

11 THE GOVERNANCE PAGE

COMBATING CORONAVIRUS

How Karnataka govt uses technology, data and surveillance to contain Covid-19

A task force of 10 IAS officers with expertise in technology, medicine and healthcare is leading the charge

JOHNSON TA
BENGALURU, MARCH 29

ONE OF the crucial elements in successfully surmounting the challenge posed by the spread of Coronavirus in countries like South Korea, Singapore and even China was the use of data from technologies like the Global Positioning System (GPS), mobile phone apps etc. While health workers tended to patients, experts in the use of modern communication and surveillance technologies worked behind the scenes to deploy technology to prevent the fast spread of the disease.

Learning from countries like South Korea, the Karnataka government has now turned to its in-house experts on technology, and the IT resource base in Bengaluru.

One of the tasks assigned to a 10-member Covid-19 task force — comprising IAS officers with expertise in the fields of technology, medicine and healthcare — is to develop a system to track all persons who visited foreign countries during the period of the Covid-19 outbreak. The system, which should be ready in the next few days, would also track those who have tested positive and all their known and unknown contacts.

Different "Applications (or Apps)" are already in the pipeline for informing people about the places where they may have come in contact with a Covid-19 positive person. There are apps for checking on persons in quarantine, and for geofencing places with a large number of infections.

One of the applications for mobile phones called "Corona Watch," which gives details of places visited by Covid-19 positive persons in Karnataka in the 14-day incubation period of the virus, has already been released through the state government's official portal.

The estimated number of travellers — the primary target of surveillance since the virus is known to have come from affected countries — who have returned since the outbreak is 40,000. A total of 21,509 persons from 28 districts of the state returned from foreign countries between March 10 — when data collection began — and March 23 — when international flights were halted in the state. As of March 26, there were a total of 56 Covid-19 positive cases detected in Karnataka with 55 of them involving persons



View of Covid-19 war room at Bengaluru city council headquarters Express

who recently returned from foreign countries — including two elderly persons who have died within days of returning from pilgrimages to Saudi Arabia.

"What we are finding is that if we have 40 to 50 coronavirus patients the number of their contacts runs into 10 times the number of patients. Everybody in the family becomes a primary contact. By chance if one person happened to go to a concert — as it happened in one case — then certainly 300 people need to be isolated," says IAS officer Munish Moudgil, Secretary (Administrative Reforms) and member of the state task force for containing Covid-19 with the specific responsibility for looking at the use of IT and related activities to contain the virus.

"The whole effort in India and Karnataka is to ensure that the number of patients who need intervention does not go beyond the capacity of the health system. It is not going to be easy. For that to happen at this juncture we are trying to prevent community spread and in this situation, technology can play an important role," said Moudgil, an IIT Bombay graduate who has used technology for farm loan waivers and urban land record digitisation in Karnataka.

Since testing everyone for the coron-

avirus is impractical at this stage, the best-acknowledged means of curbing the spread of the virus is through social distancing or cutting off all social interaction for 14 days — which is the incubation period of the virus — in the understanding that this will stop its community spread.

"Bangalore has 25 lakh households or families and the total number of people who arrived from abroad since the whole Coronavirus issue started is 40,000. Theoretically, if we had successfully quarantined all 40,000 people after they returned, along with their families, there would probably have been no escalation beyond these 40,000 people," Moudgil said.

"Keeping a watch on this 40,000 people is only possible through technology. It is just not possible to send the whole police force to sit outside the houses of people," he said. One of the first apps — on the lines of those deployed in South Korea to track the persons in self-quarantine — is almost ready and will require voluntary participation by the quarantined persons to declare their location every day during the 14-day-period, the official said.

"What we are doing right now is developing an app which will be out in a few

EXPLAINED Significance of using technology

The best way to combat Coronavirus is to contain its spread. That's where Karnataka government has learnt from the experience of South Korea, which leveraged surveillance technologies to effectively track those individuals who were infected and fast spreading the virus. The Corona Watch app is the first such effort.

days. We will give this app in the hands of the people and those who are self-quarantined will have to report on this app every half an hour or one hour, let us say. If a person does not report then we will send a follow-up physical verification team of the police," Moudgil said.

The home quarantine app will require people to click their photo and send it to health officials who will be able to use geotags of the photo to know where the picture is taken. With several home-quarantined persons found socialising and visiting theatres, malls, play areas, the app is expected to curb this during the mandatory period of social isolation.

"The other thing we are trying to do with technology is that we are using software and data from telecom service providers to get information on people who were in the vicinity of these people and we will notify them saying — 'you were in the vicinity of Mr Y who is now a corona positive patient. Please report for a quarantine,'" the IAS officer said.

The task force is using tower location information from telecom providers and available apps to notify people about their possible interaction with Covid-19 positive persons.



Migrant workers and their family members waiting to leave for their villages outside Allahabad bus station in the wake of a nationwide lockdown. Ritesh Shukla

'Before announcing lockdown, assuring migrant workers would have helped'

CHINMAY TUMBE, author most recently of *India Moving - A History of Migration* and an Assistant Professor at IIM (Ahmedabad) spoke to SEEMA CHISHITI on the many implications of the surging crowds of migrants anxious to go home in the wake of the national lockdown.

Given the sudden rush of our migrants, what are your biggest concerns?

That migrants' health takes a huge beating in this process. That the already-malnourished will suffer immensely. The mental stress induced by the long walk back home. And that for a few who may test Covid-19 positive, the fatality rates may be higher, only because of the long walk back home.

What is it that makes places they set out to make a life to, so inhospitable for them?

One needs to understand the psychology of the circular migrant worker. The city is seen as a means to an end of providing for the family back home. In times of distress, whether a recession or a pandemic, 'home' is the native place and migrants set off. The economic dimension comes from paying housing rents which one can save on, if one leaves the city.

Could this have been planned better?

While the government has to make many hard trade-offs, I think in this case what is blatant is the attitude towards international migrants — note the rescuing of stranded travellers abroad versus the sudden lockdown without prior notice given to internal migrants. The closest comparison of the long walks seen today is the Partition of 1947 and even then, transport options were open for some distances and did not affect all parts of India.

This could have been planned much better by announcing that along with the Sunday janta curfew, people would be given few days to go home if they choose to do so. Trains could have had important Covid-19 information dissemination outlets as millions took their journeys home. The idea that we should shut internal migrant workers in cities so that they don't take the epidemic back home is misplaced, as we are seeing now, because migrants will anyway try to scramble home, and that too under worse conditions. Ramping up of testing facilities and social distancing in key source-region districts was and is warranted. And above all, a clear message while announcing the lockdown, that all concerns of migrant workers would be addressed by the provision of food,



THE
POLICY INTERVIEW
CHINMAY TUMBE
Asst. Prof. IIM-Ahmedabad

water and shelter in the cities. That would have reduced the need for instant-flight.

Are certain social groups more vulnerable in this?

To the extent that short-term seasonal migration is over-represented by historically marginalised social groups, they face the brunt of this crisis. But circular migration of longer durations also includes people across castes and social groups so everyone is affected.

Some sociologists have spoken of this as being the tip of a much bigger crisis India may be on, and not just a threat from the virus. Your thoughts?

This is a good time to conceive a new approach to providing social security to migrant workers. The Working Group on Migration published a report in 2017 by what was then called the Ministry of Housing and Urban Poverty Alleviation and that should be taken seriously. There is a serious public health issue faced by migrant workers which has little to do with Covid-19. Malnutrition levels among kids of construction workers on construction sites are on par with what is found in sub-Saharan Africa.

What might be done to prevent these problems?

Clear information campaigns that the return migrants are not necessarily a threat. Social distancing and enforced self-isolation as done with returning international migrants.

How is this different from people moving to villages after Demonetisation?

It is different because there were transport options available then. You did not see long walks back home.

Full interview on indianexpress.com.

Work non-stop or stay at home? For the 18 members of this Kolkata lab, the answer was tough but clear

RAVIK BHATTACHARYA
& ATRI MITRA
KOLKATA, MARCH 29

ANANYA CHATTERJEE is up at 6 am after working late into the night, leaving her with no time for her eight-month-old baby girl. Madhumati Basu has moved to her parents' home to be near her workplace. Hasina Banu and Agniya Majumdar handle over 500 phone calls every day. All of them are part of an 18-member team of doctors, virologists and microbiologists at the Regional Virus Research and Diagnostic Laboratory at the National Institute of Cholera and Enteric Diseases in Kolkata. This has been their daily routine since February 17, when widespread testing began for the coronavirus.

At the Belegata office, the team's workspace includes a small room next to the lab with a round table at the centre surrounded by computers, tabulation sheets, and piles of papers and reports. Phones ring constantly, with queries pouring in from health department officials, government hospitals, and



worried city residents. Apart from screening and testing samples, the team processes data and liaises with the National Institute of Virology (NIV) in Pune while keeping state officials and government hospitals in the loop.

"Our work officially starts from 10 am but continues till late into the night. I get to spend only a little time in the morning and in the night with my baby. My mother and domestic help take care of her. But we try to maintain a smile always because what we are doing is very important work, given the situation," says Ananya, 34, who holds a PhD



The 18 lab members handle 500 calls a day apart from testing samples Express

in Molecular Biology.

"I got married in December, and it takes about two hours to reach the office from my husband's home in Howrah. In February, I returned to my parents' home in Sinthi, which is an hour away, because I wanted to be near the lab," says Madhumati, 21, who has completed a Masters in Molecular Biology.

So far, the team has tested over 200 sam-

ples, initially catering to West Bengal, Odisha, Bihar, Jharkhand, Sikkim and the North-Eastern states. But now, with the NIV bringing in other labs in the system, the focus is on West Bengal and Sikkim.

At work, it takes anywhere between three and 24 hours to conduct the tests and issue reports. But at home, the challenge is of a different kind.

"The owner of the apartment where a team member lives asked her to vacate after coming to know that she conducts Coronavirus tests. We had to convince him that we are in a safe environment," says Hasina, 34, an MD in Medical Microbiology who hails from Murshidabad. "We have told our families that we take extra precautions at work. Yet, they are always concerned," says Agniya, an MD in Microbiology.

Then there's Rudrak Gupta, whose two-hour drive from office in the west to home at Behala Chowrastra in the east is a "nightmare". Soumen Mukherjee, 42, who holds a PhD in Biotechnology from IIT-Kharagpur assures that the team is used to handling "very infectious diseases".

ON THE FRONTLINES

Containing Covid-19 where population density is 50 times Wuhan's

TABASSUM BARNAGARWALA
MUMBAI, MARCH 29

WITH THE threat of Coronavirus, Medical surveillance officer Dr Vikas Singh has no dearth of reasons to worry these days. In particular, he is worried about the population density and how it may exacerbate the threat of Covid-19 spreading fast. Singh mans a central ward in Mumbai, called Kurla, which has double the city's density — 58,438 people per sq km. That is 50 times the population density of Wuhan (China) where Coronavirus originated. "We have to prevent community transmission here anyhow" Singh says. "If I could I would shut everything".

Already a positive Covid-19 case has been recorded in adjoining wards. It is a matter of days before Kurla, or the L ward, records one. Kurla has 80 per cent slums, the remaining 20 per cent are affluent residents who reside close to the plush corporate area — the Bandra Kurla Complex. Once he covers all residential pockets, he will start the laborious task of sensitising slum dwellers where the awareness drives are yet to start.

Every morning Singh checks the status of people under home quarantine. There are 50 international passengers in his ward. His team of 300 staffers across 16 health make daily calls to them. Once he confirms none have developed any symptoms, he plans awareness drives in housing societies, then makes daily calls to hospitals and local physicians to check for any spike in respiratory illness. This is to ensure the virus is not silently spreading in the community. On March 15, more than 500 societies were visited to counsel people about symptoms, to check if anyone had breathlessness, share posters on dos and don'ts, on myths, and residents were urged to report if anyone did not follow home quarantine rules.

Singh's wife is a medical officer in another ward. With elderly parents (the most at-risk age group) at home, Singh carries a can of pink coloured liquid soap to keep washing his hands. "I don't need to now, but soon I may have to maintain distance to keep them safe," he says.

It was January 8 when the first call came. An Indian had returned to Kurla from Wuhan, the epicentre of the outbreak. "I im-



Dr Vikas Singh is the medical surveillance officer of Kurla ward. Prashant Nadkar

mediately sent my officer, we requested him to remain at home for 28 days. Back then the guidelines mandated a 28-day quarantine. For a month we called him daily to check for symptoms," Singh says. In January the preparation was within the public health depart-

ment, sharing information on Covid-19, training health workers, stocking up on protective gears. By February, posters were pasted in societies, every day a tempo with a medical officer on microphone would roam announcing the symptoms and precautions.

Singh himself goes for many such drives.

"Once a resident called to complain that a Dubai return was roaming freely in society. I immediately rushed to the society. We counselled the man on the threat he posed to his own family. I realised if we counsel well, people do listen," he said. On another occasion, he went to a corporate office to just teach the way to properly wash hands to white-collar workers. The employees had just one concern, N-95 masks are out of stock, and Singh gently convinced them to use handkerchieves instead. He and his staff have masks as their only protection. "We wear gloves when needed," he says.

The most difficult task, he says, is when a positive case comes up. "Out of 9.28 lakh population, 80 per cent here are slum dwellers. We have not even started sensitising them," says Singh highlighting the severity of the task

'Out of 9.28 lakh population, 80 per cent here are slum dwellers. We have not even started sensitising them,' says Singh highlighting the severity of the task

has a plan — take minute-by-minute detail from a positive case to track each movement, retrace steps, and disinfect everything that came in the patient's way. "Cluster containment is easier said than done," he says.

"Our doctors are visiting each international traveller to stamp on their fist. Such people can be identified if they step out, but what a waste of resource. If these people self-quarantine, our job gets easier," he says.

Health officials like him are also counselling people against social discrimination. Whenever he visits a society, he encourages people to bring grocery, help residents who are under home quarantine while ensuring minimal contact. "People need to help, not boycott each other during these times," he looks agitated. Even during the H1N1 outbreak, there was panic, but the panic this time has led to rumours, consuming hours of civic staff's time in discrediting them.