the last six months, the Apthamitra program has lived up to its name – it literally means "close friend" in Kannada. But this system (of which the simple, easy-to-use and intuitive Apthamitra app is one part) took weeks of intense effort, and the coming together of India's IT and BPM companies, the medical workforce, and the Government of Karnataka.






By March 2020, it was clear that most of India – and with it, the southern state of Karnataka as well – were heading for a lockdown. Karnataka, though, was especially vulnerable. The state supports a large IT and industrial population, and is therefore conducive to the spread of a pandemic. To top it, as country after country around the world went into a lockdown, the government expected a huge inflow of expat Indians like Rizwan coming back to the safety of their homes.

If a track-trace-test-treat protocol had to succeed, the government first needed to know details of travelers coming into Karnataka from the two international airports in the state – Bengaluru and Mangaluru. Step 1 of the program involved digitizing the data of millions of fliers that entered Karnataka after March 1. Infosys worked with the Government of Karnataka to design a system for digitization and data capture, record keeping, and intelligent reporting. Once the data was in place, Infosys mobilized a team of 200 people and reached out to other organizations to reach out to these people to inform them of

COVID-19 protocols and the efforts that the government was taking to mitigate its spread. They were advised to call a helpline number if they developed symptoms. As part of the “trace and inform” initiative, Infosys also reached out to people who might have come in contact with known positive COVID-19 cases. As part of this initiative, Infosys proactively reached out to 82,000 citizens, of which approximately 33,000 were advised to quarantine.







But this was  
still just  
the tip of  
the iceberg.

As Karnataka went into a full state of lockdown by March 24, the government had a definite idea of what the defense would look like: lock the state down, encourage people with symptoms to seek help at the 'fever clinics' that the government had set up, encourage them to follow social distancing measures and monitor the number of positive cases and their growth throughout the program.

## The vision was to cover the entire population of the state – 64 million citizens!

Given the already strained healthcare infrastructure, and the need to protect healthcare professionals from possible infection, telemedicine seemed to be the most promising solution to the problem. Infosys built on the initial success of the Apthamitra program. They designed the basic processes for outreach, diagnosis and treatment so that citizens showing symptoms could be counseled at their homes and if necessary, advised hospitalization. A training module for healthcare professionals ensured that nurse-volunteers and doctors could consult with citizens, remotely. Finally, Infosys built the citizen-facing Apthamitra app along with its IT infrastructure and analytics set-up. The app helped answer citizens' questions, log in their symptoms remotely and advise them of the future course of action. The app also allowed for a call-back from a nurse-volunteer or doctor if the AI-based system determined that they might be COVID-19 positive. And because the system was integrated with the various other initiatives that the government was undertaking (geo-tagging to detect quarantine violations and the state

ambulance service, for example), this was truly the comprehensive program that the government had envisioned. For the citizens, this meant calling the helpline or turning to the app to have every question answered, and the next steps laid out, while keeping them and the healthcare professional safe.

The program built, Infosys created a consortium of nine BPM companies to popularize the helpline and the app – an occasion where the entire IT industry (including some of Infosys' competitors) came together to fight the pandemic. In doing this, Infosys built a telephony architecture that worked seamlessly across all the various brands and models of telecom equipment in use across the state. The result was a helpline that was truly universal, and a system that was able to deliver targeted messages to citizens at a specific cell-tower level. Nine months since its launch, Infosys continues to oversee the running of the project along with the Government of Karnataka. Their CEO regularly participates in the bi-weekly meetings to set the cadence.

## The vision of covering all of Karnataka's 64 million citizens seems achievable.

Back in Bantwal, Rizwan breathes a sigh of relief. Having uploaded details of his symptoms into the Apthamitra app, he's had a remote consultation with a doctor. The doctor is certain that it's only a minor cough, most likely due to the change in weather.

He reaches out to his phone to order in his favorite Hangyo ice-cream. He's not had it since he left India.

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