Is Your Assisted Living Community Prepared for Bioterrorism Events?

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Following the events of September 11, 2001, and subsequent terrorist threats and attacks across the country, there was a call to mobilize and train the nation's health workforce about bioterrorism (BT) preparedness. In December 2003, Trust for America's Health, a non-partisan organization, published its first study of the nation's response to BT. Called *Ready or Not? Protecting the Public's Health in the Age of Bioterrorism*, the document reported that states had taken some measures to protect citizens; but overall these preparations were only modest improvements in responses to health threats compared to pre-9/11 measures. A 2004 edition of this report found that many states are still struggling to meet basic BT preparedness requirements and are facing continued inadequacies in personnel, equipment, and technological resources to manage competing health priorities with limited resources.[1]

If there were any doubts that general preparedness efforts are sub-par, these were erased in the aftermath of more recent national disasters. In 2005, Hurricanes Katrina, Rita, and Wilma demonstrated the inadequate capacity of the public health infrastructure to deal with health emergency situations at the local level, particularly for vulnerable populations such as the elderly. The long term care (LTC) industry has been especially deficient in adequately preparing their more than 1.8 million health care providers, managers, and staff to deal with BT events.

Although assisted living is the most rapidly growing segment of the LTC industry, this sector has been all but overlooked in relation to BT preparedness. AL communities often are not really considered part of the health care system; and they typically are not included in coordinated education programs

and drills held on an ongoing basis for those organizations within or known to the health care sector.

These realities do not diminish the urgency of the need for ALFs to be prepared for disasters such as BT. AL leaders in facilities nationwide need to ask themselves: Are we ready to expand beyond our normal operations to meet the demand for trained personnel, medical care, and emergency services to our residents in the event of a BT or other large-scale public health disaster?

Table 1.
Recognizing BT-Related Illness in LTC Communities

The following observations may suggest a BT event:

- Unusual increase in the number of residents within a short time period experiencing respiratory, dermatological, neurological, or gastrointestinal symptoms
- A clustering of symptoms in particular groups of residents (eg, group of residents living on a particular floor or unit; group of residents who attended a particular event)
- Simultaneous outbreak in humans and animals (and in plants for chemical exposure)
- A suspected or confirmed communicable disease that is not endemic to a particular geographic location (for biological exposure)

BT Preparedness—The Critical Issues

A recent national survey of nearly 200 senior living organizations by Mather LifeWays Institute on Aging found that 91% of administrators do not feel their workforce is well-prepared for a BT emergency. More than 80% of responding organizations indicated there is a lack of coordination within the emergency and social services networks in their region to provide rapid and comprehensive resources to senior living communities in times of disasters. Of greater concern is the fact that little emphasis in BT training focuses on age-appropriate care for elderly populations or on special needs of particular elder subpopulations exposed to biological, chemical, or nuclear agents.

In considering BT preparedness, AL communities need to focus on several key areas including:

- Special needs of elders exposed to biological, chemical, or other agents
- Leadership during a BT emergency
- Community linkages and backup strategies
- Components of an effective disaster plan
- Maintaining core competencies of staff via ongoing disaster drills and exercises
- Involving AL residents and families in disaster planning

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BT Exposure and Older Populations

Elderly individuals may have different physical, mental, social, and emotional responses and needs in the event of a BT attack than younger people. In fact, there is growing evidence that the elderly may be more susceptible and respond differently to biological or chemical agents commonly used in terrorist attacks, possibly due to their aging immune systems.[2] Normal aging may even mask signs and symptoms of exposure to some agents such that signs may be ignored because of the perceived unlikelihood of infection. This is illustrated in the well known case of the 94-year older rural Connecticut woman who lived in relative isolation yet died of inhalational anthrax, the source of which still remains uncertain.[3] Table 1 illustrates some key observations that may suggest BT exposure in an LTC setting.

Understanding that normal changes due to aging may seriously impact how elders may respond in a disaster or emergency situation is an important consideration. The Administration on Aging's Emergency Preparedness Manual for the Aging Network provides valuable information about key characteristics of elders that should be of special concern in the event of a BT attack that are applicable to AL communities (Table 2).[4]

Elders' responses to current prophylaxis (ie, drugs and vaccines) to treat certain biological agents commonly linked to terrorist attacks also make treatment challenging for health care providers. Many treatments have side effects including dizziness and nausea, making prolonged use in elders very difficult. Treatment dosages also may pose problems for older adults. For example, some vaccines have been approved by the FDA for use in persons ages 18 to 65 years, but not for older populations. Additionally, many older persons take multiple medications, some of which may interact with recommended treatments.

Mobility and functional limitations will pose one of the greatest

Table 2.
BT Disaster Preparedness Plan Components

- Sensory changes
- Delayed response time
- Mobility impairment
- Chronic health problems
- Medication use
- Dietary and nutritional issues
- Fear of loss of independence
- Vulnerability to treatments for BT agents
- Memory changes and losses
- Vulnerability to hyper- or hypothermia
- Transportation
- Communication difficulties
- Multiple loss effects
- Culture or language challenges
- Fear of victimization
- Comorbid medical conditions

challenges for elders receiving any level of LTC services during a BT or public health emergency. Sixty-three percent of elders living in AL or other senior living communities have one or more limitation in activities of daily living (ADLs). ALF administrators need to consider these limitations and identify a plan to deal with evacuation or transportation issues accordingly.[5]

Leadership: Foundation of Emergency Preparation

Effective leadership in AL communities considers needs of the residents first[6] and involves them—as well as staff and families—in BT emergency preparedness planning and education that clarifies roles and expectations. Some leaders may worry that discussing such scenarios will instill undue fears among residents and staff. However, the alternative to such conversations is an ALF where people are unprepared and much less likely to stay safe and secure in the event of a disaster.

The best approach to preparedness planning is one that establishes these efforts as positive and empowering activities designed to keep residents and staff safe and protected. ALF administrators should oversee and support preparedness activities; this may include empowering other managers or staff to function in leadership roles during times of emergencies.[7]

An effective BT disaster plan needs to provide adequate education of staff to recognize and initiate a response to a potential outbreak within the AL community.

Frontline staff knows their residents, and they have great potential to lead team efforts and manage situations successfully.

Connecting with the Community

It is one thing to have a written disaster manual that specifies a coordinated plan of action for your AL community; but in the event of a BT event, staff and essential services also may be interrupted or stopped. In the days following 9/11, community and emergency services in New York City failed to reach many isolated elders for days due to a lack of a coordinated city-wide plan that ensured all residents and their needs were known to the city before the disaster occurred.

In many locations, the fire department is the vital connection in emergency situations. But in a significant BT event, fire departments and other first responders will be called on to provide emergency support to many locales through a triage system. Therefore, AL communities need to reach out to their neighboring health agencies, volunteer groups, businesses, churches, other senior living communities, and local emergency preparedness agencies and involve them in BT disaster planning.

AL communities also need to consider backup plans and "backups" to those plans. Several organizations may have pre-arranged commitments to a single transportation company for buses needed for evacuation purposes. Therefore, disaster plans need to be flexible about alternatives due to sometimes rapidly changing circumstances and areas of need.

Effective BT Disaster Plans

Specific to BT events, an effective disaster plan needs to provide adequate education of staff to recognize and initiate a response to a potential outbreak within the AL community. The communication network needs to include contact with emergency medical services (EMS) and local or state health departments, as well as police and fire departments. EMS and local/state health departments are valuable resources to AL communities to provide infection control recommendations for potential BT attacks. Table 3 includes key components of a disaster plan specific to BT events.

Know the Drill

Conducting BT and other disaster drills and exercises helps ensure that staff and managers maintain and update core competencies in key areas of disaster preparedness, assessment and surveillance, response, and recovery. As a component of

Table 3.
BT Disaster Preparedness Plan Components

Reporting and Contact Information	• Phone numbers of local/state health departments, CDC BT emergency response office; local health agency infection control office or epidemiologist
Isolation Procedures (Note: BT agents are generally not person-to-person transfer, thus standard health care precautions to prevent direct contact with body fluids are implemented)	• Standard precautions include: handwashing, gloves, masks or face shields, and gowns • May need to group residents presenting with similar symptoms if considered essential for resident care • Routine disinfection of environmental surfaces with germicidal agents • Discarding of contaminated waste in accordance with local, state guidelines
Decontamination Procedures	• Exposure to skin and eyes • Prophylaxis/immunization • Maintaining up-to-date immunization records of staff and residents
Psychological Aspects of BT Exposure	• Mental health support personnel for staff and residents

Additional Resources for AL Communities Regarding Bioterrorism

PREPARE is a national training program for LTC health providers to address the consequences of bioterrorism, natural disasters, and other public health emergency preparedness challenges offered by Mather LifeWays with federal support from the Health Resources and Services Administration. Participants gain knowledge, skills, and abilities in bioterrorism/emergency preparedness surveillance, response, and recovery through a variety of learning activities and tools via classroom experiences, exercises, and web courses. Please contact Cate O'Brien, PREPARE Project Manager, at 847-492-6803 or e-mail prepare@matherlifeways.com.

Centers for Disease Control and Prevention provides valuable educational resources for health care providers including webcasts, downloadable brochures, and slide presentations on a variety of BT topics. Visit the Web site at www.bt.cdc.gov.

U.S. Department of Homeland Security provides helpful information and guides for families to better prepare for emergency events. Information would also is appropriate for residents. Visit the Web site at www.ready.gov.

continuing quality improvement processes, BT drills and exercises provide ongoing mechanisms to evaluate the overall preparation of AL communities. Most ALFs will not have opportunities to participate in full-scale disaster exercises, so other types of emergency response exercises and simulations are being developed. Tabletop exercises, simulations, and games can be used to recreate emergency scenarios.

Tabletop exercises usually are conducted by administrators, managers, and health professionals and involve case studies and role-playing of various disaster situations to "walk through" the key areas of disaster preparedness. They are valuable to identify opportunities to improve disaster plans/responses and develop simulations involving various levels of staff and residents. Simulations are "small-scale" exercises that may involve a portion of a community or the entire community. These may involve, for example, a reenactment of a chemical spill or sudden outbreak of a respiratory illness among residents. Finally, games are effective and creative ways to involve staff, managers, and residents in reiterating important components of disaster plans.

BT Planning: A Family Affair

There is growing evidence that psychological stress during and in the aftermath of a manmade or natural disaster may have mixed effects on the elderly. How an individual has coped in the past with a traumatic event, the number of traumatic events in one's life, physical and mental health status, resilience, and perceived support systems are just some of the factors that influence how that person will deal with a disaster. For some elders, new stresses may trigger memories of past traumatic experiences and unresolved conflicts and manifest as anxiety, grief, depression, fear, uncontrollable emotions, and sleep disturbances.[8] For others, terrorist events bring back memories of

Pearl Harbor and spur feelings of patriotism, which strengthen their resilience and coping skills.[9]

By involving residents and families in BT disaster planning, facilities can identify residents who are more likely to be upset or traumatized by a bioterrorism attack or threat. As a result, they can make sure that these individuals receive the extra support and attention they likely will require.

Being Prepared: Not Just for Boy Scouts

Understanding age-appropriate care for elders and preparing the LTC workforce to deal effectively with BT threats or attacks in their communities represents an immediate need as the aging population grows. Assessing potential threats and planning ahead will minimize the potential negative consequences of such disasters.

In this uncertain age, BT preparedness is a necessary and ongoing process that involves all levels of staff, managers, residents, and families within the AL community. Facility leaders hope that they will never need the plans they put so much time into producing. However, BT disaster planning can offer ALFs a surprising benefit. It provides ongoing opportunities to build relationships with neighboring agencies, businesses, government and civic organizations, and volunteer groups. This reminds everyone that the ALF is an involved and concerned part of the community at large; and it unites people in the facility with other local organizations and individuals. ALC

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