

**“Due to massive failures of the MCI and lack of initiatives on the part of the Government in unleashing reforms, there is total system failure due to which the medical education system is fast sliding downwards and quality has been hugely side-lined in the context of increasing commercialization of medical education and practice. The situation has gone far beyond the point where incremental tweaking of the existing system or piecemeal approach can give the contemplated dividends...”**(1: p 82)

The Parliamentary Committee has performed a difficult task commendably. Its recommendations are reasoned and rational. Their implementation should go a long way in cleaning the Augean stable that the MCI currently represents.

### **Is optimism justified?**

Alas! I have my reservations. Recommendations of earlier committees, when found unpalatable by the government or when conflicting with vested interests of those in power have been rendered ineffective by the simple measures of either shelving them or, worse, referring them to yet another committee for study and recommendations.

A government that could transfer Mr Keshav Desiraju in order to facilitate Dr Ketan Desai's entry into the MCI through the backdoor of a recommendation by a pliant university in Ahmedabad, and which could accept the replacement of Dr Ketan Desai by someone else from the same state does not generate confidence.

I sincerely hope I am wrong and that these recommendations will be implemented *in toto*.

### **Reference**

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## **The Chennai floods of 2015 and the health system response**

**RAKHAL GAITONDE, VIJAYAPRASAD GOPICHANDRAN**

### **Introduction**

The Chennai floods of 2015 were a calamity of unexpected proportions(1). The impact on the lives of the poor has been immense. Thousands needed to abandon their already precarious dwellings on the banks of the Adyar River, and other low-lying areas for temporary shelters. The differential experience and impact of disasters on different segments of the population helps understand the dynamics of sociopolitical structures and supports.

The disaster was recognised as being largely manmade. It has been reported that one of the important water reservoirs of Chennai, the Chembarambakkam reservoir was opened up during incessant rains without adequate warning, which contributed to the massive deluge(2). Unplanned urban development, illegal constructions, and corrupt practices of permitting development projects without environmental impact assessment have all also contributed to the making of this disaster. There is an urgent need to envisage a role for the health system (as part of all other public systems) towards a more sustainable and resilient future.

This editorial focuses on the health system response to the Chennai floods. It takes anecdotes and experiences of the authors and others whom the authors have worked with during the floods and tries to analyse the successes and drawbacks of the health system response. It argues the case for an effective and responsive health system, which is highlighted in the face of disasters as an ethical imperative.

### **Ethical framework of analysis**

Public health systems have an ethical obligation to protect and promote the health of populations and minimise health risks through equitable, transparent, responsive, proportional, accountable and sustainable actions. However, in the recent Chennai

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floods it was seen that there was significant inequity in public health action. Some vulnerable populations were not covered by the rescue, relief and rehabilitation efforts. Healthcare workers and volunteers from communities, who contributed time and resources were not adequately taken care of and the health system lapsed in its reciprocal responsibilities to them. Based on this analysis, this editorial highlights the importance of public health stewardship in times of disaster.

### **Public health response to the floods**

The SPHERE standards set out the internationally recognised basic standards of humanitarian care in disaster situations(3). In the chapter on health system response, it mentions among other things that:

- The standards are based on the Right to Health.
- The primary aim of humanitarian response is to reduce and prevent excess mortality.
- The contribution from the health sector is to provide essential health services, including preventive and promotive interventions that are effective in reducing health risks.
- Better response is achieved through better preparedness. Preparedness is based on an analysis of risks and is well linked to early warning systems.
- Preparedness includes contingency planning, stockpiling of equipment and supplies, establishment and/or maintenance of emergency services and standby arrangements, communications, information management and coordination arrangements, personnel training, community-level planning, drills and exercises.

The standards list basic dimensions including adequate infrastructure, trained and adequate human resources, adequate supplies, financial protection, health information systems and leadership and coordination. One of the underlying principles also is the fact that there will be communities that require extra care and the health system needs to be aware and responsive to the range of vulnerabilities and marginalised communities among the disaster-affected community. We use the above internationally recognised basic minimum standards to examine the performance of the Tamil Nadu public health system in the face of the Chennai floods, based on the experience of working with rescue and relief teams during the floods.

The public health system in Tamil Nadu managed to respond appropriately along a number of these dimensions mentioned previously, in the period immediately following the floods. In order to address the human resource requirements, hundreds of nurses were mobilised from other districts of Tamil Nadu into Chennai to provide primary care and flood relief healthcare. The public health system organised mobile ambulances and vans which travelled to different parts of the city and provided preventive and curative check-up and treatment for people affected by the floods. In several badly affected areas people reported that the public health system distributed bleaching powder to the amount of 5 kilograms per household free of cost, in order to chlorinate water tanks, wells, and to disinfect households affected by flood waters. In addition to this, public service announcements were made in local newspapers, television and radio news channels and announcements on the roads on precautions to be taken to prevent water-borne disease outbreaks.

The health system brought in multiple small innovations. Auto rickshaw clinics were deployed to remote and hard to reach areas where ambulances and large vans could not navigate. A quick and efficient surveillance system based in relief camps and in local schools (in certain areas) were set up to monitor for outbreaks of diarrhoeal and febrile illnesses. There were no major outbreaks of diarrhoeal diseases or febrile illnesses despite predictions of such events immediately following the floods. This could be attributed to the proactive health system initiatives. Despite these successes in the health system's response to the floods in terms of preventing outbreaks, there were several gaps, as highlighted below.

### **Neglected areas of health system response**

As in any disaster situation, all the energies of the health system were directed towards flood relief, outbreak prevention, water disinfection and vigilance for outbreaks. This led to disruption of some essential healthcare services during the floods. This raises concerns of justice. Some of the important neglected areas in the health system were, flooding of unprepared health facilities, sustained treatment of chronic diseases, mental healthcare for persons with disabilities, care for the vulnerable elderly, long-term treatment for chronic infectious diseases such as tuberculosis and HIV/AIDS, health of relief workers and volunteers, health of institutionalised communities and healthcare of animals.

#### *Unprepared health facilities that got flooded*

Several private and government health facilities, hospitals, clinics, health centres and nursing homes were flooded and all operations suspended during the first week of December, when their services were most required. Among those instances that got reported, we draw attention to the fact that at least 13 primary health centres in Kancheepuram and Tiruvallur district were completely inundated. The Tambaram Taluk Hospital in Chromepet evacuated many of its inpatients and had to be shut down. Water entered the ESIC Hospital in KK Nagar and its intensive and critical care units were completely submerged(4,5). There were reports of 18 patients on ventilators who died due to massive power and generator failure in a private corporate hospital in

Chennai(6). This highlights the urgent need for regulation in the functioning of clinical establishments and their infrastructure. The long overdue Tamil Nadu Private Clinical Establishments (Regulation) Act of 1997, which has still not been passed in the legislative assembly, could have provided clear rules and regulations for setting up of health facilities that are prepared for floods and natural disasters, which could have mitigated this impact. The unprepared health facilities revealed the inherent weakness in the regulative functions of the public health system, highlighting the unregulated growth of the private sector and the systematic starvation of funds to the public sector for its maintenance and development. There is an ethical obligation for the public health system to facilitate preparedness for disaster response by ensuring resilient, responsive and adequately equipped health facilities.

#### *Sustained treatment for chronic diseases*

Several elderly patients residing in the flood-hit areas suffered from inadequate supply of drugs for non-communicable diseases such as diabetes, hypertension and heart disease. One of the authors was involved in conducting health camps in some flood-hit villages near Chennai. During these camps many elders of the village came and asked him for a regular supply of their monthly anti-diabetic or anti-hypertensive medications, which they could not collect from the primary health centres because of the floods. The floods had in some places rendered primary health centres inaccessible. In other places the primary health centres themselves were flooded and medicines ruined. Other primary health centres were having trouble obtaining adequate stocks to supply medicines during the floods due to disruption of transportation and logistics facilities for nearly 10 days in the first two weeks of December. On the one hand, the public health system could not maintain the stock of drugs due to lack of a sound back up and preparedness for natural disaster situations. On the other hand, the governmental and non-governmental flood relief camps focused more on drug supply for fungal skin infections, diarrhoeal diseases, febrile illnesses, and trauma rather than on chronic diseases. Some of the patients in the worst flood-hit areas had to go for about two weeks without proper treatment for their chronic diseases. Sustainable solutions for long-term, uninterrupted supply of drugs for persons with chronic diseases need to be incorporated into the health system design.

#### *Long-term treatment for chronic infectious diseases*

In some badly flood-affected areas the antituberculosis treatment (ATT) and antiretroviral therapy (ART) were both disrupted for long periods, sometimes up to even one month. In case of the Directly Observed Treatment for TB, the DOTS providers and the patients reported having lost contact for prolonged periods of time due to the floods. There were also issues of interruption of ART due to lack of access to ART centres and also due to delayed supply of drugs in the ART centres. The problem with such disruption of ATT and ART is the spectre of emerging drug resistance and rapid deterioration of patient condition. Here again the need for long-term sustainable drug supply systems emerges as an important ethical consideration.

#### *Mental health*

Though there were isolated reports of voluntary mental health organisations going into the field to provide psychological support and therapy to survivors of the floods, there was a lack of coordinated and large scale health system response to address mental health issues. During the tsunami of 2004, the mental health response was far more organised and more emphasis was placed on mental health(7). There are gruesome tales of hardships faced by communities in various parts of Chennai, where people lost their belongings, their homes and in some instances, their loved ones during the floods. There were heart-wrenching reports of people having to spend two to three days with the bodies of their deceased loved ones due to lack of transport facilities to carry the bodies for cremation/burial. The emotional and psychological impact of such events is likely to be high. These were not adequately addressed in the acute phase, and no clear plan for a longer term response seems to have been made public. Even among those who did not suffer much monetary loss, there were losses of personal goods and properties which had inherent value such as photo albums, wedding sarees, personal letters, books and collectibles. This could have led to long-lasting mental disturbances and trauma. But these issues were also not adequately addressed. This highlights the need of a health system to respond to disasters with holistic physical, mental, social and spiritual action.

#### *Care for persons with disabilities*

Persons with disabilities bore the brunt of the Chennai flood disaster. Those who were dependent on wheelchairs found themselves trapped in the floods. The floods also made it difficult for others to help them. Loss of implements and aids like crutches, walkers, hearing aids, etc. during the floods pushed them into further vulnerability. Though efforts were made to help and support persons with disabilities as and when the need arose, there was no preparedness in the health system to respond immediately to the needs of disabled persons(8).

#### *Care for the vulnerable elderly*

With increasing migration of the economically productive population away from home for livelihood, several elderly in Chennai live alone without much social support. There were several reports of elderly people living alone, with multiple chronic diseases, who were trapped inside their houses during the floods. It is a glaring reality that the health system has no database of vulnerable

seniors in need of support. Lack of such information makes it difficult for the health system to reach out to help these elderly during times of disaster(9).

#### *The health of institutionalised communities*

There are a number of communities which are under institutionalised care of the government for various reasons. While the situation of hospitals was discussed earlier, the situation in jails, orphanages, borstals and remand homes, short stay homes, etc. is completely unknown and unreported. The experience of one of the authors with one of the largest orphanages in Chennai showed that they had to largely fend for themselves having to depend completely on well-wishers and volunteers for advice, as well as medical supplies and medical care. It may be considered the basic duty of the government to put in place basic protocols which would take care of the essential health needs of these institutionalised communities, especially in the time of disasters.

#### *The health of relief workers and volunteers*

While the public health system put together a credible response with regards to communicable disease, any success drew significantly from the tireless and thankless work of the thousands of corporation sanitary workers both from within Chennai and from the other corporations and municipalities of Tamil Nadu. In addition, there were thousands of unnamed volunteers from various groups who worked tirelessly during relief and rescue as well as rehabilitation. Despite reaching out to the general community, the public health department as well as the corporation health department seem to have failed in their duty of looking after the health of the workers and volunteers who participated in the relief and rescue work. Various experiences and interactions with workers by one of the authors showed that not more than 50% received TT injections and less than 10% received leptospirosis prophylaxis which was generally considered as essential at least for those working in stagnant water (during the first two weeks of the flood). Similarly, there were no efforts to reach out to the innumerable volunteers with information regarding simple safety precautions and preventive measures. As mentioned with the general community, the mental health of the volunteers and workers was also completely neglected. One of the authors was personally involved in a small initiative where he spent time with relief workers, not only answering questions regarding their work, but more importantly to just encourage them to vent their feelings and actually cope with the huge trauma that they were witnessing around themselves, but could not (did not) stop to think about. During these sessions many/most of the volunteers broke down and cried and shared feelings of guilt, depression and general hopelessness in the face of what they witnessed. The health system has a reciprocal ethical duty to help volunteers and health system personnel cope with the stress and trauma of tireless response during disaster situations. This needs to be considered seriously in the public health response during disasters.

#### *One Health*

The One Health concept increasingly expands the scope of healthcare to include the interactions between animal health, human health and the environment(10). The care of human health, especially in disaster situations is inextricably linked with attention to animal health. It is well known that when animal health is neglected, it leads to increasing concerns of human disease outbreaks, more so during disaster situations. While one of the authors was providing care for some rural communities around Chennai during the floods, he found that many people who attended the camps requested treatment for their domestic animals such as goats and cows. This request had two dimensions to it. These villages considered their animals part of their family and household and expected their illnesses also to be addressed by the health system. Moreover, some of these villages were afraid that their diseased cattle would infect the other cattle in their sheds and also the young children in their own households. This highlighted a grossly neglected area of veterinary healthcare during the floods.

Thus, important ethical considerations of equity, sustainability, accountability and reciprocity were overlooked in some circumstances in the disaster response during the Chennai floods. There is a need to create a health system that is prepared to face disasters in a comprehensive and adequate manner.

### **Disaster preparedness in a complex adaptive health system**

Health systems are complex in nature. Their complex adaptive nature implies that the relationships between their components are not linear and can lead to dynamic interactions between the components thus leading to enhanced (or attenuated) responses(11). This complex adaptive nature of the health system should be utilised to strengthen the system to face disaster situations. If the capacity of the system is built to respond efficiently to disasters, it could lead to larger beneficial impacts on the overall functioning of the health system. For example, a well established supply chain of drugs in order to cover for shortages during disasters and emergencies could strengthen the entire logistics of the drug supply system. Thus institutionalising disaster preparedness in the health system could serve as a potential health system strengthening strategy.

In addition to this, the principles of systems theory when applied to health system strengthening calls for the setting up of multiple fora for interaction with various groups who are affected /involved in the relief and rescue during disasters, as well as the setting up of democratically evolved indicators of success as well as the methods of evaluation by all groups concerned(12).

## Stewardship for a resilient and responsive health system during disasters

Public health systems should be built on the ethical principle of stewardship which is the “willingness to be accountable for the wellbeing of the state by operating in service rather than in control over the members of the state”(13). Thus the disaster preparedness of the health system in order to provide all essential healthcare services including those which are usually neglected during disaster times, is an ethical imperative in the essence of stewardship. All the principles of equity, transparency, accountability, sustainability, responsiveness and reciprocity emerge from the spirit of stewardship of the public health system.

In order to maximise public goods, minimise harms and make the disaster mitigation and management system fair, proper planning and ethical oversight of disaster response mechanisms is essential. This ethical oversight should emphasise on keeping the disaster response need-based, responsive, equitable and transparent.

It is important to see health systems not merely as providers of healthcare, but equally as the basic foundation for preventive care and the department that takes the lead in the building of resilient and equitable societies. Truly responsive and responsible health systems would take a lead before disaster strikes and point to the many harmful and inequitable effects of the present paradigm of development. We need to move from Health for All to Health in All Policies (HIAP).

In summary, the Chennai floods brought out the inherent strengths and weaknesses of the public health system in Tamil Nadu. In as much as the system came together effectively to prevent massive disease outbreaks which were predicted as an immediate aftermath of the floods, the system neglected some essential services including chronic diseases, mental health and one health. Building inclusive, resilient and responsive health systems is an ethical imperative in the spirit of public health stewardship.

This editorial introduces a series of scholarly papers in the area of ethical considerations in disaster response. In this issue, Mariaselvam and Gopichandran describe the ethical issues in disaster management during the Chennai floods and call for urgent attention to ethical guidelines for disaster management.

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