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# The role of local communities in chemical accident prevention and preparedness

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**Abstract**

Since the adoption of community right-to-know programs in the US there has been an increase in the number of groups known as local emergency planning committees. These committees have matured in focus over the intervening years since the Bhopal incident and even more so since the events of September 11, 2001. There is a strong recognition that local communities working very closely with chemical handling facilities in their areas can directly and meaningfully reduce the threat of a chemical release incident, regardless of cause. Likewise, through similar means they can better prepare themselves to respond should an incident occur. Especially as regards modern concepts of process chemical safety and facility security, local communities can be of great assistance to smaller facilities that do not otherwise necessarily have the resources to accomplish these tasks. As the vulnerabilities of a facility to accident or intentional act, the impacts of these events and the ability of communities to react are all a function of local conditions, it is clear that these local efforts can be more meaningful than large-scale national efforts. While national legislation is certainly helpful to the process of bringing people together, it is the local relationships that produce results.


*Keywords:* Emergency planning; Public involvement; Accident prevention

In the United States there is little doubt among the public that the first responders in their communities, law enforcement and fire agencies primarily, will act and do their best to protect the citizens of the community in the event of a hazardous materials incident. Certainly this belief existed prior to the incidents of 9/11, but was greatly reinforced by the dedication shown and loss of life suffered by the fire and police agencies of New York.

Colorado is not New York. It is a state of about 5 million people with an average elevation of 2030 m. High points in the state exceed 4400 m. The bulk of the population is concentrated in six large metropolitan areas. The rest is very rural with little industrialization.

A very large number of the facilities handling hazardous chemicals are in the rural areas. In these communities, projected worst case scenarios from chemical releases—based upon reports filed under the US Environmental Protection Agency's Risk Management Planning regulations—completely overwhelm the community with potentially lethal quantities of chemicals such as ammonia and chlorine.

While most of rural Colorado is served by volunteer fire departments, this does not carry a negative connotation. There is a sense that these volunteers are dedicated and determined. There is also a great deal of community pride in these departments and they frequently form a key component of the social life of the communities.

Nonetheless, people of the state feel confident in their emergency response agencies only to a point. That point is defined by two major gaps between what the public believes about the capabilities of their local agencies and the magnitude of the incidents they may face, especially those involving hazardous materials. First, the citizens do not necessarily believe that the volunteers have all the equipment and training they might need. Second, they do not believe that the industrial community is doing all it can to prevent accidents.

Even though the Emergency Planning and Community Right-to-Know Act was adopted 17 years ago, most citizens are not aware that it exists and are certainly not aware that it provides the individual with access to information about both emergency planning and the chemical hazards present

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in their communities. In Colorado we routinely discover that citizens are unaware that both types of information are readily available. This raises a whole series of questions. Key among them is the question of whether the public simply does not care that data on chemical hazards is available.

This question likely has two possible answers. Some have suggested that this situation simply reflects apathy, which is profoundly negative if you are trying to create a system where public participation is crucial to improving community preparedness. Others suggest that the public assumes that an adequate emergency response exists. We suspect that to a real degree both are true at least prior to the occurrence of a significant incident.

In the United States it is clear that the public responds vigorously if they feel personally threatened. In the aftermath of a chemical incident the questioning and recriminations can be intense. On the other hand we become blind to facilities that have been around for years if they have not experienced problems. A new chemical plant will attract a lot of attention. The one that has been in the community for decades tends not to be noticed. The same response is true for small versus large facilities. The public simply does not appreciate the magnitude of risk presented by the large quantities of chemicals that may be stored and used at facilities with a small number of employees.

We do not believe this phenomenon is present when considering how the public evaluates local emergency response agencies as there is more direct information. Members of the public observe the emergency response assets of their communities routinely. They may judge from the newspaper reports and other media coverage that the emergency responders appear calm, professional and competent as they go about their business. They also have a sense that at some level there is a body of people, perhaps their elected officials, that pay attention to such matters.

It is the Local Emergency Planning Committees (LEPCs) that routinely fill this role in our communities. These committees are made up of volunteers. Typically with representation from the industrial facilities in the community, fire and law agencies, elected officials, media, hospitals, schools, emergency planners and everyday citizens, the LEPCs work towards a goal of effective emergency response and planning at the most local level possible.

The LEPCs set their own specific tasks and objectives. No community is identical to the one next door. Small towns of a few hundred residents will be different than cities with tens of thousands of residents. The industrial facilities will be different. The hazards presented will be different. The capabilities of the emergency response agencies will be different.

These attitudes and approaches have remained very much intact even after 9/11. Even though our Department of Homeland Security and its state analogs are working on national response plans, it is still very clear that initial response to any incident is local. (A word of explanation is appropriate. Even though DHS is focused on terrorism, the objective of their planning effort is for the response to emergency incidents, regardless of cause, to be conducted through established plans and incident command systems.)

We all recognize that the first people on the scene of a hazardous chemical incident will be the victims of that incident regardless of cause. Local communities are, therefore, responsible to evaluate the risks the risks they face, including the process they will use to conduct that evaluation, and structure their response.

To this point this paper has focused on emergency response. While obviously crucial, the reality of any incident is that it has the potential to get out of control causing serious harm and personal injury. No community possesses emergency responders that are so good as to immediately contain and resolve every incident they might face. The bigger and more threatening the incident the more likely it is to overwhelm the local community's resources.

There is always a finite limit to the actions the first response agencies will be able to take to protect the public in the event of an accident. The more limited the resources in a community, the greater the potential for an incident to get out of hand. This suggests that two things must be done in an effort to protect the public from the inevitable disruption, property damage and even injury or death that can come from a chemical accident. The first is to prepare the public to take action to protect themselves, their families and their neighbors in the event of an overwhelming incident. The second is to prevent it from happening in the first place.

Earlier in this paper LEPCs were described as local and volunteer. In addition they also lack money. Most operate with no budget. As such there is an obvious gap in their ability to accomplish the tasks described earlier. They struggle to inform the public and to provide information on hazards present and the actions individuals can take to prepare themselves.

Nonetheless, this work does get accomplished primarily through the personal initiative of the people that volunteer to sit on these committees. They work with other community volunteer groups to distribute information on critical topics such as first aid. In Colorado we also emphasize preparation of emergency kits with things such as first aid supplies, drinking water, flashlights and food.

Judging from some research the public does apparently want information and a roll in local response activities.[1] Recommending and trying to implement specific plans of action for members of the public is always difficult. Turning members of the public into first responders presents daunting practical problems such as finding money for equipment and providing training. Coordination and

[1] In a 2004 report by The Council For Excellence In Government, they found that the public is ready, willing and able, but uninformed regarding its role in emergency response. *We the People: Homeland Security from the Citizens' Perspective*, www.excelgov.org.