Effective mass fatality management following a disaster will ensure the safety of the living through well-thought out public health measures. However, in a new era of increasing threats from terrorism, hazardous materials such as nuclear waste, high-speed travel, and emerging biological agents, we must look beyond our usual practices to anticipate measures needed to mitigate future events that may tax our existing resources.

The Medical Examiner’s traditional role is to determine the cause and manner of death, and to identify the decedent. In doing so, they may be the discoverers of a sentinel case and identify an agent before an outbreak can spread. In their role as arbiters of the final disposition of remains, they may be called upon to decontaminate bodies and therefore help contain an epidemic or mitigate the effects of a chemical or radiological release.

As the world becomes smaller through high-speed travel and the global market, any disaster has the potential to become a world-wide problem---SARS in Canada or Avian Flu in Cambodia can become pandemics within weeks, and without appropriate planning, they will.

How do we develop plans for all the disasters we face? Terrorism, tsunamis, chemical explosions, reactor meltdowns, forest fires, earthquakes, smallpox: all have the potential to cause mass fatalities. Rather than write fatality management plans for each situation, we have found common questions that must be addressed in each scenario and have developed a flexible plan adaptable to multiple situations.

The questions that will invariably arise, and therefore should be answered in advance, are these:
Who is in charge?
Who will do the work?
Where will they work?
What will we do?
How will we do it?
What do we need?

All these can be answered more readily if we look at the primary question: Why are we doing it?
For instance, if our goal is to contain an outbreak of Marburg virus, we will look to health officials for leadership and workers; they will work in an isolated and quarantined area; we will bio-seal the body bags and bury them in a restricted area; and we need
personal protective gear, bio-seal bags, and an area of land that can be secured to avoid contamination.

If our goal was to identify the fragmented remains of victims from a large explosion for return to their families, as in the WTC 911 attack, we will have a Victim Identification team in charge, with the work done by DNA scientists, computer programmers and database managers, dentists, and fingerprint specialists. They will work in offices and the morgue, to gather data for reconciliation and matching with antemortem reports. To do this, we will need computers, x-ray equipment, DNA sequencers, etc.

Thus, short and long-term logistics must always be addressed for each situation, but can be thought out in advance in most cases.

Above all, flexibility for changing situations is needed. In a massive explosion with fire, the Fire Department will be in charge until the immediate danger has been contained, the Building engineers may be in charge for safety, and then command may pass to the Police and/or Medical Examiners. A variety of work spaces should be pre-identified, including land for possible mass burial. Work stations can be modular, so as to accommodate changing work flow.

For situations involving hazardous materials such as nerve gas or radiological waste, the mass fatality team may have to decontaminate bodies. We have trained a substantial number of our personnel as Haz-Mat technicians, and all have been certified to deal with biological, chemical, and radiological agents.

Identification should always be done by the easiest and least expensive means---DNA is technically advanced, but is slow and costly. Immediate photographs of numbered victims can save months of time by simple visual identification. Dental and fingerprint comparisons are also inexpensive and fast.

A database will almost always be needed, and there are many systems available, such as PLASS, used by Interpol and DVI teams, and the VIP system used by United States DMort teams.

At the New York City Office of Chief Medical Examiner, we have created a Special Operations Team designed specifically to deal with mass fatality incidents. The first step was to designate a Disaster Planning Coordinator, whose responsibility was to gather information, coordinate agency departments, find training for the team, and develop plans.

Utilizing free resources from the government, military, and private sector, we gathered information and learned what was necessary to form an effective team. We took advantage of any and all training available through the local and federal governments,
and were often provided with training equipment from private vendors eager to have us test their products. A key to the success of the team was to have them work together in mock drills and exercises designed to test their reactions and abilities to perform tasks under difficult circumstances, such as gathering evidence from decedents while dressed in Level A suits.

Next, we developed a matrix for the planning process that must take place in the first 8 hours of any incident: the notification and assembly of the team, initial evaluation of the situation, establishment of immediate goals, development of a response strategy that will reach those goals, and the plan for execution of that strategy. Logistics and personnel will be determined based on these decisions.

And finally, above all, we keep all personnel informed and aware of our disaster plans: if everyone knows their part and role in the team, our chances for a good outcome are that much greater.