Rapid Needs Assessments for Older Adults in Disasters

By Jason Burnett, Carmel B. Dyer, and Sabrina Pickins

It has been reported that on average, a disaster takes place somewhere in the world every day (Norris, 2005). Floods, tornadoes, hurricanes, earthquakes, and terrorist attacks cause extensive damage and simultaneously affect and even consume many lives (Norris, 2005). While no one is safeguarded against these ill effects, the most vulnerable, especially frail older people, face the greatest challenges during and after disaster events.

Medical, social, ADL evaluations among the cots in the Astrodome.

Most studies concerning disasters and older people have focused primarily on the psychological and social impact of these events on older adults (Ford et al., 2006; Anetzberger, 2002; Clinton et al., 1995; Ehrenreich and McQuaide, 2001). Some studies, however, report the unfortunate finding that the older population has the highest casualty rate during disaster events when compared to all other age groups (Dyer et al., 2006; Freidsam, 1960; Browning et al., 2005; Tanida, 1996). A study conducted by Fernandez and colleagues (2002) posits an explanation for the psychological and social effects and higher mortality rate experienced by older people during times of disaster: This study determined that impaired physical mobility, diminished sensory awareness, preexisting health conditions, and social and economic restraints increased the vulnerability of frail older people during disasters. A number of studies resulting from recognition of the imperative posed by the increasing numbers of very old people offer suggestions for special strategic planning and setting of priorities in order to minimize the harmful effects of disasters on vulnerable adults (Gibson and Hayunga, 2006; Fernandez et al., 2002).

Pre-disaster and post-disaster planning are both vitally important for ensuring the safety of vulnerable and frail elders. Knowing the needs of those most at risk for harm and death allows for the proper planning and execution of potentially harm-mitigating and lifesaving actions. For some older adults, even a slight interruption in medical care services can be detrimental and sometimes lethal. For example, Magnum, Kosberg, and McDonald (1989) report the complexity of trying to ensure the safety of older vulnerable nursing home residents in an unplanned response to Hurricane Elena in 1985.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Evacuating an already assembled group with known health profiles and impairments still proved to be problematic. The authors report grave issues with lack of continuance of proper medical care during and after evacuation, as impaired elders were separated from care providers and medications, as well as difficulty with transportation and other problems.

Dyer and colleagues (2006) report similar experiences with disaster relief efforts and elders in response to the evacuation of New Orleans following Hurricane Katrina. These authors report that in the shelter setting, it was difficult to determine who needed immediate medical care, and of what type, and it was hard to locate elders who needed assistance in gaining access to care. It was also difficult to protect elders in a shelter from possible exploitation.

Because these are issues that affect the well-being of elders and will inevitably be faced during any major disaster, mechanisms for preventing and responding to such problems as described above are essential. One way to reduce potential harmful outcomes experienced by older people during disasters is to implement a rapid needs assessment that can be used to facilitate relief efforts.

Why a Specific Assessment Tool?

Indeed, development of a rapid and accurate assessment tool specifically designed to identify the needs of older adults in disaster situations is paramount. The physical and social needs of vulnerable elders who are evacuated to disaster shelters vary greatly. Some elderly residents are fully independent, without chronic disease, cognitive impairment, or any limitations in their ability to perform their activities of daily living. Others have chronic disease with mild to severe limitations in their ability to perform activities of daily living and thus are not likely to fare well without assistance.

For example, during the relief efforts provided in Houston, Texas, for victims of Hurricane Katrina, the majority of patients seen by the on-site medical unit at the Reliant Astrodome Complex were frail elders who could not scale the stairs, get to showers, read the signs or hear announcements providing vital information, use the toilet by themselves, or properly administer their own medications. Many of the elders had no friends or family and were too debilitated to advocate for themselves and thus suffered in silence, unnoticed on their cots (Dyer et al., 2006). Some were disoriented, did not know where they were, and required immediate hospitalization.

Despite the availability of medical care and medications on site at the Astrodome, there were no means to ensure that frail elders were able to gain access to these services. Similarly, there was no uniform approach to providing social services to the elderly and, therefore, no protocol for addressing those with the most urgent need.

The challenge for those planning and providing disaster relief efforts is to be able to triage those who need immediate extra assistance in an efficient and timely manner so as to minimize harm. A brief review of the disaster literature reveals that while elders are most commonly in need of extra and specialized assistance, shelters are usually not staffed with people trained in geriatric medicine or a gerontological specialization (Dyer et al., 2006). Many facilities lack formal systems to provide assistance with activities of daily living, and some elders may have medical needs that exceed the scope of services provided by the facility. In some cases, elders arrive with life-threatening conditions, are demented or delirious, or, for these and other reasons, require total care. If not detected and treated in time, these vulnerable elders and others may suffer avoidable harms and casualties. It is in order to meet the needs of this special population that a new approach to providing medical and social services in response to disasters is necessary.

Tool Development

In response to the arrival at the Houston Astrodome of more than 20,000 Hurricane Katrina victims, many of whom were frail elders who were disheveled, distraught, suffering from poor health conditions, and incapable of accessing medical and social services, a group of volunteers assembled to determine the best provision of care. Many of the volunteers and other workers at the Astrodome were gerontological professionals from the Houston area.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

They included nurses, social workers, geriatricians from the geriatric program at the Harris County Hospital District, and protective service employees from the Texas Department of Family and Protective Services.

Some of these specialists in aging formed a team called Seniors Without Family Triage (SWIFT) to help elders who had no family members or others available to advocate for them or otherwise help them gain access to needed medical and social services. The team concluded that a rapid screening tool was needed to determine who needed help, how urgently, and what the best course of action would be in each case to ensure the safety and health of each individual elder.

The SWIFT members devised a rapid assessment tool to screen for vulnerable elders with urgent needs in the following realms: cognitive, medical, social service, and activities of daily living. The SWIFT screening tool (see Figure 1) consists of thirteen questions, divided into three categories (medical/mental health, financial, and social), assessing individual areas of needed assistance. The categories were structured using a tiered and ordinal system to provide indications as to the level of urgency and type of care needed. Elders who required urgent medical or mental health care were classified as level 1 respondents, and those who needed assistance with financial matters (Social Security, subsidized housing, and the like) and locating relatives were classified as level 2 and level 3 respondents, respectively.

The rapid assessment could be administered in less than ten minutes by teams of two—a social worker and a medical professional, who could quickly address any urgent medical or social needs. The field team medical and social work personnel did what they could on the spot, and any case that could not be handled immediately was triaged to the appropriate section. The assessments were completed by walking throughout the cots on the Astrodome floor looking for vulnerable elders who were alone; it was assumed that those who had family members present already had advocates. Also, SWIFT members wanted to avoid separating families, as had happened during the flood evacuation process from New Orleans.

After the first day of assessments, SWIFT members reconvened to discuss what had worked effectively and what alterations needed to be made to the SWIFT assessment tool. The tool was then modified, and the SWIFT triage system was established. The SWIFT team at the Astrodome used the tool for two more weeks until the clinic closed and the evacuees had been relocated to more permanent housing.

PRELIMINARY INFORMATION

In the two weeks that the Astrodome medical clinic was open, physicians and other healthcare professionals assessed over 10,000 evacuees, 56 percent of whom were 65 years of age or older. More than 300 SWIFT assessments were completed, providing strong preliminary information about the need for a rapid assessment tool.

The average age of people assessed by the SWIFT team was 66.1 years. Some 68 percent of those elders were in need of urgent medical or mental health assistance. Eighteen percent were in need of financial assistance, 4 percent responded as needing only to be reunited with family or friends, and 5 percent required no assistance. Hypertension was the predominant diagnosis, with 54 percent of them having the condition. Twenty-seven percent reported having diabetes, 22 percent reported heart disease, and 10 percent reported having memory problems.

LESSONS LEARNED

The Astrodome experience showed that in order to meet the basic needs of special populations, shelters for evacuees of disasters must be able to provide a broad range of psychosocial and medical services to a large variety of individuals with a wide array of symptoms and impairments. The SWIFT tool enabled the team of professionals at the Astrodome to help transfer vulnerable elders from a cot on the floor of a stadium to appropriate long-term-care and other facilities. The SWIFT tool created a universal language for determining the level of vulnerability and proper placement of vulnerable elders to meet their special needs. A tool of such capability to rapidly screen vulnerable elders for levels of psychological, medical, financial, and social needs is widely needed to reduce

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Figure 1

SWIFT SCREENING TOOL

Current date:		**Worker's name:**	
Name:		**DOB:**	
DO YOU HAVE FAMILY OR FRIENDS WITH YOU HERE? ☐Y ☐N **Confirmed?** ☐Y ☐N			
Level 1: Health/Mental Health Priority **GOES TO SOCIAL WORK BOOTH IN MEDICAL CLINIC**	**A. Do you have any of the following medical problems:** ☐Y ☐N **Diabetes** ☐Y ☐N **Heart disease** ☐Y ☐N **High blood pressure** ☐Y ☐N **Memory** ☐**Other** **Note:** **B. Do you take medicine?** ☐Y ☐N Do you have your medicine? ☐Y or ☐N **If "No," treat as Level 1**		C. Do you need someone to help you with: ☐Y ☐N **Walking** ☐Y ☐N **Eating** ☐Y ☐N **Bathing** ☐Y ☐N **Dressing** ☐Y ☐N **Toileting** ☐Y ☐N **Medication administration** **Any checks, treat as Level 1** Do you use something to help you get around: ☐**Cane** ☐**Walker** ☐**Wheel chair** ☐**Bath Bench**
D. Where are you right now? **If senior cannot or does not answer correctly treat as Level 1**	**E. Name 3 ordinary items and have them repeat them; for example, "apple, table, penny."**	**F. What year is it?** **If senior cannot/does not answer correctly treat as Level 1**	**G. Ask them to repeat the three items you previously mentioned.** **If more than one item is missed, treat as Level 1.**
Level 2: Case Management Needs **IS REFERRED TO A CASE MANAGER**	**A. Ask them what their major need is right now.**	**B. Do you have a plan for where you will go when you leave here?** ☐Yes ☐No	*C. Income/Entitlements* Are you on: ☐Y ☐N **Medicare** ☐Y ☐N **Medicaid** ☐Y ☐N **SSI** ☐Y ☐N **Social Security** ☐Y ☐N **Food Stamps** ☐Y ☐N **VA Benefits** ☐Y ☐N **Section 8 housing funds** **Do you have your documents?** ☐Yes ☐No
Level 3: Only needs to be linked to family or friends **DIRECTED TO RED CROSS VOLUNTEER**	***A. Family*** **Do you need help to find your family/friends?** ☐***Yes*** ☐***No***	**B. Names:** **Relationship:** **Location:**	***WHERE IS THE SENIOR LOCATED?***

Developed by Seniors Without Families Triage

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

the harmful effects that these individuals experience during disaster times. A properly designed tool such as the one employed by SWIFT could be used in both pre- and post-disaster relief efforts.

A study by Ford and colleagues (2006) reported that in the adult population (over 18 years of age) evacuated from New Orleans during Hurricane Katrina, 79 percent had diabetes, and 24 percent reported hypertension (with 81 percent of those reporting the use of antihypertensive medications). Some 5 percent reported angina, 3 percent reported previous myocardial infarction episodes, and 2 percent reported a previous history of a stroke (with numbers most likely higher in the elderly population alone).

Yet, the devastation of the infrastructure of New Orleans made it all but impossible for these individuals to obtain medications for their chronic conditions. In the next disaster, if such conditions are not rapidly assessed upon entry into the shelters and the proper care is not put into place, these individuals and their ailments may go unrecognized for long periods of time, leading to functional decline, worsening of chronic conditions, and even death.

The SWIFT tool was efficiently employed on site at the Astrodome, providing an effective and systematic way to detect and triage elderly disaster victims, and it was adopted for use in shelters across Texas. The nationwide adoption of a rapid assessment of needs of this sort would help to alleviate some of the problems in providing proper and effective treatment to older disaster victims by providing a template for care.

These assessments could be used as intake forms that are completed when an older person arrives at a shelter, serving as the basis for immediate triage and placement of individuals based on the level and type of care needed. Because we know that the trauma resulting from disasters increases the vulnerability of frail older people, immediate provision of appropriate care must be a priority to avoid exacerbation of existing problems.

In addition, these assessment intake forms could help with identifying and treating the unique health problems associated with the elderly. While volunteer physicians and other professionals are helpful in performing triage, the subtleties of the medical diagnoses for older people might elude those not trained in geriatric medicine. The rapid assessment would provide these physicians and other professionals with directed processes and objective measurement that address the type of care or assistance needed.

The addition of a rapid assessment tool could also enhance the efficiency of shelters by providing a common language that could be used between sites and from state to state. The SWIFT tool could serve that purpose in the same way as other tools like the Mini Mental Status assessment, which are designed specifically for use with older people. Administering the rapid assessment and entering the data into databases could provide numerical information from which estimations could be made regarding the amount and type of medical and social services needed. This endeavor would also help provide information for the development of surge hospitals, which are local hospitals that are prepared to expand their existing facilities to handle an increase in patients upon short notice (Romano, 2005).

Although the current SWIFT tool has only been utilized in the aftermath of a disaster, it could also be used to prepare for future disasters. A rapid needs assessment would be useful in disaster preparations to help with coordination of evacuation and shelter intake planning. The assessment would establish a universal language not only for post-disaster triage, but also could indicate individual levels of disability and needs. It could also provide general guidelines, specific to the level of assistance indicated by the assessment, for the preparatory steps to be taken by family, social services, transportation departments, volunteer organizations, and many other entities. For instance, individuals classified as having impairments in activities of daily living could be evacuated early in the event of a disaster. The SWIFT tool could inform relief organizations and others about the types and numbers of necessities (walkers, eyeglasses, medications) most likely to be needed. The SWIFT tool used in pre-disaster periods could also enhance planning of evacuation procedures. For example, if a simple assessment had been administered to the city's elderly before Katrina struck, planning officials would have known that 65 percent of this population would not be able to

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

transport themselves during an evacuation, and could have made evacuation plans that would have reduced the number of lives lost (Center on Budget and Policy Priorities, 2005).

A rapid and accurate needs assessment could provide specific regionwide information used to educate individuals as to what they need to do in response to a disaster. With minor modifications, the SWIFT tool could be adopted for predisaster screening. Individuals, family members, home health nurses, or one's physician or clinician could easily use the tool to designate the priority level of the frail and vulnerable adult. This would provide the elders and those closest to the elder with information as to the necessary plans of action.

Jason Burnett, M.S., is a research associate, Carmel B. Dyer, M.D., is director, Division of Geriatric Medicine, and Sabrina Pickens, M.S.N., is research coordinator, all in the Department of Internal Medicine, Geriatrics, University of Texas Health Science Center, Houston.

References

Anetzberger, G. L. 2002. "Community Resources to Promote Successful Aging." *Clinics in Geriatric Medicine* 18: 611–25.

Browning, C. R., et al. 2005. *Neighborhood Social Processes, Physical Conditions, and Disaster-Related Mortality: The Case of the 1995 Chicago Heat Wave. http://health2.bsd.uchicago.edu/members/CagneyKat/BrowningWallceFeinbergCagney_ASR_Aug%2006.PDF.* Accessed July 30, 2007.

Center on Budget and Policy Priorities. 2005. *Essential Facts About the Victims of Hurricane Katrina, September 19, 2005. www.cbp.org/9-19-05pov.htm.* Accessed January 23, 2006.

Dyer, C. B., et al. 2006. "Recommendations for Best Practices in the Management of Elderly Disaster Victims." A Report by Baylor College of Medicine and the American Medical Association. Available at *http://www.bcm.edu/pdf/bestpractices.pdf.*

Ehrenreich, J. H, and McQuaide, S. 2001. *Coping with Disasters: A Guidebook for Psychological Intervention.* Available at *http://222.mhwwb.org.*

Fernandez, L. S., et al. 2002. "Frail Elderly as Disaster Victims: Emergency Management Strategies." *Prehospital and Disaster Medicine* 17(2): 67–74.

Ford, E. S., et al. 2006. "Chronic Disease in Health Emergencies: In the Eye of the Hurricane." *Preventing Chronic Disease April*, [serial online].

Friedsam, H. J. 1960. "Older Persons as Disaster Casualties." *Journal of Health and Human Behavior* 1(4): 269–73.

Gibson, M. J., and Hayunga, M. 2006. *We Can Do Better: Lessons Learned for Protecting Older Persons in Disasters.* Washington, D.C.: AARP Public Policy Institute. [A short summary is also available at *www.aarp.org.*]

Magnum, W., Kosberg, J. I., and McDonald, P. 1989. "Hurricane Elena and Pinellas County Florida: Some Lessons Learned from the Largest Evacuation of Nursing Home Patients in History." *The Gerontologist* 29(3): 388–92.

Norris, F. H. 2005. *Range, Magnitude, and Duration of the Effects of Disasters on Mental Health: Review Update 2005.* Available at *www.redmh.org/research/general/REDMH_effects.pdf.*

Romano, M. 2005. "At Capacity and Beyond: Ideas Such as 'Surge' Hospitals Are Getting a More Careful Look as Healthcare Wrestles with Planning for Large-Scale Disasters." *Modern Healthcare* 35(39): 6.

Tanida, N. 1996. "What Happened to Elderly People in the Great Hanshin Earthquake?" *British Medical Journal* 313(November 2): 1133–5.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.