

### Caring for the Vulnerable Geriatric Individual in a Disaster

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**Introduction:** The elderly have the highest rates of morbidity/mortality in a disaster and are therefore the most vulnerable. 50% of deaths in Hurricane Katrina were  $\geq 75$  years old. In the California wildfires, most deaths were people in their 70s and 80s living in areas with unreliable communication services (without cell phone service, etc.), and were uninformed of the disaster or unable and/or unwilling to evacuate. Issues include social isolation and limited technology skills (may not receive messages).

**Methods:** A review of the literature and after action reports from multiple disasters.

**Results:** Augmented services are needed for persons with decreased mobility (impaired access to transportation and shelters); impaired senses; dependence on devices/technology, comorbidities requiring medications/equipment/oxygen, special feedings, sanitary/hygiene needs increased susceptibility to environmental extremes (heat, cold), inability to do ADLs (need for caregivers), increased susceptibility and increased morbidity/mortality with infections, illnesses, trauma; exacerbation of underlying conditions/illnesses when in crowded transportation vehicles and shelters. Additional stress may precipitate or exacerbate coping skills especially in those with dementia, delirium, or mental health illnesses.

**Discussion:** Recommendations include the following:

1. Communications: messages in various forms: closed captioning, TTY deaf phones, use of family, friends, neighbors, officials for notification in addition to mass communication notices, house-to-house notification.
2. Medical: Medical/Special Needs Shelters to provide medical care (dialysis, etc.), cache of common medications (diabetic and BP medications) and devices (BP monitoring, glucometers), oxygen, wound care supplies, potable and non-potable water, special diets/formulas, feeding tubes, catheter care, diapers and other hygiene supplies.
3. Independence: Health care professionals to assist with medical and psychiatric needs. Caregivers to assist with ADLs.
4. Supervision: Those with dementia, delirium, mental health conditions may need supervision.
5. Transportation: Need for ambulances, wheelchair vans, specially equipped buses/vans in addition to "usual" school buses/vans with access to water, food, and sanitation if traveling long distances.

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### Challenges in Dealing with Supervised and Institutionalized Populations in a Disaster

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**Introduction:** Those residing in supervised facilities including nursing homes, mental health facilities, group homes, and penal

institutions for health, legal, or security reasons present unique challenges in a disaster.

**Methods:** A review of the literature and after action reports on supervised and institutionalized populations in disasters.

**Results:** Recommendations for supervised, institutionalized populations in a disaster include: (1.) preplanned agreements for specialized transportation if needed; (2.) reciprocal agreements between similar facilities (nursing home with another nursing home, prison with other prison, dialysis centers, etc.) for resource sharing; (3.) arrangements for sharing and emergency privileging of personnel in institutions that are not their primary workplace; (4.) just-in-time training for appropriate volunteers; and (5.) accommodations for family members if personnel are to be available during a disaster.

Individuals in some institutions need a personalized disaster plan with pertinent data: next of kin with contact information, medical records, care providers and care plan to accompany a mobilized individual. Long-term care and housing may be needed if the institution is nonfunctional. Dealing with medical and behavioral issues is secondary to the disaster. Chronic issues must be considered as well.

**Discussion:** Caring for specialized, institutional individuals is complex and difficult. Comprehensive pre-disaster planning can mitigate the effects of the disaster.

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### Chemical and Radiation Training for Public Health and Nursing Students: An Under-Utilized Disaster Response Demographic

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**Introduction:** Public health (PH) and nursing students are an underutilized demographic in disaster response. Knowledge of the disaster response phase may enhance student understanding of preparedness, and provide response capabilities.

**Aim:** A single four-hour simulation-based training session, with toxicologists as instructors, can effectively improve PH and nursing student knowledge and skills in chemical and radiation response, despite minimal prior experience.

**Methods:** A convenience sample was used to test PH and nursing students in a response training program. An introductory lecture and simulation training reviewed: mass casualty care, triage, personal protective equipment, decontamination, and chemical and radiation exposure toxidromes. An examination was administered pre-training, and then post-training, to evaluate relevant training, knowledge, risk perception, and comfort in response capabilities to chemical and radiation incidents.

**Results:** Forty-two students attended the course; 39 were included in the study. Seventy-two percent (n=28) of participants had no prior disaster training. Overall, there were significant differences between the pre-test and post-test scores for all students [95% CI: 5.4 (4.7-6.1);  $p < 0.0001$ , paired t-test]; maximum score 15/15. Comparing scores of nursing and PH