Lucien G. Canton, CEM
Emergency Management For The 21st Century

Emergency Management Solutions

Risk Management 101

Four Techniques for Keeping Your Programs Real

According to the Principles of Emergency Management, an effective emergency management program should be based on a realistic appraisal of the risks facing an organization. I use the word "should" deliberately because unfortunately this is not often the case.

In her 1993 paper, *Socio-economic Aspects of Hazard Mitigation*, Kathleen Tierney noted that objective risk, perceived risk, and hazard mitigation were at best loosely coupled. It has been my experience that the same holds true for pre-event planning. The simple fact is that many emergency managers have never been trained in basic risk management concepts.

Risk Management

Risk management is its own discipline and can be exceedingly complex. But the concepts and tools that we need as emergency managers are fairly simple: an understanding of the nature of risk, hazard identification, hazard analysis and impact analysis.

The reason we use risk management principles is simple. As emergency managers, we deal in objective risk – things that have a very real potential for causing harm to the organizations we serve. While we must also deal with perceptions of risk, we have an obligation to keep our programs firmly grounded in reality. This ensures that we are making the best possible use of the limited resources we have available.

In a recent *Foreign Affairs* article, *Hardly Existential: Thinking Rationally about Terrorism*, Professors John Mueller and Mark Stewart provide a case study in the use of risk management to demonstrate the irrational approach the United States has taken towards terrorism since 2001.

Mueller and Stewart make that case that there is a general agreement among developed countries that risks resulting in fatalities per year of 1 in 10,000 or 1 in 100,000 are deemed unacceptable while those risks producing annual fatalities of lower than 1 in 1 million or 2 in 1 million are considered acceptable.

Using these parameters, Mueller and Stewart suggest that since the risk of fatality from terrorism in the United States is 1 in 3,500,000, if the Department of Homeland Security truly wished to apply a risk-based approach as it claims, terrorism would be considered an acceptable risk.

Lucien Canton is a nationally recognized expert on strategic planning for crisis and disasters. A popular speaker and lecturer, he is the author of the best-selling *Emergency Management: Concepts and Strategies for Effective Programs* used as a textbook in many higher education courses.

Prior to starting his own company, Mr. Canton served as the Director of Emergency Services for the city and county of San Francisco and as an Emergency Management Programs Specialist and Chief of the Hazard Mitigation Branch for FEMA Region IX.

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By way of comparison, annual fatalities from home appliances are 1 in 1,500,000 and drowning in the bathtub is 1 in 950,000.

While the analysis done by Mueller and Stewart is informative, assessing risk is a bit more complicated for emergency managers than just looking at actuarial tables.

Defining Risk

Risk is usually defined as a function of the frequency of an event and its impact. Figure 1 is a common matrix used to show these relationships. Each has a special meaning for emergency managers:

- *Low frequency, low impact* – these are events that occur rarely but have little or no impact on the organization. We generally ignore these.
- *High frequency, low impact* – these are routine events that occur regularly but have little or no impact on the organization. We generally ignore these as well.
- *High frequency, high impact* – these events occur frequently and can have a significant impact on the organization. These are serious events but because they happen frequently, we have usually developed the capacity to deal with them.
- *Low frequency, high impact* – these events occur rarely but can have significant impact on the organization. These types of events represent our greatest potential for crisis.

Low frequency, high impact events are the type of risk where we emergency managers tend to invest the most effort. Since the frequency of occurrence is low, these are the risks that tend to be forgotten or ignored. In some cases, the occurrence of a particular event is so low that it is impossible to determine a predicted frequency. They also tend to be the events that no one really believes will happen.

		IMPACT	
		LOW	HIGH
FREQUENCY	HIGH	High Frequency Low Impact	High Frequency High Impact
	LOW	Low Frequency Low Impact	Low Frequency High Impact

Figure 1 Risk Management Matrix

Vulnerability

While the concept behind the risk management matrix is simple, things become more complex as we try to define the impact of a particular event. Mueller and Stewart use the single parameter of deaths in developing their assessment of terrorism response. Other measures of impact might include loss of housing, damage costs, idled production capacity, and injuries. Ultimately, the impact of a disaster is a function of the vulnerability of the organization to that disaster.

This concept of vulnerability is a key one for emergency managers. Understanding where our organization is most vulnerable is the starting point for preparedness and for mitigation. The problem is that we have no standard methodology for measuring vulnerability.

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Jörn Birkmann's book, *Measuring Vulnerability to Natural Hazards*, highlights the complexities in measuring vulnerability, both in terms of identifying key indicators and in collecting data. However, from the perspective of the emergency manager, we can generally work around this problem by taking a micro-view and focusing on critical functions.

Complicating the issue of vulnerability is the human factor and a concept known as risk tolerance. Risk tolerance is the organizations ability to accept or absorb risk. Part of this is influenced by real factors such as response capacity and infrastructure resilience. However, it can also be affected by denial. Many organizations just do not believe a disaster will affect them and are not moved by hazard analyses.

Keeping it Real

So how can emergency managers use risk management effectively. Here are some ideas:

1. *Do your homework.* Part of our job as emergency managers is to be knowledgeable about the risks facing our organization. This includes not only the obvious risks but potential risk as well. We may choose not to do anything about a potential risk but we should be aware that it exists.

2. *Don't over analyze.* You can spend a lot of time devising complex scenarios and digging up details about potential risks. This might be useful for exercises but no one will be influenced by your "what-if" arguments. Use your time more productively.

3. *Focus on impacts.* Does it really matter if a power outage is caused by a natural disaster, a terrorist attack, or a human error? Ultimately we have to deal with the impact of the outage. People can relate to power outages – it resonates better than some apocalyptic scenario. Impacts can be imagined –catastrophes cannot.

4. *Balance impacts and vulnerability.* Remember that the true measure of a disaster is not just its magnitude but the vulnerability of the organization affected.

Risk management is a core skill for emergency managers. It is the foundation on which we build effective programs.

Special Event

If you're a public sector emergency manager in the San Francisco Bay Area, you might want to consider attending the San Francisco Emergency Management Summit sponsored by *Emergency Management* magazine on April 29 at the Hyatt Regency. The speaker lineup looks good and admission is free and includes lunch and breakfast.

Upcoming Appearances

- May 17 – *Emergency Preparedness for the Developmentally Disabled Community* - Developmental Disabilities Nurses Association, Reno NV

See my website for more information on my seminars, workshops and keynote speaking services.

Keeping in Touch

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