

Contextualising Plague A Reconstruction and an Analysis

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A reconstruction of the plague epidemic glaringly portrays the dichotomies in public health and provides lessons for the future of its practice in this country. The classical approach, which is mainly sanitarian, at best reduces epidemics to an endemic status. If public health is to go beyond this truncated objective, then it calls for a systemic understanding of the problem which would involve evolving a multi-pronged strategy firmly entrenched in the socio-economic context.

NOW that the frenzy of the plague has waned, it is time to analyse the socio-economic and political factors that are responsible for the epidemic and the human suffering it caused. The recent outbreak of plague cannot be viewed independently of the recurrent epidemics of communicable diseases from different parts of the country, claiming thousands of lives. The immediate impression that remains in one's mind is the fear and pathos of human suffering and the half-hearted response of the administrators and politicians in dealing with the situation. What is fairly evident is that the government was much more concerned about the economic losses incurred, the poor image presented of India by the western media, the effect it would have on exports, the tourism industry and the possible withdrawal of investments by multinational corporations. Given these concerns, the government was more preoccupied with retrieving India's image abroad and failed to use the principles of epidemiology to assess, control and provide relief to alleviate human suffering.

This paper looks at the resurgence of epidemics over the 1980s and locates the plague epidemic by the state, based on newspaper reports and some interviews, in order to explore the complexity behind its inefficient handling. Finally, the politics of plague and its consequences are explicated.

I

Resurgence of Communicable Diseases

Over the last decade, a number of epidemics have broken out in different parts of the country, resulting in thousands of deaths. The number of such outbreaks seem to be on the increase and is fast becoming a part of the disease profile of this country. A number of reports have appeared in newspapers about the repeated outbreak of epidemics but these very often do not get reflected in the official statistics. Outbreaks of cholera and gastro-enteritis have been reported from Jammu and Kashmir, Madhya Pradesh, Delhi, West Bengal and some North Eastern states. In Jammu and Kashmir alone,

there were 250 deaths due to gastro-enteritis. Infective hepatitis has claimed several lives in Delhi and a few years ago an epidemic of Japanese encephalitis claimed hundreds of lives in Tamil Nadu and West Bengal. Several districts in western Rajasthan are under the grip of malaria. According to reports this epidemic of malaria has claimed over 500 lives and over 60,000 positive cases of this disease have been detected from this region. The worst affected districts are Bikaner, Barmer, Jaisalmer and Jodhpur.¹ While some epidemics get reported, many have gone unnoticed. The deaths due to blood dysentery in Bastar district of Madhya Pradesh and cerebral malarial deaths in Bikaner district of Rajasthan two years back are cases in point. Thus many of the epidemics that have occurred like kala azar, cholera, gastro-enteritis, malaria and now, plague have essentially become endemic diseases.

Deaths due to these epidemics often do not get reflected in the official statistics. This is due to inadequacy of the health information system which results in under-reporting and in some cases even non-reporting of certain diseases. This is a serious lacuna of the system. Despite these limitations, the trends in number of cases and deaths for certain communicable diseases, based on official statistics are revealing. The number of reported cases and deaths due to malaria and kala azar has been showing a steady increase. According to the *Health Information Bulletin* brought out by the ministry of health in 1992, the maximum number of malaria cases per year were reported between 1971 and 1976.² After its resurgence, deaths also started rising from 1974 onwards. From 1977 the number of malarial case registered a decline, but the number of deaths continued to rise till the mid-80s. Table 1 shows that though the incidence of cases seem to have stabilised over the mid-80s, the apparent control over the number of deaths is being lost. The current outbreak in Rajasthan confirms this.

Although the problem of kala azar is mainly limited to Bihar and West Bengal, more than 76 per cent of the cases reported are in Bihar.¹ The number of cases and deaths due

to this disease from 1977-88 shows a consistent rise. Diseases like malaria and kala azar are showing a resurgence despite elaborate national programmes for their control.

The data on incidence of cholera and death due to it indicate that there has been little change in the status of this disease since 1986. Until 1987, the ministry provides data on cholera, gastro-enteritis and dysentery (Table 2). From 1988 onwards the categories include cholera and acute diarrhoeal disease and from 1991 the report only includes cases and deaths due to cholera. Given the large number of cases of dysentery it could not possibly be included in the reporting of acute diarrhoea for the years 1988-91. For the years 1988 and 1990, according to the ministry reports, there were 82,60,946 cases and 7,290 deaths, 95,79,738 cases and 8,633 deaths due to acute diarrhoea, respectively. The deaths due to acute diarrhoea was 35 times that of cholera deaths in 1988 and 99 times the cholera deaths in 1990. The significance of this omission is self-evident.

Of the total cholera cases reported, about 88 per cent were reported from the coastal states of West Bengal, Orissa, Andhra Pradesh and Tamil Nadu. Even Delhi, the capital city with all its amenities has been witness to a steady increase in cholera cases and deaths. Since 1983 there has been a steady increase in the number of cases of gastro-enteritis. In 1988 there were 14,712 cases and 624 were confirmed cases of cholera with 181 reported deaths (Table 3). In the *Health Information of India*, 1989, however, the recorded deaths were reduced to eight.

II

Plague, 1994

There has been no case of reported plague in India since 1967. A few local epidemics were suspected but never officially acknowledged.⁴ The dwindling resources for public health led to the closure of most surveillance units. Despite warnings by the Plague Surveillance Unit in 1989 endemic states did not improve their surveillance systems. Maharashtra had in fact completely closed down its surveillance unit. The signals

for alert by the 17th Inter-State Plague co-ordination meeting in 1993 thus went unheeded even though they were based on the findings that rodent positivity for plague infection was rising.

The earthquake in Latur became the turning point. There were rat falls and increase in the number of fleas in Mamla village from where the first case was reported. By mid-September Beed district was reporting bubonic plague. It spread to the surrounding areas, yet all these were insufficient for the authorities. They did not take nature's warning seriously. The continuous rain in Surat and the floods in Tapi inundated localities and killed cattle, the carcasses of which were scattered around the town. This could not be passed off as a 'natural disaster' even by the administrators and politicians.

By September 20 deaths from plague had already become a reality. From the inundated areas near the Tapi it spread to the rest of the city and forced people to flee. An exodus of about 1 million people out of the 2.5 million population was reported. Rifts between Surtis and non-Surtis, the moneyed who could run away and the poor who were trapped, the administration and its workers were all rooted in the fear of the dreaded disease and the suffering of its victims.

Two things that left an imprint on the history of public health in India were the acute misery and the blind fear despite the availability of curative as well as preventive technologies. Second, the total collapse of health administration. But for those dedicated few who stayed and suffered with their patients, the majority of the personnel preferred to take leave or run away. For those who have consistently argued that the existence of technology is reason enough for being optimistic about the future, this should provide some food for thought.

Many explanations have been offered for the calamity in Surat. It is said that the fast growth of the city, its expanding slums (just next to the opulent mansions of the diamond merchants) its inadequate infrastructure and the additional strain of lack of resources for civic services were at the root of the disaster.

The succumbing of Surat is thus explained by its inadequate infrastructures manned by an apathetic, indifferent and callous administration. What is not explained is the behaviour of the capital city. While Bombay managed to step-up its surveillance and took the possible precautions against plague, Delhi continued with its false sense of security. Even though it was clear that the fleeing population from Surat was headed in all directions, the Delhi administration chose to ignore the threat.

DELHI EPIDEMIC

While the city administration was still trying to get its act together, three suspected cases were admitted to the Infectious Diseases

Hospital (IDH), two coming from Gujarat and one from Bombay. Of these, two admitted on September 25 tested positive and heralded the onset of the plague epidemic in Delhi. To control its spread, apart from the booths at railway stations and other entry points, ten zonal plague control rooms were set-up in the city. All hospitals were directed to refer suspected cases to IDH. A list of dos and don'ts was published. Voluntary groups were also called upon to educate the public in addition to the various official committees and meetings at the state and central level.

Taken aback by the calamity, the health secretary and the Director General of Health Services came up with the typically bureaucratic response. While Mehta, the chief minister of Gujarat, denied the diagnosis of plague in Surat even when people were dying, the central health bureaucracy too were reported to have made a press statement that cases tested sputum negative could be called plague.³ Some others raised the issue of diagnosis, included WHO's non-acceptance of the haemagglutination test as confirmatory. Fortunately, at that time the director of the National Institute of Communicable Diseases (NICD) clarified that a negative sputum is possible in a partially treated case. He also clarified that haemagglutination test may not be as sensitive as the fluorescent antibody test but it was reliable. The latter was expensive and needed costly reagents. Though it was reported that the government had ordered the required reagent from a Colorado-based US manufacturer through the WHO and it had arrived, no information was available on its use in actual diagnosis.

On Monday, September 26, Ram Sumer, the first case of bubonic plague was admitted to IDH. The laboratory confirmations of Ram Sumer's ailment hit headlines on September 29. By then the total cases of plague had risen to 35 and admissions to IDH had started increasing at an alarming rate. The possibility of bubonic plague only added to this pressure. When four patients left the hospital against medical advice on grounds that the conditions in the hospital were inadequate, the image of the govern-

ment got its first beating. Police force was mobilised to get back the absconding patients, and armed police also guarded the gates of IDH to ensure that no one left the hospital without a formal discharge.

The government of Delhi invoked Section 385 of the Delhi Municipal Act 1957, under which plague has been declared a dangerous disease. The act empowered the government to forcibly shift persons suffering from plague to an isolation hospital and file criminal cases against those who go against the provision of the act. After this, there were reports of not only police harassment and patients being lifted from their homes without attendants but also of suspecting neighbours calling control rooms to report non-existent 'cases'. The use of force came easy to an administration that knew no other way to reach out to people.

By September 30 it was clear that not all cases of plague in Delhi were from outside. Of the 66 cases suspected till 29th, 26 were permanent residents of Delhi. Of them 17 had neither visited Surat nor met anyone from there. Of the 66 cases 25 were from Surat, three from Bombay, two from Ahmedabad and one each from Noida, Muzaffarpur and Chandigarh.

Another critical factor was that according to the reports, "all patients from Delhi had symptoms of bubonic plague with well developed buboes in the groins and high fever. Lung infection in all these cases was minimal".⁴ A follow-up of this report, later confirmed by the IDH personnel, pointed out that out of the 69 cases among the residents of Delhi till October 11, 37 were indigenous. Of these 37, 14 had palpable lymph nodes. However, none were fulminant. Except for the confirmation of one case, reports for the others are not yet available. Clinically, the diagnosis of bubonic plague cannot be ruled out and it is only reports of the buboe aspirate that will confirm the diagnosis. All these cases were serologically positive for plague.

With this scare the drive for cleaning the city was intensified, the Rajan Babu TB Hospital located next to IDH was directed to make 500 beds available to IDH for admitting suspected plague cases. Efforts

TABLE 1: NOTIFIED CASES OF CHOLERA, MALARIA, KALA AZAR AND JAPANESE ENCEPHALITIS

Year	Cholera		Malaria		Kala Azar		Japanese Encephalitis	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1986	4211	71	1792167	323	14079+	47+		
1987	11423	224	1663284	188	19179+	77+	9080	1596
1988	8957	215	1854830	209	22739	131	16384	3304
1989	5044	72	2017823	268	34489	497	22263	3511
1990	3704	87	2018783	353	57742	606	16757	2984
1991	7088	150	2120472	421	61438	869	11995	2290
1992	na		na		na		9051	1685*

+ Figures only from Bihar Chief Malaria Office, Swasih Bhawan, Patna; * Uptill November 1992
Source: GOI, CBHI, Ministry of Health and Family Welfare, *Health Information of India*, New Delhi, 1993.

were also made to make tetracycline capsules available in the market. Despite this, hoarding and profiteering continued and pharmaceuticals made their profits out of the widespread fear of plague.

Table 4 shows the numbers of suspected and diagnosed cases in Delhi. The largest number of patients were admitted between September 30 and October 4. After this, a significant decline in admissions indicated that the peak was over. Till October 11, a total of 69 cases were diagnosed as plague.

The ultimate picture of spread that emerged is one where except for some clustering around one to two kilometres of IDH, the rest of the cases were scattered. None of the better off or posh localities were affected. For example the scattered cases came from Mangolpuri, Madangir, Okhla, Munirka, Mohammadpur, Nangloi and Shahadra. The areas affected around IDH were from Malkaganj, Azadpur, Jahangirpuri, Sant-nagar and Mukherji Nagar. The key factors affecting the course of the epidemic appear to be the scare which led to early reporting and timely treatment and extensive use of tetracycline.

By October 3 plague was overshadowed by political violence. Media attention shifted to Uttarakhnad and from the head-lines plague receded to the inner pages and then into the cradle of the weekly magazines. It appeared as if plague was no longer a problem. The health ministry officials, who otherwise express tremendous concern about information education and communication (IEC), never actually set up an independent information system. The shift of media's attention was therefore to their advantage and they did not have to answer uncomfortable questions. The questions however, remain.

ADMINISTRATIVE, PROFESSIONAL AND POLITICAL RESPONSE

It was only when people from Surat started trekking in, that the administration woke up to the possibility of a danger. A 'red alert' was declared on September 23. It essentially meant setting up booths on airports, railway stations and bus stops for checkups, alerting the embassies and advising sprays. The Delhi chief minister's contribution to plague control was setting up a committee to supervise anti-plague activities under the chairmanship of the chief secretary. The directorate of health services set up its own cell to monitor plague in the country. It was expected that the two would co-operate as far as Delhi's requirements were concerned. IDH was spruced-up to receive cases from all over the city and NICD was to do the epidemiological monitoring and laboratory testing.

The events over the next ten days as they unfolded revealed that petty political competition preoccupied the Central Authorities

and the Delhi state's first political rulers. The All India Institute of Medical Sciences (AIIMS) an autonomous institution directly under the health ministry, ignored the state government's directive to refer all suspected cases to the IDH. Only when two of the AIIMS patients died of plague on 25th, the hospital authorities were forced to acknowledge their reservations. They are reported to have said that they were waiting for a formal letter. The hospital was then instructed by the union health ministry itself not to admit patients suspected of plague and to refer them to IDH. When AIIMS did refer Susheela Devi, a patient who had tested positive for plague on Friday, the hospital did not provide her an ambulance and she never reached IDH. It was only later that Delhi's health minister thought of instructing hospitals to ensure requisitioning of CATS ambulance to send patients to IDH. Door-darshan continued to show the garbage dumps in different parts of the city as a visual critique of the Delhi state authorities. It was obvious to the viewers that rubbish collected over years of neglect could not be cleared overnight.

The Delhi government on its part kept on complaining that their hands were tied as "the centre does not allow us to provide sanitation and develop juggi clusters and unauthorised colonies".² According to M L Khurana, such a directive was 'absurd' and disastrous for the city. He may be absolutely right but it was surprising that it took a plague epidemic to make him see the obviousness of his statement. That he had not bothered to take up this issue earlier and was only now planning to write to the prime minister (*Pioneer*, October 2) reflected the degree of his interest in the welfare of 40 lakh people living in jhuggi-jhopris and unauthorised colonies.

The five-day drive for cleaning the city taken up by the Delhi government lacked a long-term perspective. It only meant removing garbage from one locality to another. The centrally-located VIP areas got the maximum attention while the peripheries of the city collected more garbage. The most crucial actors in recycling³ and reducing the quantity of garbage – the rag-pickers – were banned from touching it! It was reported that they tend to spread garbage hence the police was alerted, informed and told to check rag-pickers. No one bothered to explain how garbage was critical for the spread of pneumonic plague or was Delhi really threatened by bubonic plague? Why garbage piled was better than garbage recycled by the rag-pickers, and which was more dangerous, burning piles of plastic bags emitting carcinogens or the possibility of taking tetracycline in case of plague?

There was, however, news of the government exploring possibilities with garbage recycling foreign companies for setting up

plants in India. If the non-functional Dutch plant in Delhi is any indication, these technologies offer no solution to the problem of garbage disposal.

Despite of red alert, till as late as September 29 a truck load of people were reported to have come into the city from Gujarat. The check-posts were obviously ineffective or inadequate. It was without any prior notice or explanation that the schools were closed on September 30. The explanation later offered was that surveillance of children was difficult and they were more susceptible. However, no attempt was made to stop the immunisation drive where hoards of children were collected. Those in charge of the immunisation campaign went around advising parents to bring in their babies even if the child had received a dose two weeks back. This might be the strategy of a 'pulse programme' but could this be rational under the threat of a plague epidemic?

In addition to the above, the medical community contributed to the confusion through its own lack of confidence. Not only did they advise different doses of antibiotics, different modes of isolation and differed on the most effective drug, some also considered it wise to raise technical issues regarding the existence of an epidemic, the accuracy of tests being carried out at NICD and its acceptability to WHO. According to NICD, antibody fluorescent tests could not be performed on all cases as the reagents were expensive and unavailable. A number of suspected cases coming from Surat had already taken antibiotics and that too made

TABLE 2: CASES OF DYSENTERY AND GASTRO-ENTERITIS IN INDIA

Year	Dysentery		Gastro-enteritis	
	Cases	Deaths	Cases	Deaths
1982	8995226	2551	1015175	4076
1983	8274724	2513	1095944	5796
1984	8469834	2370	143844	6688
1985	8742177	1937	1441411	4996
1986	7658399	1583	1220237	3580
1987	8741081	2109	13338594	2109

Source: NIHFW, National Programme for Control of Diarrhoeal Diseases, New Delhi, 1988.

TABLE 3: CASES OF GASTRO-ENTERITIS AND CHOLERA IN DELHI IN 1980S

Month/Year	Gastro-enteritis Cases	Confirmed Cholera Cases	Deaths
July 1983	8,260	—	67
July 1984	9,967	—	123
July 1985	8,805	128	80
July 1986	8,141	157	90
July 1987	6,372	57	115
July 1988	14,712	624	181

Source: VHAI, *Civic Neglect and Ill Health: A Brief Inquiry into the Cholera Epidemic in Delhi*, New Delhi, 1988.

clenching the diagnosis difficult. In such conditions using strict technical definition actually amounted to negating the existence of plague.

Through this chaos the central health minister and the director general of health services kept telling the public that there was no cause for concern as they found everything 'satisfactory' and 'under control'. Instead of realising that 30 per cent of the suspected turned out to be positive where there should have been none, they chose to emphasise that 70 per cent patients reported as suspected cases of plague, proved negative. The government, according to them, had done its best. The ministry officials were reported to have said that 'vested interests' were responsible for the panic within, and over-reaction outside the country. While the health minister chose to keep quiet on the issue, his deputy, Ghatowar was given the task of defending the ministry.

Ghatowar made the best of a bad job and made a few revealing statements. These clearly reflect the anti-people attitude of the government. According to him, "in a country with financial constraints like India we cannot always adhere to whatever the experts suggested as ideal". He claimed that the experts had not warned them of a 'high risk factor'. It is obvious then that the findings of the PSU, the warnings of the meeting of Inter State Plague Coordination Unit and NICD fell on ears that had already decided to be deaf.

The confusion created by the 'experts', the inadequacy of practical knowledge of plague among most doctors and the fact that there were till October 1 only 23 positive cases, emboldened the government to underplay the calamity. The central government's representative Ghatowar was reported to have said that "Plague, gastro-enteritis, cholera are not extinct either in India or in countries such as the US, China, Peru, African states, etc. Gastro-enteritis is a natural phenomenon arising out of contaminated water, bad sanitation, so why ask us, ask the rural development ministry, the urban development ministry - we are doing our best to cure the afflicted." Thus he did his best to make plague look common place, took no responsibility for prevention but only for cure and pretended as if the failure of other ministries was not the government's concern!

The officials and the politician showed greater concern for dwindling business export of food and garments, the "image of India abroad" and the inflow of international capital rather than human suffering and deaths. The Export and Manufacturers Association secretary is reported to have said that the term plague has a historical connotation for our European partners and they panicked.

There was pressure too from the smaller business in the capital. The season of festivities was good for their business. 'Puja

pandalas' had been erected and markets were overflowing with unsold goods. Perhaps under this pressure, schools closed on September 30 were reopened on the October 4. This decision was taken on October 3. It is obvious from Table 4, that there was no significant change in the reasons given by the directorate initially for closing schools. To add to the disarray, private schools were allowed to remain closed while the government schools mostly located in the less privileged and less cleaner surroundings were ordered to reopen!

Once the schools reopened plague disappeared from the front pages of daily newspapers. Delhi resumed its false posture of normalcy. Thus, even though 306 new cases were admitted as 'suspected cases' till October 6 - bring the total such cases to 514 according to Delhi's chief minister (*Pioneer*, October 6) - the health minister claimed that the "disease has been checked".

WHO too came to government of India's rescue. All through it reminded the press that plague never was eradicated even in the US and that it was curable. It offered its 'expertise' but never commented on the need to gear up the infrastructures through which any experts were expected to function - Indian or foreign.

In brief the lethargic reaction of health administrators, its contradictory acts and statements, inability of most professionals to rise up to the challenge, the obvious efforts of politicians to underplay the problem became so obvious that even the middle class lost its confidence and panicked.

Under pressure of this panic and the need to retain some credibility with its international donors, the government took some measures and was duly rewarded. The US and the European Community took a lenient view of the epidemic. Whether it was to let their saleable goods flow into the Indian market or to build a political alliance against its perceived ideological opponents (the Islamic bloc) or because of superior infrastructures which ensure strategic preventive intervention is a matter of detail. The real issue is that their benevolence gave the Indian politician yet another chance to get away with murder.

The cinema halls reopened on September 10 to soothe the short memories of its residents. For the final burial of the event, an expert committee was set up. Even the press has been attacked for its exaggerated reporting. In short, Delhi has done all it could, to muddle through the plague epidemic. Its actions become unenviable when seen against the enormous resources that it consumes compared to the states of Gujarat and Maharashtra (Table 5).

In 1991-92 Delhi received 717.6 lakh more than the whole of Gujarat. In the following two years this gap became much larger. Similarly, while Maharashtra (including

Bombay) received double the amount of resources in 1991-92 as compared to Delhi, in the year 1992-93 the actual allocations were revised. For Delhi, it rose and for Maharashtra it declined thus further narrowing the gap between Delhi and Maharashtra as a whole. Despite Delhi's wealth, poverty of initiative, lack of administrative cohesion, absence of a well-worked out strategy, public health incompetence and the callousness of its political elite are glaring.

SOME ISSUES

The epidemic has abated but it has certainly not disappeared. While the political leadership will have to assess the helmsmen it chose for public health, a few simpler administrative lessons have to be learned. For example:

(i) Public health activities require large but active organisations. If the system is not geared to go into full action when required then it loses its public health significance as it is overtaken by events.

(ii) Though it appears to be simpler and cost-effective to centralise services, the trouble with the strategy is that it increases the risk of infection, makes patients travel long distances and is inconvenient to their families.

(iii) Burden of care on NICD and IDH would have been lessened if the city's premier medical colleges and other specialist hos-

TABLE 4. REPORTED CASES OF SUSPECTED PLAGUE IN DELHI

Date	Daily Admissions at IDH	Cumulative Total Suspected Cases	Cumulative Total Tested Positive
September 24	1	1	-
September 25	2	4	-
September 26	2	7	2
September 27	4	17	-
September 28	13	37	20
September 29	19	80	22
September 30	119	199	23
October 1	189	388	-
October 2	374	437	25
October 3	115	572	38
October 4	91	625	44
October 5	70	755	50
October 6	62	822	50
October 7	49	-	-
October 8	22	1003	54
October 9	6	-	-
October 10	12	-	-
October 11	-	-	69

Note: Cumulative suspected cases from October 4, 1994 are obvious underestimates as the daily admissions at IDH alone add up to more than the cumulative cases reported for a day. This may be due to non-inclusion of discharged patients.

Source: The Times of India, Hindustan Times, Statesman and IDH reports.

pitals had been mobilised. Instead of simply criticising the working of these two hospitals they could have been used more efficiently.

(iv) An effective public information system should have been in existence. Information of admitted and discharged patients on a daily basis along with maps of affected areas would have helped people practise prescribed dos and don'ts better.

(v) Though the media did its best to publish information, they at times overdid it and contributed to the scare among the newspaper readers. They, however, cannot be blamed, for it was the responsibility of the administration to provide detailed, adequate and correct information on a regular basis.

(vi) Last but not the least, drug control of market outlets could have been effective from the very beginning instead of being an after thought.

The epidemiological issues that arise out of the plague epidemic are crucial both for understanding the epidemic and developing a strategy for future. The first and foremost is the diagnostic issue. If plague in Delhi was bubonic, then it has serious implications. It means that Delhi too is carrying a mild or moderate epidemic in its rodent populations which needs to be identified and handled along with their fleas. It also partially disproves the assumption that Delhi was affected because of the Surat exodus.

The indications are that plague was bubonic and the pneumonic manifestations in those cases were secondary. It could be due to the high rainfall, relatively lower temperatures and other climatic conditions in which case it would be with us for some more time.

To ensure the above, rat fall studies and flea index become indispensable. NICD is said to be conducting such studies but the results are still awaited.

The confusion regarding diagnosis is very critical. The level of sophistication increases reliability of detection, but this must not be allowed to become an excuse for rejecting cases in the present situation.

Social dimensions of the epidemic need to be focused upon. The vulnerability of the poor, the implications that excessive fear generated in the middle class, the politics of suggestions such as wearing masks in the buses, instructions to admit all cases irrespective of the clinical picture and the Municipal Act, 1957 are some such issues which lead us to examine the very scaffolding of our mega cities.

III Understanding Chaos

There have been two popular responses to the disaster. First, that the cuts in the health budget have brought down investments in this sector from 3.3 per cent in the first two Five-Year Plans to 4.7 per cent in the Eighth Five-Year Plan and these need

to be increased. Second, that public health services have been undermined and need to be strengthened. These twin problems of dwindling resources for health and declining standards of public health are intimately linked with (a) structural adjustment policies, (b) the evolution of public health in India, (c) the patterns of urbanisation. We briefly review here, each of these areas.

STRUCTURAL ADJUSTMENT

The liberalisation policy of the present government has resulted in the cut-back of investments in certain sub-sectors of health. This trend began even prior to the official acceptance of structural adjustment and investments in health sector have since been gradually declining. From the mid-1980s onwards the government has been cutting back on medical and public health with increased outlays for family welfare. During the Sixth Plan there was some effort to increase outlays for communicable diseases while the investments in curative services remained stagnant. It is during this plan period that for the first time the government acknowledged its inability to provide the required medical services. It introduced the idea of opening up medical services to private and voluntary organisations in order to supplement government services.

The Seventh Plan not only strengthened the policies of privatisation of medical care but in fact raised allocations for family planning by 9 per cent. During this period the investments in medical care remained stagnant and for communicable diseases, it actually registered a decline.¹⁰

During the early 1990s (1990-91) the health budget was slashed by Rs 32.9 crore and it was communicable diseases which really bore the brunt of this cut-back. Even supporters of the new economic policy were quick to point that the indiscriminate cutback on health would further marginalise the poor. During 1992-93, the outlay for health was increased by 60 per cent over the previous year (Table 5). Much of this increase was due to a 34 per cent increase for AIDS control with Rs 58 crore being invested for this disease alone. There was also a marginal increase for tuberculosis but much of the outlay was to be spent on importing a new set of drugs for its treatment. Merely importing newer drugs without strengthening the infrastructure will neither improve cov-

erage nor ensure regularity of treatment which is critical to the Tuberculosis Control Programme.

The Blindness Control Programme also registered increased outlays. According to the government, the emphasis of this programme is on cataract surgery¹¹ and investing in superspecialist services rather than treating ophthalmic infections which are the second major causes of blindness, specially among the younger age group. Between 1991 and 1992, the investments in kala azar showed a decline of 3.4 per cent and in 1993-94 it was merged with malaria control. There was almost a 13 per cent increase in 1993-94 outlay for malaria but this included outlays for kala azar and Japanese encephalitis as well. Even leprosy which was to be 'eradicated' as per the recommendations of the Swaminathan Committee Report¹² registered a decline in its proportionate share of allocation despite a marginal increase in actual budget.

While reading these plan outlays, two things have to be kept in mind. Firstly, a large chunk of loan from World Bank to the health sector has been tied to the AIDS programme. Secondly, the over-emphasis on AIDS has undermined other communicable diseases control programmes. What seems to be fairly evident from the trends is that the priorities of the government do not match with the existing patterns of disease in the country. Their concern for the National Programmes for the major communicable diseases is declining while others are gaining priority.

EVOLUTION OF PUBLIC HEALTH

To understand this we have to see how public health practice and content was shaped in India. Why education and training of public health could not be rejuvenated? And why most diseases of poverty are slowly sliding down in the national agenda? A myriad of factors influenced the content of public health as it evolved in India. (i) Like all other professions of that time, public health too was guided by the interests of the British. Its concerns were safety of the army, a select British population and the natives wherever profits were at stake. For example: when revenues were threatened, special committee was set up to examine the possible connection between canal irrigation and malaria.¹³ This was followed by the first

TABLE 5: ANNUAL BUDGET OUTLAY

Year	1991-92		1992-93		1993-94	
	Total	MNP	Total	MNP	Total	MNP
Delhi	4935.61	-	6500 (6707)	-	7209	-
Gujarat	2936	1270	4093	1650	4132	1650
Maharashtra	6164	4150.76	8367 (6433)	6000 (4019)	10604	4741

Source: Annual Plan 1993-94 (Figures in brackets are revised outlay.)

'research' project to control malaria in Mian Mir.¹⁴ Similarly, public health measures for large religious congregations were initiated despite the well known reluctance to increase government expenditure, because the profits of private railways companies were linked with promotion of pilgrimage by the natives.¹⁵ Unlike sanitary movements in Britain, the socio-economic conditions and living standards of the people of India never became central to public health. At best practitioners were the army medical doctors who later named the Indian Medical Services (IMS). The first formally trained public health practitioners in India thus got their field training under these IMS doctors who were competent technically but did not concern themselves with the social dimensions of epidemiology. The 'superstitious native' with his unfathomable peculiar traditions was held responsible for the failures for public health efforts while all successes were the achievements of modern medicine and its practitioners.

The culture of the professionals was carried into the national programmes of independent India. They were visions of technical supremacy which would compensate for the lack of social change. The skills needed for midway correction through competent monitoring were found lacking perhaps due to sudden reduction of the professional manpower after the British doctors left.

The foreign 'experts' entered the scene and the glamour of technology made entry of many vertical technocentric disease control programmes easy. Malaria was to be controlled through DDT, small pox through mass vaccination, leprosy through dapsone and filaria with hetrazan therapy. Except for small-pox, which was eradicated after a shift of strategy¹⁶ in the early 70s, all other programmes proved inadequate. Their failures are not the result of resource constraints alone but of inadequate and inappropriate strategies. In the case of malaria, it took us two decades to realise that it was wrong to create population based eradication units. The essential factor should have been "the terrain and the topography". It was accepted that without an efficient basic health services, malaria control was not possible. It was also acknowledged that conceptualisation of the programme as essentially a rural activity was incorrect.¹⁷ Even then the programme continued till 1974 when it was finally modified into a National Malaria Control Programme with much lowered ambitions.

The other glaring example of poor strategy building is in Leprosy. A National Control Programme was converted into an eradication programme in 1982 by the Swaminathan Committee. To any student of public health it is obvious that the decision was political and not based on scientific knowledge or operational research. The excuse was that

multidrug therapy reduces the period of treatment and increases the possibility of intercepting transmission. The working group headed by M S Swaminathan knew that the treatment "effectiveness as a tool for achieving early control or eradication of the diseases is yet to be established". Yet, they launched an expensive programme and the public health experts went along with them. Only after successive failures some acknowledged that the strategy was ill conceived.¹⁸ Over time then, public health not only failed to build upon the foundations laid by the first generation of its practitioners but it also failed to retain what little epidemiological base they had built. Inclusion of socio-economic dimensions into an epidemiological approach remained a far cry.

After the country became independent, IMS was dismantled while IAS continued. As health remained a state subject, the experience of public health at grass roots levels remained state bound and the centre depended upon medical colleges and other central institutions for its public health leaders. A series of director generals with backgrounds in paraclinical (anatomy, physiology, pathology) and clinical subjects such as orthopaedics brought the status of 'professional in public health' to a level where they were easily dominated by the IAS officer¹⁹ who invariably had a broader experience. The bureaucratic control by itself, however, continued to lack public health competence. With the failure of various health programmes, a new category of professionals emerged and these were the health management experts. Unfortunately, these shifts in the professional control at the top did not contribute to any appreciable improvement in the working of the programmes.

Reported failures in public health efforts led to a shift in emphasis whereby instead of controlling diseases among people through a broad-based strategy, the emphasis shifted to controlling people themselves – in terms of numbers.

The Sixth and Seventh Five-Year Plans integrated various programmes into the general health services. This integration, however, was limited to the lower echelons while at the top Family Planning remained the priority. Such an integration put the entire lower level infrastructure on a platter and offered it to the Family Planning Programme. Instead of strengthening basic services, integration actually weakened them. Peripheral institutions worked for Family Planning targets at the cost of all other public health activities.

Along with liberalisation, medical care was opened up to private and non-governmental sectors. This led to stagnation and undermining of public hospitals as they faced cuts in their budget allocations and loss of their competent manpower to the private

sector. Thus the undermining of secondary level support structures made achievement of effective primary health care even less plausible. In other words, public health in India has suffered due to its substance which constrained its practical success and undermined its essential infrastructures. Resources do play an important role but along with resources the practice and content of public health has to be emancipated.

MEDICAL EDUCATION

The relevance of medical education in shaping public health is self evident. Bhoré Committee in 1946²⁰ visualised the 'basic doctor' as a socially sensitive medical professional competent in providing elementary health care. However, the history of evolution of medical education in the country reveals that not only have doctors been the blue-eyed boys in a health team, their education and training also continued to be heavily influenced by western models of education.

There is sufficient evidence to show that in early 20th century, policies of influencing medical education in third world countries were consciously followed by the US through its technical and financial support. In China, the argument to train personnel to meet the needs of the country was used by the Rockefeller Foundation to support medical education that trained elite professionals essential to 'westernise' the country. This strategy in fact replaced the foundation's previous support to missionaries.²¹

Similar export of western professionalism to Asia is also recorded by Goldstein. Not only was aid linked to reforms in medical education but also by creating elite institutions for medical education and insisting on supporting only those, a process of weeding out all other practitioners and doctors from positions of power and dominance was set in. This led to a generation of physicians who were conscious of their own professional dominance and exercised it to become one with the "international community of scientists".²² These elite physicians were trained to exercise their autonomy against their responsibility to the society. They did this through the ingrained 'clinical mentality' which teaches them to do what they think is best for a single case without a thought for its implications for the society at large or even for the family.

In India this conflict started with the British Medical Council (BMC) in the late 19th century. The issues were of curriculum, language of instruction, training in obstetrics and integrated education of allopathy and traditional systems in medical schools.²³ The medical colleges of independent India continued with their curriculum which were evolved under the guidance of BMC. Here too, Rockefeller Foundation made its inroads by offering aid and technical assistance. Indian doctors were no different from those

of Thailand and China in their concerns. Majority of the medical students came from landowning and professional classes²⁴ and hoped to practise clinical medicine.²⁵

Concern for this was expressed by an official committee on Health Services and Medical Education in 1975. It recognised the necessity to restructure the entire programme of medical education and acknowledge India's failure to produce the basic doctor "who occupies a central place among the different functionaries needed for the health services".²⁶ It recommended a UGC type of body for medical education to monitor the needs of the country and assess the required changes in medical education.

Another official effort was made by Bajaj Committee which produced an outline of a National Education Policy in Health Sciences in 1989. Full of contradictions, the document could not but concede the government's failure to reduce the bias in favour of elite medical education, its inability to train other paramedical professions and initiate proper health manpower planning.²⁷ It called for the constitution of a medical commission to regulate medical education but could not come up with any concrete suggestions for shifting the emphasis in training from specialities to basic doctors and of strengthening public health training.

As a result of this reluctance to intervene actively, the government in fact protected the structures that it had evolved to be a part of the international market for professional skills. India's educated elite specially its doctors continued to be more or less integrated into the global economy and thereby enjoyed the benefits of higher salaries. "The condition of integration into this international market was the possession of internationally negotiable qualifications" and this implies lack of relation to local needs.²⁸

It is not surprising then that the initial efforts of independent India to build departments of preventive and social medicine within medical education met the fate that they did. These departments were required to deal with the challenge of highlighting 'local needs' of the vast populations and find socio-technical solutions to them. Reasons behind the failure of these experiments in medical education were many. Firstly, practising public health experts were few and the demonstrative capabilities of the faculty were extremely limited as no links were developed between teaching departments of medical colleges and public health practitioners in the health care system at different levels. At best these departments could provide some exposure to real life situations of cities and villages. This, in absence of any demonstrative effect of the success of public health often convinced students of its futility.

The absence of any excitement and challenge contributed to a vicious cycle

whereby the less successful came to PSM. Only after the banning of ECFMG, an examination for screening foreign medical graduates, which restricted the possibilities for migration did good medical students pay any attention to the subject. But that was only for the purpose of leaving the country *en route* the WHO to be in the same salary brackets as their seniors.

These departments failed to link their teaching with that of other departments and hence became islands in medical colleges isolated from the rest. Their inadequacy in developing epidemiology as a discipline in the Indian context made their isolation a natural event. They could strive for recognition only by becoming the victims of the larger malady – competition for international acceptance. Therefore, instead of emphasising local specificities, and seeking socio-technical solutions to India's public health problems they were the first to accept and propagate 'knowledge' that emerged out of the international centres of public health. The Indian 'experts' thus joined hands with the international 'experts' in propagating purely technological solutions to all public health problems. The ancient wisdom that most of our diseases are rooted in the poverty of the people²⁹ was ignored.

Lastly, the inclusion of social sciences in medical curriculum was reduced to absurdity under these conditions. The recommendations of ICMR/ICSSR committee went totally unheeded and the doctors continued to be trained to think that they alone knew what was best for their patients! This assumption came easy to a set who represented the social elite.

NATIONAL PRIORITIES IN PUBLIC HEALTH

India's population control programmes are yet to be integrated into its health services and hence continue to drain it. Even within the health sector, priorities remain lopsided. As we have seen the diseases which have continued to kill and maim the most (such as diarrhoea, respiratory infections, malaria and kala azar) are getting less and less attention. Those which are replacing them (like AIDS, blindness) are largely the concerns of either the developed nations or of India's elite.

The reason for this gradual shift is not far to see. There is no denying the fact that India over the past four decades has built its infrastructures including a health care system. The focus of the infrastructure, especially for water supply, sanitation, housing, transport, electricity and public distribution system is in urban areas. Even within the urban areas the disparities are obvious. The larger share of the total national expenditure is enjoyed by a small elite.

These basic amenities are taken for granted by them and never seen as part of a comprehensive public health infrastructure.

As a result, two things happen. Firstly, when they think of public health they visualise only medical technology-based interventive programmes such as immunisation and oral rehydration. Secondly, only those diseases which they experience become their priorities. Absence of emphasis on others does not bother them. Their logical demands are hospitals, well equipped tertiary care for heart diseases, blindness, cancer and other non-communicable diseases. Greater access to curative institutions and adequate supply of drugs in the market satisfies them.

The health administrators, policy-makers and politician who largely come from these sections of the society are no different in their thinking. They have also learnt their lessons from history that the diseases of the poor cannot be tackled by technology alone. The only time they are concerned about this set of diseases is when they are themselves threatened. The mindless disposal of garbage by the plague hit capital's administrators, the Municipal Corporation of Delhi's (MCD's) epidemiological laboratory's full time involvement with monitoring a single disease, the handling of the Cholera epidemic in 1987 are examples of such concern. The rest of the time they concentrate on.

(i) Removing slum dwellers from amongst them and creating safer spaces for self-protection.

(ii) Devising schemes for educating the poor to be healthy without any basic amenities.

(iii) Investing more resources in their part of the city to security and keep at bay the threatening poor.

(iv) Convincing themselves that there is little that can be done for the increasing menace of death and disease among the poor who are blamed for their ignorance and reluctance to benefit from modern service.

Implicit in this attitude is the shift of responsibility from the state to the people. At best the state make some resources available to non-governmental organisations to run some rudimentary form of urban basic services. Like poverty, mortality and morbidity from diseases of poverty too are now seen as prices that have to be paid for 'national development'. It is not surprising then that these diseases are gradually losing the priority they once enjoyed.

Protests against the present policies are rare for reasons already discussed. Firstly, the knowledge and practice of public health itself has been undermined to an extent that understanding of issues at popular level is simplistic. Secondly, in a socio-economic milieu, where both the urban elite, and the middle classes see its interests tied to the process of economic liberalisation and global integration, indiscriminate import of technology is seen as a positive step towards development. Thus hi-tech and tertiary institutions are welcomed and class issues

and primary health care are seen as 'primitive' concepts.

The most tragic is the silence of those who suffer. They remain quiet not only because of their helplessness, their negative experiences of raising their voices and their overburdened lives but also because of their perceptions. The glamour of technology and the acceptance of living from one crisis to another pushes them into dreaming of that technology. They accept hunger, shortages and lack of services in everyday life but in a crisis, they aspire for what they privileged classes have. Thus they become easy prey to the propaganda that more sophisticated hospitals mean better health care. For the professional, the fact that the poor seek technology becomes reason enough to propagate their own model of technocentric health care. With the poor on their side they let public health degenerate with impunity.

IV

Issues for Urban Health

The noteworthy feature of urbanisation in India is the increasing concentration of people in mega cities, industrial cities and towns. The share of population of class I cities in the total urban population rose from 22.9 per cent in 1901 to 60.4 per cent in 1981. Another conspicuous feature is the fall in the proportion of urban population in the small and medium towns.³⁰

In exclusively industrial cities like Surat, metropolitan-cum-industrial city like Bombay or the capital city like Delhi, a large share of the concentrations and additions in the population consist of migrants. The characteristics of such migrants and the population, of course, varies depending on the economy of the city. The functional specialisation of cities is an important determinant of the characteristics of the population and quality of life in cities. The industrial classification of migrant workers by rural and urban residence shows a higher proportion of rural migrants in primary and secondary sector activities, and urban migrants in tertiary activities.³¹ In million plus cities, the sex ratio of migrants is in favour of males. The problem of living space in the metropolitan cities probably acts against female migration. It also gives an indication of the type of job opportunities in such cities which are male-biased.

The pattern of urbanisation in India raises several issues for a public health policy especially in the light of the outbreak of plague.

First is the issue of economic organisation of cities in India, whereby increasingly the emphasis is on concentration of industries rather than dispersal which lead to human concentrations and the miserable conditions under which many city people live now. The concentration of industries in cities like Surat,

periphery of Delhi, Bombay, Kanpur, etc. results in large-scale migration of people from other urban and rural areas. It is possible to see the modern industrial city as a human failure, a monster which does not lead to any improvement in total human welfare. "Most modern cities are easily perceived as dreary, grey wastelands housing dreary, grey, dehumanised people working as cogs in a machine which seems to destroy much of what is good about life".³² The modern industrial city may add to material wealth, and perhaps with the changing economic scenario this is what the state needs, but it destroys the very essence of human life. The people in such cities live under miserable conditions, similar to the well-documented stage of industrial revolution, now conveniently forgotten. The conditions of life in such cities, the nadir of which is the outbreak of epidemics, should enable the planners to re-examine the pattern of urbanisation in India.

This does not, however, mean that human well-being is a mirage in such cities. This leads to the second issue of quality of life of people in cities as against growth. This is related to the availability of basic services such as health, drinking water, sanitation and other utilities apart from housing, and transport. There are isolated cases where even in big cities some degree of efficiency was introduced for maintaining at least a minimum level of civic order. It has to be recognised that utter neglect and callousness of the state is responsible for much of the urban decay.

The case of Delhi, which is the national capital, is a classic example of such neglect apart from Surat, of course. This neglect has to be located in the dichotomous organisation of the city itself, the garden city for the ruling classes and the elite and the shanty towns for the deprived. The growth rate of Delhi, in line with the pattern of urbanisation in India, is however much more startling. The decennial growth rate between 1971 and 1981 was 53 and between 1981 and 1991, 50.64. After 1961, the growth rate continues to remain around 50. The density of population in Delhi, similarly, is very high. In 1991, it was 6,319 as against the all-India average of 267. It is estimated that by 2001, Delhi's 10 million population will rise three-fold or more.

As the ruling classes rebuild the city for themselves, erect skyscrapers and beautify their surroundings, more and more migrant labour is brought in to accomplish this. However, regarding health services, availability of basic services like water, sanitation, housing, etc. there is a clear demarcation between privileged Delhi and deprived Delhi. There are 44 resettlement colonies with a population of three million and 480 or more unauthorised colonies with more added every year.³³ It is estimated that

at least 53 per cent of the total Delhi population is living in subhuman conditions. While these subhuman population is needed for maintaining the cozy structures of the upper classes, there is total lack of human concern to provide the basic services to them.

Surat, similarly, has been one of the fastest growing urban centres in Gujarat. While Gujarat's urban population growth was 3.5 per cent per annum in the 80s, Surat grew from 9 lakh in 1981 to 1.49 million in 1991. It has now crossed two million and 28 per cent of these lives in slums. Unprecedented growth of small-scale industries in the unorganised sector has significantly contributed to the rise in population.³⁴

The civic amenities have not kept pace with the rapidly expanding population of this town. According to a survey about 80 per cent of the slum households do not have sanitary facilities. Even before the outbreak of plague, malaria and hepatitis have claimed a number of lives in this town. It is fairly evident that in a town which is largely dependent on migrant labour, the municipality can afford to ignore the needs of this class as they are not permanent residents of Surat. The municipal government has failed to meet the changing needs of the city.

The reports of the plague epidemic in both Surat and Delhi captured the fear and panic that people experienced. The major toll of this epidemic was borne mostly by the poor. In Surat, majority of the reported deaths were from the slums in the low-lying areas of the city. From various newspaper accounts what is fairly clear is that certain areas of Surat were worse affected than others although even the wealthier pockets were not spared. Mostly slums in the low-lying areas, near the banks of the Tapi were badly hit reporting a number of deaths. Ved road, Katargao, Rander, Sanjay Nagar and Rajiv Nagar of Udhna industrial area, Ruderpara and Limbayat were the worst affected. According to descriptions of these areas, the people who resided here were labourers who were employed in the export earning diamond and textile industries. Surat is famous for these two major industries which are both export-oriented and earn crores in foreign exchange. Majority of the labour force of both these industries is constituted by young male workers from different parts of the country. The diamond industry employs craftsmen mainly from Rajasthan and the diamond cutters and polishers belong to Saurashtra. These workers live in slums like Ved Gaon and Katar Gaon. According to the deputy collector there are two-lakh migrant labourers in Surat and some of them did flee from Surat to their respective states when the epidemic broke out.

In Delhi, the majority of the plague cases were reported from resettlement colonies. This broadly replicates the pattern observed during the cholera epidemic in 1988. Most

of the cholera deaths occurred in the resettlement colonies and juggi-jhopri clusters in Delhi. Similarly even during the plague epidemic, it is in these places where basic civic amenities are lacking that cases were reported.

Even when the rulers are threatened by epidemics, the complexity of the issues of urban decay are not realised. The measures to control the spread of plague, for instance, was entirely focused on a single-pronged strategy of removal of garbage rather than visualising epidemics as a result of the ongoing decay of urban systems. It seems the earlier outbreak of cholera in Delhi has not provided any lessons.¹²

When the Delhi administration tried to 'clean up' the city of garbage, most of the efforts were concentrated in the middle and upper middle pockets of the city with a token effort in the slums. There were reports of uncleared garbage in areas of the slums in Delhi even a week after the announcement of cleaning drive.

The third issue which needs to be highlighted is the migratory patterns in the national context. As mentioned earlier, a large proportion of urban agglomerations consist of migrants. This adds a new dimension to the national policies on public health. Although it is easier to find the reason for the large-scale fleeing of people from Surat at the first information of an outbreak of plague in the fear of disease, it actually is a reflection of the all-round decay coupled with the poor state of civic amenities in the city. It represents the lack of faith of the people on state-run machinery.

However, it was the upper and middle classes who managed to use any means possible to move out of Surat. According to the railway officials nearly 75,000 tickets had been issued for Ahmedabad, Bombay, Baroda and Bhusawal. The officials of the district administration who were making announcements asking people not to leave the city were the first ones to send their families home!

In an entirely different context of malaria, the Madhok Committee had drawn attention to the large aggregation of labour in construction projects which had sprung up all over the country. It pointed out that special efforts should be made to provide adequate provision for health and sanitation as a legitimate charge on construction projects.¹³ As far as Delhi is concerned, this is an important lesson where a large population of migrant labour is engaged in construction activities. The lesson from plague is that migration which forms an inherent characteristics of urbanisation in India calls for an urban renewal with added emphasis on these sections which produce material wealth. Their isolation and quarantine must give way to an awareness of their problems.

CONCLUSIONS

The reconstruction of plague epidemic glaringly portrays the dichotomies in public health and provides lessons for the future of its practice in this country. It is evident that the classical approach, which is mainly sanitarian, at best reduces epidemics only to an endemic status. If public health has to go beyond this limited, truncated objective then it calls for a systemic understanding of the problem. This would involve evolving a multi-pronged strategy firmly entrenched in the socio-economic context. Notwithstanding the fact that this would be a harder option, with the duration between epidemics becoming shorter and the black signal of plague, it could be assumed that the state would initiate positive actions rather than gild the pill. The real challenge for public health at this juncture is to rise above the garbage.

Notes

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