The International Medical Commission on Bhopal: Findings & Recommendations

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In addition to the large-scale loss of life and continuing health problems experienced by the victims of the Bhopal disaster, a major casualty has been the lack of information. Compared to other major chemical disasters in the world, Bhopal has the dubious distinction of not only being the worst, but also one of the least investigated.

The scientific and medical response to the crisis was begun in a social, political, and legal climate in which there was little experience in dealing with a major environmental release. Scientific and medical personnel needed access to accident-related and toxicologic information to understand the causes and potential consequences of the disaster. Union Carbide, the primary repository of this information, faced with lawsuits and the prospect of bankruptcy, closed down its channels of communication. On the other hand, the extreme sensitivities of the local and national government bodies towards all aspects of the disaster, coupled with the lack of expertise and funds, resulted in an inadequate response on India's part to meet the urgent health care needs of the community. Whereas a flood of information was expected from a disaster of this magnitude, only a trickle resulted.

These transnational political and legal ramifications threw a veil of secrecy around the disaster and obstructed the discovery of vital medical and toxicologic

information. The medical community was frustrated in its attempts to understand the links between gas exposure and health and devise appropriate treatment strategies. As an example, ignorance about whether the main poison, methyl isocyanate, could decompose to deadly cyanide gas, led to years of acrimonious debate on the merits of treating the gas victims for cyanide poisoning. This clinical dilemma could have been resolved in two parts: a) Union Carbide should have funded an independent body to re-create the accident on a small scale in a controlled setting such as the Hazardous Materials Spill Facility in the Nevada desert. Such a simulation would have provided information on the causes of the accident, the chemicals released, and their manner of dispersion in the nearby area. b) The Govt. of India should have conducted clinical trials to determine whether cyanide poisoning had occurred in those exposed, and if so, devise, appropriate treatment strategies. With neither of these exercises being conducted, the opportunity for resolving this issue on a scientific basis was missed. Actually, the Bhopal hospitals had on hand, but did not use, the antidote for cyanide poisoning.

Recognizing the dire need of the gas victims, the Permanent Peoples' Tribunal met in 1992 and recommended that an international medical commission provide an in-depth independent assessment of the situation in Bhopal. The International Medical Commission on Bhopal (IMCB) was thus constituted with 14 professionals from 12 countries who were chosen on the basis of their medical expertise and experience in environmental health, toxicology, immunology, and respiratory medicine. They were supported by 9 others who formed the Indian National Advisory Committee and by medical colleagues in the Medico Friend Circle. Dr. Rosalie Bertell and Gianni Tognoni serving as the co-chairpersons of

the IMCB. At the request of Carbide gas victim organizations, the IMCB visited India in January 1994 to contribute in any way possible to the relief of the victims and to suggest ways to in which such catastrophic accidents could be prevented in the future or their effects mitigated. Prior to beginning their work, the IMCB notified the governments Of India and Madhya Pradesh of their intention to set up a temporary centre in Bhopal. During their stay, the IMCB met with government officials, various disaster experts, local private physicians, biochemists, botanists, and veterinarians.

The main goals of the IMCB are summarized in Box 1. The commissioners divided their work in various groups:

a) Community & clinical studies: survey of the population followed by clinical testing of selected groups

b) availability and quality of medical care

c) examination of laws and regulations relating to claims

d) evaluation of drug therapy by examination of prescriptions

e) accident analysis

f) review of studies and published literature on the disaster

1. Betterment of the lives of the victims with rational diagnostic methods and treatment
2. Clarification of the place and form of international medical assistance and documentation after a catastrophic accident
3. Recommending legislation to protect humans in the face of industrial pollution
4. Mobilization of international assistance for planning health research on the impact of major accidents
5. Establishment of a precedent for international protection for medical research against interference from vested interests or corporations or governments
5. Legitimization of the voices of survivor organizations and their participation in relevant decisions
6. Recommend the type of data to be kept after a catastrophic accident
7. Promoting ethical and scientific standards for information collection and communication to victims
8. Coordination of medical, research, and legal information to assist victims in claims
9. Alerting the Govt. of India to the need for environmental impact studies prior to allowing any hazardous industry to set up in India

An evaluation of the legal and factual aspects of the case were not included in the terms of reference of the IMCB investigations.

The IMCB had committed itself to a) provide a full report of its findings and recommendations to the Governments of India and Madhya Pradesh, victims' organizations, and all other interested parties, b) stand ready to assist the government of India and medical colleagues to implement the recommendations of the commission, c) enlist the National Advisory Committee to follow up the initiatives of the commission, d) recommend research studies to be undertaken in India on the long-term effects of the gas exposure, and e) assure the wide circulation of its experience and findings in the professional literature.

Findings

The IMCB publicly condemned Union Carbide and reiterated the company's full liability not only for responsibility in causing the deadly gas leak, but also for the confounding role of its behavior with respect to the timely and effective application of the appropriate medical measures since the time of the accident. This included the *lack of transparency about the composition of the gases released*, resulting in the absence of rational methods of care and planning, and creation of suspicion and conflict among professionals and the population. There was also a *lack of emergency preparation* which would have made the public and professionals aware of the potential toxins inside the plant and how to respond to an accident. No clear guidelines were laid down to determine compensation to the victims resulting in undue delays and aggravation of their health status. The *secrecy surrounding the health studies* undertaken by the Indian Council for Medical Research may initially have been instituted to protect the litigation process, but in reality made the rational medical treatment and establishment of claims almost impossible. In hindsight,

it is clear that the secrecy served no purpose whatsoever and has resulted in non-publication of the information.

In fulfilling its commitment, results of the community studies conducted by the IMCB have been communicated to the affected population in the form of public meetings, which provided a forum for the victims to ask questions and provide comments. Reports of the studies have also been provided to representatives of the victim organizations. The studies have been published in various national and international journals so that the scientific community has access to this information.

Recommendations of the IMCB are summarized in Box 2.

1. Reorganization of the health system to establish a network of community-based clinics
2. The gas-related disease categories be broadened to include brain and psychological injury
3. Health data collected by the ICMR should be communicated to the population and submitted for publication
4. Gas victims have the right of access to their medical records
5. Victim organizations should be adequately represented in the national and state commissions
6. Criteria for compensation should include medical and social damage to the victims
7. Allocation of resources for economic and social rehabilitation of people *and* their communities
8. Thorough examination of the impact of the toxic waste buried on the Union Carbide site

It is now well known that persistent and chronic gas-related health effects are present in the Bhopal population. However, the full spectrum of effects is yet to be defined, especially in those exposed as children, due to the lack of systematic collection of information. Recent investigations have shown that local well water has become contaminated by the improper storage of a large amount of hazardous waste in the facility, some of which is carcinogenic. Eighteen years later, the prospects for learning from this disaster do not appear to be bright. What is sorely needed is an independent body to coordinate the heath care, research, rehabilitation of gas victims, and care for

potential effects in their offspring. Instead of the free-for-all approach to medical treatment that currently exists, clear guidelines and criteria need to be formulated for specific medical conditions. Such an effort could be implemented through India's existing heath care pyramid. Community-level health units should be developed to serve a maximum of 5000 people each. Local hospitals with multiple departments can be used to provide secondary care. A specialized medical center dedicated to treatment and research of the more serious problems arising from the gas leak should be established. The IMCB believes it is a mistake to increase the number of hospital beds in Bhopal. The community has need for neighborhood clinics, non-drug respiratory therapy and sheltered workshops, not for hospital beds.

The IMCB has recommended that long-term monitoring of the community for illness and response to treatment be done for several decades. This would include the study of exposed and unexposed areas to observe patterns of illness and death as well as to detect the occurrence of new diseases. Such an approach needs to one in which the health professionals involve the community of gas victims as active partners in investigation, ensure that their health risks are properly communicated, thereby enabling an increase in their consciousness, autonomy and self-determination.

Recognizing that Bhopal is a tragic model of an industrial epidemic, the IMCB has expressed willingness to organize international teams when requested, to provide technical assistance and evaluation of other environmental disasters. Rather than the provision of emergency relief functions, for which there are other organizations such as Medecines sans Frontieres and the Red Cross/Red Crescent, the IMCB envisions its role at three levels: I) response to communities

who appeal on the basis of chronic disability due to a disaster, ii) represent victims at the international level for legislative needs required to implement the International Bill of Rights relevant to health and safety, and iii) working to define the appropriate public health investigations to serve the needs of the community rather than use the victim community to serve the needs of science. The International Bill of Rights includes: The Universal Declaration of Human Rights, proclaimed on Dec 10, 1948; The International Covenant on Economic, Social, and Cultural Rights (1976), and the International Covenant on Civil and Political Rights, 1976.

The steps to be taken to achieve the full realization of this right shall include:

- provision for the reduction infant deaths and for healthy development of the child;
- improvement of all aspects of environmental and industrial hygiene;
- prevention, treatment, and control of epidemic, endemic, occupational and other diseases;
- creation of conditions which would assure to all people medical service and medical attention in the event of sickness

To protect these rights, an international body, free of industry and government pressures, and competent to advise on health and safety standards, is required to be able to mediate just and equitable resolution and compensation of damage in the case of unanticipated disasters.

Members of the International Medical Commission on Bhopal:

Roslaie Bertell (Canada), Gianni Tognoni (Italy), Thomas Callendar, Jerry Havens, V. Ramana Dhara (USA), Birger Heinzow (Germany), Marinus Verweij (Netherlands), Sushma Acquilla, Paul Cullinan (U.K.), Wang Zhengang (China), Jerzy Jaskowski (Poland), Leonid Titov (Belarus), Ingrid Eckerman (Sweden), and C. Sathyamala (India).

Carbide gas victims organizations: Bhopal Gas Peedith Mahila Udyog Sanghatana, Gas Peedith Stationary Karamchari Sangh, Zahreeli Gas Kand Sangharsh Morcha, Nirashvrit Pension Bhogi Karamchari Sangh, and the Bhopal Group for Information & Action.

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