

The polio eradication campaign in West Bengal, by Swati Bhattacharjee

West Bengal lies near the eastern end point of the belt that stretches across the midriff of India, comprising eight states considered "high priority" for polio vaccination. Along with Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Assam, Gujarat and Orissa, West Bengal, too, is getting two additional rounds of pulse polio between February and April 2000.

The picture is particularly bleak in UP, Bihar and West Bengal, where the P2 virus has been found. Of the three types of polio virus, P2 is considered the weakest and thus the easiest to eradicate. Its presence indicates a low level of routine immunisation and inadequate outreach of pulse polio immunisation programmes.

Data from the National Polio Surveillance Project show that in 1999, till October end, West Bengal had 17 cases of wild polio virus. UP tops the chart with over 231 cases, followed by Bihar. West Bengal ranks third. Till October 1999, of the total 1,481 cases of polio infection in the country, West Bengal has 72.

Unique problems

According to experts involved in the polio programme, West Bengal has certain unique problems which make the state vulnerable to polio infection.

First, the state has a porous border. There is a constant influx of people from Bangladesh in the East and from the state of Bihar in the West. In both Bangladesh and Bihar, the level of polio immunisation is low.

Second, the polio virus is spread all over West Bengal, and no district is free of the disease. This makes combating the problem more difficult. If polio infection were isolated in certain pockets, concentrated action in those areas could bring quick and dramatic results. For example, 41 of the 46 cases of wild virus found in Orissa in 1998 were in Ganjam district, and the rest in Bhadrak. Following an intensive campaign and house-to-house immunisation programmes in these two districts and some blocks in the surrounding districts, no wild virus was found in the state the next year.

In West Bengal, by contrast, no district is free of wild virus. On certain years, certain districts may not have any reported cases, but infection recurs on following years. Nadia, for example, had no case in 1998 but one case has been reported in 1999.

Third, the huge urban slums of Calcutta pose a formidable problem to polio eradication efforts. Slums are overcrowded, have poor sanitation facilities, and the residents are unable to maintain personal hygiene - all three factors leading to the spread of the polio virus. The floating population also frustrates attempts to complete the entire course of immunisation over several months. It is no coincidence that the only case of P2 virus infection was reported from the Dhobitala slum in East Calcutta. The child, the son of a beggar, had never received a single dose of any kind of vaccine in his life.

Children's health in West Bengal

Though West Bengal's infant mortality rate is better than the rest of the country (53 per 1,000 live births per year, compared to the national average of 72/1,000), the Bengali child's health profile is not too bright. According to government estimates, 45-50 per cent of children are born with low birth weight. Though government reports show high routine immunisation rate among 0 to 1 year olds (90 per cent excluding the measles vaccine, less than 80 per cent including it), UNICEF sample surveys estimate that only 55 per cent to 57 per cent of children under one year have received all six childhood vaccines.

Another indicator of the state's unsatisfactory routine immunisation rate is the mortality rate due to measles. A 1995 ICMR study on causes of mortality among 0 to 4 year-olds show that seven per cent deaths in this age group in West Bengal are due to measles. The two most common causes of death in this age group are diarrhoea and respiratory tract infection (19 per cent each).

The strategy of polio eradication

Unlike its neighbour Orissa, West Bengal has never devised any strategy in addition to the national strategies planned for every state. No such special drive has been taken in addition to Centre-dictated policies. There have not been special rounds or any special surveillance programme on the state government initiative. But as in every state, the national policies have been implemented by strategies suitable to regional needs.

The first component in the three-point polio eradication strategy is to ensure routine immunisation, which administers three doses of polio to every child along with four other immunisations. Says Dr Dilip Kumar Ghorai, Joint Director, Health and Family Welfare, "A routine immunisation rate of at least 80 per cent can ensure that not too many children have missed polio immunisation."

The second component is the pulse polio immunisation (PPI) drive (administering polio vaccination to all children on the same day), which started in the state in 1995. A project of unprecedented magnitude, it demands large-scale community participation. According to state government sources, 1.25 lakh people are mobilised all over the state on the days of PPI. Of them, only 25,000 are employees of the government health departments. The rest are Integrated Child Development Scheme (ICDS, a central government scheme) workers, employees of the education and animal husbandry ministries, panchayat members and teachers. In Calcutta, about 150 medical students and junior doctors take part. NGOs are roped in. No one is paid for this work, but starting with on October 1999 vaccination drive, the state government allocated Rs 100 per booth (Each booth should ideally have four workers) for refreshments. However, workers in many booths have complained that they are not receiving refreshments.

Starting with the October 1999 drive, teams of health workers follow the booth-based National Immunisation Day with visits from house to house, visiting families and vaccinating all children they find who did not already receive a dose. This two-day programme is done to ensure better coverage.

The third component is Acute Flaccid Paralysis (AFP) surveillance. Not all AFP cases are due to polio, but policy requires all cases of AFP in children below the age of 15 to be tested for polio. A total of 128 WHO officials do this work all over the country. In West Bengal, there are four WHO officers, two stationed in Calcutta, one in Siliguri and one in Berhampore. There are at present 148 identified reporting centres of AFP, all attached to government and private hospitals. The DMCH is the nodal officer for the surveillance programme in every district. WHO officers also assist him as needed.

In West Bengal, medical colleges and district hospitals report about 70 per cent of all cases. The rest come from private hospitals. A network of private practitioners is also maintained by WHO officers. These doctors act as "informers", referring patients to reporting centres and also alerting officers. A reporting rate of one non-polio AFP in one lakh children is considered satisfactory – it is supposed to be an indicator that all cases of AFP are being identified, ensuring that all cases of polio paralysis are identified. In West Bengal, the rate was 0.98 in 1998. In 1999, this has increased to 1.62 in one lakh. This shows that the reporting rate has improved.

However, authorities admit that the rate is still far from satisfactory. Each reporting centre is required to send in weekly reports of AFP cases to the WHO surveillance office. Only about 80 per cent do so

regularly. Says Dr Ghorai, "We have tried to recruit people, provide them with money to ensure better reporting. But this has not always worked. Which is why we hesitate to open new reporting centres."

When a case of AFP is reported, two samples of stool of the affected child must be collected within 14 days of the disease's onset, at a gap of 24 hours. The rate of collection, technically called "adequate specimen rate", should ideally be more than 80 per cent. The national average is 73 per cent. In 1998, West Bengal's rate was 57 per cent. This year, this has risen to 72 per cent. According to experts, this is mainly because AFP cases are reported late.

However, the mechanism of storing and transferring the stool samples is believed to be satisfactory. Chill boxes provided by WHO are supplied to the health workers. These are then stored in cold storage at the district level and later transferred to the Institute of Serology at Kyd Street in Calcutta. The Institute is required to give a report stating whether the sample was received in good quality. In 1998, and 1999, reports certified good quality in 100 per cent cases. This shows that the cold chain is working well in West Bengal.

The Institute of Serology can identify whether a certain case of AFP is due to some type of polio virus. To determine the type of virus, the sample has to be sent to Mumbai. In the whole of the country, prevalence of P1 was greater in 1998, while 1999 shows a greater prevalence of P3. West Bengal confirms to that pattern.

Storage, however, appears to be a problem in the case of polio vaccines. Though no case of spoilt vaccine has been reported yet, a look the storage system does expose some weaknesses. For example, on the first day of vaccination, all booths are provided with chill boxes, which come along with a vaccine vial monitor. This has four colours -- white, grey, purple and blackish blue -- indicating four stages. If the vaccine temperature reaches Stage 3 (8 degrees Centigrade), it cannot be used. Repeated opening and closing of the boxes can push the temperature up. Mr Shekhar Mehta, district governor, Rotary Club, who visited many booths in Calcutta on PPI days, says, "There is no way to ensure that the workers are actually following the VVM." Since there is only a short training before each drive, it is possible that some workers may not be familiar with using the monitor.

A greater problem is the shortage of vaccine carriers. According to Dr Satyaban Ghosh, district family welfare officer, a total of about 3,000 teams go for house-to-house visits for two days. But the number of vaccine carriers available is only about 2,000. Thus, about 1,000 teams have to carry the vaccines in a polythene pack filled with ice when they go visiting door to door. Some workers have complained that the ice melts quickly and maintenance of temperature becomes a problem. Overnight storage, the worker's responsibility, can also be a problem. Dr Ghosh reasons, "Most people have a fridge today and those who don't can seek the help of a neighbour." However, many workers perceive overnight storage as a problem, says Mr Mehta.

Interpreting figures

When one looks at the coverage of the polio immunisation drives as expressed in percentages, one sees that many districts have an immunisation rate of over 100 per cent. How is one to interpret these figures?

The explanation is that the government has no accurate figure of the number of children in any district. It proceeds by an estimate: 13 per cent of the rural population and eight per cent of the urban population is assumed to be children under five years. By such calculations, the central government has set the target for West Bengal at 90,40,000 children.

An immunisation rate exceeding 100 per cent indicates that that actual number of children in the district far exceeds the estimated number, and/or that children over five have also been immunised. What it does not indicate is that all children have been covered. For example, Murshidabad district had a coverage of 122 per cent in October. But state health officials hold it to be one of the five "headache" districts, as it has reported the maximum number of wild virus cases (5) this year. The other four are Birbhum (3), Howrah (2), North 24 Paraganas (2) and Calcutta (2). Nadia, Tamluk, Maldah and Jalpaiguri have one case each, bringing the total to 17.

Similarly, a lower percentage of coverage does not necessarily indicate that many children are left out. For example, officials hold Bankura to have made probably the best coverage in October 1999. But the number of children covered is only 89.80 per cent of the estimated population under five.

Dangerous pockets

Why does polio infection persist in the districts? Experts and officials agree that this is mainly due to the fact that pockets of unimmunised children exist in almost every district. Most recently, the government has identified 97 blocks in the state with the lowest rates of immunisation. Special emphasis will be given in identifying and immunising children in these pockets in the last three of the six drives.

Another problem of coverage is that the districts of West Bengal, especially in the south, are very large and densely populated. Since resources and manpower allocation are made on the basis of districts rather than population, wide coverage becomes difficult.

According to officials in the state department of health and family welfare, the performance in three districts has actually declined from October to November 1999 -- in Uttar Dinajpur by 0.7 per cent, Dakshin Dinajpur by 0.1 per cent and Tamluk by 0.2 per cent. This happened despite the fact that weather and other conditions are more favourable in November.

Training of workers remained a problem, at least till October. This was highlighted in the goof-up at Kalna or Hooghly district, where an ICDS worker fed 62 children the gentian violet used to mark immunised children, instead of the polio vaccine. However, training has improved since then. Government officials claimed that all workers manning the booths in the December round would be trained.

A point of difference

Is enumeration of children necessary to ensure better coverage? State health officials and some non-governmental organisations like Rotary feel that accurate enumeration of children is necessary to ensure that all children are being immunised. Government officials are also acting on this belief. In Calcutta, a head count of children in the slum areas is on. According to Dr Satyaban Ghosh, this drive will cost about Rs 4 lakh. In the districts, says Dr Ghorai, problem areas are not longer understood at the block level. Workers are tracing out villages, *mohallas* and *paras* resistant to the polio drive. Children whose parents refused the polio vaccine are being listed. The list will be ready by December end.

The WHO officials, however, believe that separate enumeration efforts are unnecessary. Teams should go around with vaccines on the days of house-to-house visit and ensure that no child is left unimmunised. For past experience has shown that enumeration takes up more money and time than the actual immunisation drives and is therefore not cost-effective. Also, WHO studies have found that enumeration reports cannot catch babies of 0 to 6 months. These babies are also not brought to the booth. It will therefore be a better policy to concentrate on looking for and administering polio vaccines to unimmunised children.

Community mobilisation

Efforts to mobilise various parts of the community have met with what can at best be described as moderate success. According to Tanmoy Mukherjee, the officer in charge of the polio immunisation drive in the state, apart from the workers of the state health department itself, the most active class is the anganwadi workers. They are taking good initiative in identifying and immunising babies. School teachers, on the whole, have not been very active. In the urban areas, especially, they have shown apathy to the drive. The panchayat is active sporadically - in some parts, it is showing good response. However, according to a member of an international organisation, even where the panchayat has taken initiative, its involvement is not without problems. For they tend to attach political messages with polio campaigns which, apart from other things, give out wrong information on polio. For example, says a member of an international organisation working as an observer, a panchayat member would say, "Unless we clear this pond/ dig a tubewell/ have a primary health centre, we cannot eradicate polio from this village." Says the observer, "These measures are certainly necessary but they cannot eradicate polio."

Finally, the role of the private medical practitioners is a vexatious one. Dr Biswaranjan Sarkar, President, Indian Medical Association (IMA), Bengal branch, says that he is happy with the role of the private practitioners in the polio drive, but Mr Mehta of the Rotary Club points out that IMA had to appeal to the Rotarians for help to be able to mobilise enough doctors for the polio booths in Calcutta.

Nor do the records of the District Family Welfare Office, Calcutta, show a very bright picture of the involvement of private doctors. Of 3,12,000 children immunised in Calcutta, only 10,052 children were immunised by private practitioners in October 99. In November, the number increased to about 17,000. This is according to the reports sent in by the doctors themselves to the department office.

A more serious allegation is that private practitioners catering to middle and upper middle classes are discouraging them to immunise their children on PPI days. While the truth of this is disputed hotly by doctors associations like IMA, two facts indicate that the allegation is not entirely baseless. First, the rate of immunisation in the city is lowest in middle class and upper middle class areas. Second, according to a sample study conducted by UNICEF, of all those who had not taken their children for immunisation to the booths on January 17, 1999, 3.17 per cent cited the reason, "on advice of doctors."

Dr Ghorai says in villages and the doctors in urban areas are advising against repeated polio vaccinations. Neither the IMA nor the Institute of Pediatricians has succeeded, through various circulars, in motivating doctors.

Another section that has been mobilised with varying success is the religious leaders. In Calcutta, in at least two places, the health officials have been successful in roping in the local Imams in their drive to get people to the booths. These are Lal Maidan in Belgachia and Iqbalpur. The Imams had, during 'ajan', sent out the message of immunisation. According to the district immunisation officer, Nila Mukherjee, the rate of immunisation has improved in these corporation wards. In various districts, too, religious leaders have made use of the religious platform to get people to participate in the polio drives.

But the most disappointing is the lack of political will at the district level. The district magistrate, the sabhadhipatis and the panchayat leaders are often not taking the steps necessary for motivation – they are not taking that crucial step that could make a difference. "Involving a religious leader, a political leader or a doctor or teacher can make a big difference in certain resistant communities. But that extra drive is not being put in by the people who matter. The administrative strata in the district still do not view polio as a priority," says Dr Ghorai.

One reason for the inadequate public motivation, according to Dr Ghorai, is the poor quality of IEC material. "Let alone the public, even the doctors are not aware why we need six extra doses this year when we have campaigned for no more than three doses all these years." The message that the need is social rather than individual has not come across at all.

The Calcutta scenario

"West Bengal can never be freed of polio till Calcutta is made free," says Dr Ghorai. Predictably, however, making Calcutta polio-free has always proved to be the most difficult task. The capital has always lagged behind the districts in this respect. The October 1999 drive saw Calcutta's coverage rate at a shocking 75 per cent by official estimate. A closer look at the borough-wise breakup, however, shows that only in three of the 15 boroughs the coverage rate exceeded 70 per cent.

The figures improved in the November drive considerably, the overall coverage rate leaping to 92.06 per cent. However, in four wards, the figure remained about 60 per cent. Certain wards are also consistently proving to be low coverage areas. Eight out of 141 wards registered less than 50 per cent coverage in the November 1999 drive.

Polio drives in Calcutta have to face several special problems. First, Calcutta's street children -- awareness drives do not touch them. House-to-house drives also tend to leave them out as they do not have a permanent address. Their parents, day labourers, are also the least likely to bring them to booths.

In an effort to cover the slum and street children, the police were roped in. In November, there was a polio booth in all 37 of Calcutta's police stations. The police used their jeeps to round up street children and bring them to the booth.

The Calcutta Corporation has a special umbrella body of about 15 NGOs working on street children, which works mainly to ensure that street children are brought to booths. Of about one lakh street children in Calcutta, about 75 per cent have been immunised, says the official estimate.

Tapash Mukherjee, a member of CINI ASHA, an NGO working with Calcutta's street and slum children, points out several shortfalls of the polio drives.

First, he says, true motivation of slum communities is impossible unless year-long contact is maintained with them. Polio immunisation drives completely overlook this need. The entire momentum is built up two to three days prior to the date of immunisation. This cannot ensure a 100 per cent turn out. Especially as the very concept of immunisation - having a medicine even when there is no disease - is not familiar to the poorest sections of people.

Second, lack of regular contact may in fact boomerang against the drive. For any minor ailment is blamed on the polio vaccine. Also, workers have to spend time to convince people that the polio vaccine can be taken along with other medicines, that it does not have "reactions", etc.

Third, Mukherjee points out that the family-oriented approach -- reaching out to children through parents -- leaves out the orphan street children. His estimate is that at least 20 per cent of Calcutta's street children have no adult to look after them. These are also children who are most mobile - they change their location rapidly. The only way to ensure these the coverage of children, according to Mukherjee, would be to go out with an army of motivated staff in mobile vans on a certain day, and immunise all street children in view.

Howrah, a densely populated district adjacent to Calcutta, has a similar problem vis-a-vis street children but is waking up to it later than Calcutta. According to Biswaranjan Sarkar, in the November drive, at least 3,000 of Howrah's 8,000 street children were not covered.

Ironically, after the slum-dwellers, it is the residents of the high-rises who have to be named as the problem community. In posh localities, the immunisation levels are astonishingly low. Park Street, for example, saw only 374 children coming for immunisation out of a targeted number of 2,150. Complains Nila Mukherjee, "Our workers found it difficult even to enter the multi-storied buildings. In some places, doormen have hooted them off. Residents of apartments have slammed doors on their faces."

The third problem in Calcutta are the implementers themselves. In the districts, the implementing authorities are arranged vertically according to the hierarchy of the health department, and there is no confusion on accountability. In Calcutta, however, the organisation is lateral, with several independent bodies coordinating. The apex coordination committee is chaired by the mayor. The members include state and central government health officials, NGOs like Rotary, political and women's organisations, heads of hospitals, and so on. This makes coordination at the lower levels difficult. For example, says Mukherjee, a health official of the Corporation would often send an NGO to work in an area unfamiliar to him or her. On the immunisation days also, workers find that their duties are not clear-cut. Both government officials and independent observers agree that the extra burden of coordination is weighing down immunisation drives in Calcutta.

Initially, training of the health workers, as well as their numbers, were also inadequate. In October, instead of four person per booth, most of Calcutta's 1240 temporary booths had only two workers. Dr Satyaban Ghosh admits that orientation and training was also inadequate. But the number of workers and the extent of training improved and November saw a better turnout of volunteers.

Non-acceptors in the state

Recently, Dr Dilip Kumar Ghorai, Joint Director, H&FW went to visit a particularly problematic pocket of Murshidabad. Shankarpur village of Khargram block has come up with two of the five polio cases from the district. "When I reached the place, my junior officers tried to prevent me from visiting the village. They said, 'Sir, the villagers are waiting with bombs.' This is because two children of the village, who had previously taken polio vaccine, later contracted the disease."

Every case of polio after inadequate administration of polio vaccine is a setback for the immunisation drive. Low literacy levels make it difficult for workers to convince people that polio vaccine cannot be blamed for incidents of polio.

Not just polio, other diseases are blamed on the vaccine as well. This reporter was once requested by a member of a certain political party "to cover a case where polio vaccine has caused deformity of a child's feet." Two-and-a-half-year-old Lili Rani Patra of Egra police station, Midnapore, has developed cellulitis of the left heel. Her parents, day labourers, are convinced that the vaccine administered one week earlier had caused it. And not only them. The entire village, they said, had gheraoed the doctor who had administered the vaccine and forced him to pay for the treatment of the child.

Misconceptions range in other areas, too. Maldah, Murshidabad, Dinajpur, Howrah has pockets which believe that a polio drive is a government conspiracy to curb family size.

The pulse polio campaign and other health programmes

It may be too early to judge how the pulse polio campaign affects other health programmes. However, preliminary trends seem to indicate that routine immunisation may be suffering. Also fatigue is setting in, affecting the reproductive and child health programme as well. According to Dr D.K. Ghorai, as of September 1999, at least two districts are far from the expected level of achievement.

The RCH programme is facing impediments not only from grassroots level, where the fatigue factor is working the most, but also at the level of the civil service. The feeling at the state level health department is that district officers are not paying sufficient attention to the RCH component. Money sanctioned for minor civil works in the primary health centres – a preliminary step of the RCH component -- has not been spent by any of the districts so far. The proposals for major constructions, to be sanctioned by the central government, have not come in from eight districts. Appointments of doctors and nurses on a contract basis has also not been done. Not all of this can be blamed on the pulse polio programme -- the state's dismal work culture is also to be blamed. But the preoccupation with polio is also taking its toll.

The media's reaction

Both English and Bengali newspapers publish items -- mostly news reports. These reports are mostly of two types: reporting on coverage, or reporting on mishaps. The press mostly delights on the latter, such as the gentian violet incident mentioned earlier. Calcutta's problems in coordinating the polio movement have also received some attention from the press. However, in-depth reports are almost nil. There has been no feature, for example, on the role of private doctors, though this is a vexatious factor. The government sources feel that the media has not been cooperative in spreading the IEC messages.

The government is itself not happy with the IEC materials meant for communication of the need for pulse polio immunisation -- the need for taking all six doses. Even the doctors are not convinced and health officials feels that many private practitioners, especially in the districts, are not sure why, when all other years saw only two doses of pulse polio, this year a child should have six. It took two drives to realise this lacuna. In December 1999, IEC officials of the state health and FW department produced an publication with a message from Prem Agarwal of the IMA, to both doctors and parents. This, they say, has produced results.

Another IEC material that has produced good results is an audio cassette by a reputed folk singer, Swapna Chakraborty, containing polio messages set to two of her popular songs.

The challenge

The challenge before the state is still formidable. The problem pockets stay resistant to the polio drive. The primary goal, says Dr Ghorai, now is to ensure that there should be no unimmunised child in the state. This area is receiving maximum emphasis from the state government at the moment. On the positive side, the state now has a better idea of the extent of the problem and has sensitised workers accordingly. The state- and district-level surveillance systems are working better than before. Let us see if the government, or the virus, wins the race against time.