EMERGENCY HEALTH PLANNING

FOR

CHEMICAL DISASTERS

F. LORRAINE DAVIES

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The Department of National Health & Welfare has been given the responsibility for ensuring that plans exist to deal with the health and social services consequences of disasters. To this end the Emergency Services Division of the Department of National Health and Welfare was established a number of years ago and tasked with the development of contingency plans for the departmental response to disasters and the coordination of planning with provincial and municipal health and social services officials.

First, the Department identified the various hazards which exist in Canada and evaluated their potential impacts on health and well-being of Canadians. These hazards are constantly reassessed and new risks identified such as technological advances and the increase in the transportation of hazardous products throughout the country, by various modes of transport, road, rail, air or sea. Additionally, we have looked at stationery hazards, such as chemical plants, refineries, offshore drilling for oil, and nuclear reactor sites across the country.

Many of you are probably aware that a few years ago, in Mississauga, Ontario, a major event occurred which involved the evacuation of approximately 1/4 of a million people. The incident of which I am speaking was a derailment of a train carrying various kinds of toxic substances, including chlorine. It had the potential for, and in fact, did have an explosion of one or more tank cars. The evacuation of the 250,000 people was a phased and controlled evacuation, but required that a number of people be received in Reception Centres, registered, fed and in some cases accommodated for up to one week. In addition to the evacuation of residents of the area, the local community was also confronted with the evacuation of three large hospitals and five nursing homes in the area. This meant the organization of ambulance services, the re-distribution of patients in hospital to other facilities in the nearby area and the release of some ambulatory and convalescent patients to their homes outside the affected area.

This is not the only incident which occurred in Canada in recent years. In February 1982, in an isolated area in the northern part of the province of Ontario, a railway accident occurred which involved the derailment of a number of box cars and tankers. A tanker car filled with hydrogen fluoride was buried under burning box cars. The question of possible explosion could not be ruled out. The site was extremely difficult to access, the closest crossroad was one third of a mile away and a road had to be built beside the rail line. The water supply was limited and fire personnel had to pump water from a local stream and because of the temperature, the water kept freezing. Consideration at that time was given to the evacuation of a rural area approximately five miles around the site of the incident.

A third incident which has occurred was a gas leak at a refinery. The leak was brought under control, however, consideration was given to the evacuation of a five square miles area around the area. This would have involved approximately 60,000 people being relocated from their homes for an unknown period of time.

In each of these incidents, we had either a potential problem or a very real and very large problem with which to deal. We have also recently looked at the nuclear reactor sites across the country and have developed a plan for the federal government response to any offsite release of radio-active material whether it be from a reactor itself, or during the transportation of radio-active material. Health and Welfare Canada played a "Lead" role in the development of the plan and will be the lead agency federally should such a release occur.

How does a division within the national government deal with chemical and other types of emergency? First of all, as I mentioned, we have to identify that a risk exists and determine the potential impact on the health and well-being of Canadian citizens. Canada is a very large country composed of 10 provinces and two territories and covers approximately 4 million square miles. The provinces have primary responsibility for the delivery of health and social services and as such each has its own Emergency Health and Social Services Divisions which deals with the planning at the provincial level. The National Department of Health and Welfare (federal government) therefore provides support to provinces and municipalities in their planning and response to disasters.

In an effort to stimulate awareness of the need for planning and motivate health and social services personnel the Health and Welfare, Emergency Services Division, has developed a series of courses related to community emergency planning for health and social services. The course addresses the issues of public health and hospital care as well as other people-oriented services related to disasters, feeding, lodging, clothing, registration and inquiry programs and personal services or family and individual counselling services.

The courses are conducted at the Federal Study Centre outside of the capital city of Ottawa. In recent years the demand for course spaces has increased significantly, partly because of a greater awareness on the part of health and social services professional, related to the need for disaster preparedness. During the courses on Community Emergency Planning for Health and Social Services, one of the topic areas dealt with is that of the transportation of hazardous products and the potential risks involved. We have asked that the Department of Transport (Transportation of Dangerous Goods Division) to provide us with a lecturer for each of the courses which we conduct. The participants at the course are therefore made aware of the regulations and legislation governing the transportation of hazardous products, are given examples of recent disasters or near disasters, and are asked to look at their own communities, when they return home, to determine the extent of the risk, and to review their hospital and community plans to ensure that those elements, which need to be addressed in such a situation, have been considered during the planning process.

Occupational Health and Safety personnel are also asked to identify particular risks at plants and sites within the community and to address this issue with local hospital emergency departments so that if special treatment is required, the necessary equipment and medications are on hand and the local emergency response people are well aware of the treatment protocols.

Cooperation with other federal departments is important to the education process. We need to know what other Departments and Agencies are doing and they in turn, need to know our capabilities and concerns. An example of such cooperation is the request received from Transport Canada to lecture in one of our larger cities. Representative of Emergency Services Division and Provincial Health and Social Services presented information on the Health and Social Services response and planning to a multi-disciplinary, cross-sectoral group of people. The attendance included approximately 100 people representing a wide variety of agencies, from the Ports Authority, police, fire and local hospital personnel.

Ambulance personnel in various provinces have also been indoctrinated, along with the police and fire personnel, so that they are aware of the on-scene response requirement. They are thoroughly briefed on the hazards related to rescue, care and transport of the injured. One example of an ambulance attendant who made extremely good use of the training, was during the response to a spill of cyanide pellets following an accident in a rural area. The local fire department was composed of volunteers and, at that time had very few of the fire personnel in the community trained to deal with hazardous materials. The ambulance attendant was able to identify the spilled product and, as a result, prevented the pellets from being "flushed off the road" so that the highway could be opened. I think this is a very important argument for the need of multi-disciplinary training, to ensure all emergency response personnel are thoroughly familiar with the procedures and protocols to be followed, and also with the placards, regulations and legislation in force.

Health and Welfare Canada, has identified a number of expert personnel within the Department as well as provincial contacts. In the event of an incident where the transportation of hazardous products section (CANUTEC), require additional expertise to be made available for consultation the Department has the ability to identify these experts and to provide the assistance required. This may include the Poison Control Program, Environmental Health Program, Toxicologists, Departmental Pharmaceutical personnel, Drug Adverse Reactions, Radiation Protection Bureau and others.

As you have heard, the Department of Transport has a 24-hour emergency response number, as does our own Department of National Health and Welfare through the Emergency Services Division.

I have tried to give you several examples of situations where Canadians have been at risk, where we have handled situations requiring evacuation and emergency health and social services response. We must all continue to look at our own countries, determine the risks that exist, determine our response capabilities and those of our health personnel and identify those with particular kinds of expertise which can be brought to bear in the response to an incident in order to prevent further injury or death, not only to the responders, but to those persons at the community level.

Because of the possibility that large numbers of people may have to be evacuated in some incidents, it is also essential that we address the planning requirements for feeding, clothing, shelter, and that we are capable of identifying evacuees and providing counselling and re-assurance to victims of the incident. If we are faced with a long term evacuation, then we must also be concerned about the public health problems which might occur and establish surveillance programs similar to those provided in other types of disaster.

The location where the disaster occurs, the tank car derails, the accident happens, is the area that must be prepared to respond first. The response agencies must know who to call for information, they must know what to do at the scene, in order to prevent additional problems. Health personnel need to know the role and capabilities of other agencies and the other agencies must be aware of the role of health. Plans should be developed, training programs provided and multi-disciplinary, cross-sectoral discussion held to ensure coordination and a cooperative, effective response. At the federal level, plans must also be prepared to ensure an appropriate response in support of provincial/regional and local efforts. Expertise and technological information, reference centres and material should all be identified before the emergency so that, when the incident occurs, a timely response is possible.