

Disaster Medicine and Public Health Preparedness

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2 Delivering Flexible Education and Training to Health
3 Professionals: Caring for Older Adults in Disasters

4 Brian A. Altman, PhD; Kelly H. Gulley, MPH; Carlo Rossi, MDCM, MTM&H, CCPF;
5 Kandra Strauss-Riggs, MPH; Kenneth Schor, DO, MPH, FAAFP

7 ABSTRACT

8 The National Center for Disaster Medicine and Public Health (NCDMPH), in collaboration with over 20
9 subject matter experts, created a competency-based curriculum titled *Caring for Older Adults in Disasters:
10 A Curriculum for Health Professionals*. Educators and trainers of health professionals are the target
11 audience for this curriculum. The curriculum was designed to provide breadth of content yet flexibility for
12 trainers to tailor lessons, or select particular lessons, for the needs of their learners and organizations. The
13 curriculum covers conditions present in the older adult population that may affect their disaster
14 preparedness, response, and recovery; issues related to specific types of disasters; considerations for the
15 care of older adults throughout the disaster cycle; topics related to specific settings in which older adults
16 receive care; and ethical and legal considerations. An excerpt of the final capstone lesson is included.
17 These capstone activities can be used in conjunction with the curriculum or as part of stand-alone
18 preparedness training. This article describes the development process, elements of each lesson, the
19 content covered, and options for use of the curriculum in education and training for health professionals.
20 The curriculum is freely available online at the NCDMPH website at <http://ncdmph.usuhs.edu> (*Disaster Med
21 Public Health Preparedness*. 2016;0:1-5).

22 **Key Words:** disasters, older adults, education, training, health professionals, curriculum

24 **T**he National Center for Disaster Medicine and
25 Public Health (NCDMPH) in collaboration
26 with over 20 subject matter experts, created a
27 competency-based curriculum titled *Caring for Older
28 Adults in Disasters: A Curriculum for Health Professionals*.
29 The target audience for this curriculum is educators
30 and trainers working with health professionals who
31 may care for older adults before, during, and after a
32 disaster. The curriculum is freely available on the
33 website of the NCDMPH at <http://ncdmph.usuhs.edu>.

34 The curriculum is designed to be used by educators and
35 trainers in a wide range of settings such as classroom-
36 based instruction, continuing professional education,
37 preparedness training within organizations, and other
38 flexible teaching settings. The curriculum is divided
39 into modules and lessons that allow trainers to select
40 topics of particular relevance to their learners and
41 organizational context. The lessons contain outlines of
42 material to be taught, allowing trainers flexibility in
43 their teaching style and setting.

44 Figure 1 illustrates the focus of the curriculum on the
45 intersection of disaster health and caring for older adults.
46 Learners are assumed to be competent health profes-
47 sionals in their own role and scope of practice and to
48 have general awareness of the care of patients in disasters.
49 For those trainers or learners who need more information

about general disaster health topics, please visit the
NCDMPH website for additional resources. This curri-
culum highlights particular issues and considerations for
caring for older adults before, during, and after disasters.

54 **BACKGROUND AND PROCESS**

55 People 65 years of age and older represent approximately
56 14.1% of the population in the United States as of
57 2013.¹ According to the US Census, between 2012 and
58 2050, the United States will experience considerable
59 growth in its older population,² which is expected to
60 grow to represent 21.7% of the total population by
61 2040.¹ Following disasters, older adults are vulnerable to
62 disproportionately higher morbidity.¹ Numerous studies
63 demonstrate that disasters impact older adults more than
64 other portions of the population.³⁻¹⁰ With these
65 statistics in mind, education and training for health
66 professionals to care for older adults is important.¹¹
67 Moreover, the Institute of Medicine's report, *Retooling
68 for an Aging America: Building the Health Care Workforce*,
69 reinforces that "the education and training of the entire
70 health care workforce with respect to the range of needs
71 of older adults remains woefully inadequate."¹²

72 In response to a request from the US Department of
73 Veterans Affairs, the NCDMPH initiated the devel-
74 opment of this curriculum. A key guiding document

in the initial identification of curriculum topics was the *Curriculum Recommendations for Disaster Health Professionals: The Geriatric Population*.¹³ A curriculum topic outline was developed with input from subject matter experts. Subject matter experts were then invited to author one or more lessons

from this topical outline. The lessons contain common elements based on a lesson template provided by NCDMPH. A peer review process was a key component of lesson development. Multiple authors and additional expert reviewers provided feedback on the lessons. Authors incorporated feedback and completed lessons for the final curriculum.

FIGURE 1

Venn diagram describing the content focus of *Older Adults in Disasters: A Curriculum for Health Professionals*.



ELEMENTS OF THE LESSONS

For consistency and ease of use, the lessons contain the following curricular elements:

- Mapping content to core competencies for disaster medicine and public health.¹⁴
- Learning objectives to specify the aims of the content provided.
- Estimated time to complete, ranging from 30 to 120 minutes.
- Detailed content outline, containing points to be made and issues to convey in teaching the lesson.
- Suggested learner activities for use in and beyond the classroom.
- Readings and resources for learners and educators.
- Learner assessment strategies: ideas for gauging student learning.

TABLE 1

List of Modules and Lessons in *Caring for Older Adults in Disasters: A Curriculum for Health Professionals*

Module 1: Curriculum overview and background on the older adult population

- 1-1 Curriculum overview
- 1-2 Background on older adult population

Module 2: Conditions present in the older adult population that impact their disaster preparedness, response, and recovery

- 2-1 Chronic and acute conditions
- 2-1 Psychosocial
- 2-3 Medication
- 2-4 Assistive technology

Module 3: Disaster types: Special considerations for the older adult population in disasters

- 3-1 Disaster types

Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation

- 4-1 Working with caregivers
- 4-2 Access and functional needs
- 4-3 Public health considerations
- 4-4 Clinical considerations
- 4-5 Psychosocial
- 4-6 Disaster human services
- 4-7 Preparedness issues
- 4-8 Response issues
- 4-9 Recovery issues

Module 5: Setting: Special considerations for the older adult population

- 5-1 Hospital
- 5-2 Ambulatory
- 5-3 Hospice
- 5-4 Skilled nursing facilities and assisted-living facilities
- 5-5 Older adult in the community/at home
- 5-6 Pharmacy

Module 6: Ethical legal: Special considerations for the older adult population

- 6-1 Ethical legal

Module 7: Capstone activity

- 7-1 Capstone activity

CONTENT COVERED IN THE CURRICULUM

Table 1 outlines the modules and lessons within this curriculum. The first module introduces the curriculum and provides background on the older adult population. The second module describes conditions present in the older adult population that impact their disaster preparedness, response, and recovery. The focus then shifts to how older adults are affected by particular types of disasters in module three. Module four provides an in-depth treatment of the issues health professionals should consider when caring for older adults before, during, and after disasters. The focus of module five turns toward specific considerations for particular settings in which older adults live and receive care. Module six outlines ethical and legal considerations when caring for older adults in disasters. The curriculum concludes in module seven with a capstone activity described further below.

HOW THE CURRICULUM CAN BE USED

This curriculum is designed to be used in a variety of settings such as in classroom teaching for health professionals, for continuing professional education, or for preparedness training within organizations. Educators and trainers may elect to use the curriculum in whole or in part based on the needs of their learners and organization and the time available. Educators can customize the curriculum by selecting lessons, or parts of lessons, to teach; by adapting activities as needed; or by adding additional content appropriate for their setting. Content can be taught to learners of one health profession or

in interprofessional settings. The lessons include content outlines, which allow trainers flexibility in their teaching style to include lectures, discussions, readings, case vignettes, and other teaching methods.

For those educators using a competency-based approach, the competency mapping within the lessons can be utilized within various professional development settings to enhance learner competence in disaster health. The lessons include learner assessment strategies, which educators and trainers can use to gauge acquisition of learner knowledge, skill, and attitudes. In designing the curriculum, we were cognizant of the need for breadth of content and for flexibility for use in a wide range of environments with a variety of resources and time constraints.

CAPSTONE EXCERPT

An excerpt of the final capstone activity in the curriculum is included in Box 1. This activity can be used by learners as part of the curriculum or as a stand-alone training tool. Trainers can adapt the content as necessary for their learners, organizational setting, time available, and training needs.

NEXT STEPS AND FUTURE DIRECTIONS

To access and utilize the entire curriculum or parts of the curriculum, please visit the NCDMPH website at <http://ncdmph.usuhs.edu>. The curriculum is available at no cost and

BOX 1

LESSON 7-1. CAPSTONE ACTIVITY EXCERPT

Intended Audience of Learners

A broad range of health professionals who may work with the older adult population.

Learning Objective

At the end of this lesson, the learner will be able to:

7-1.1 Describe planning and logistics considerations for caring for older adults in disasters.

Estimated Time to Complete This Lesson Excerpt

60 minutes

Suggested Learner Activities for Use in and Beyond the Classroom

Part 1:

In this section, learners will consider the implications for planning and logistics of caring for older adults in disasters.

Scenario

Either individually or in small groups with each small group doing the following together, imagine you are going to plan a meeting to discuss various planning and logistical implications of what you have learned so far in this curriculum. Use the prompts below to assist your learners in completing this section if necessary.

- Who would be present at this meeting and why is their presence important?
 - People in your workplace? People in your professional association? People in other professions? People in your community? Regional, state, county, and local systems of care? Health care coalitions?
 - Please consider any of the following possible stakeholders (adapted from¹⁻³):
 - Health care providers and systems (hospitals, clinics, rehabilitation centers, mental health facilities, home care agencies, skilled nursing facilities, health care coalitions)
 - Public health
 - Federal, state, local, tribal, and territorial government agencies
 - Public safety and security (fire, law enforcement, emergency medical services)
 - Housing agencies
 - Transportation and sanitation infrastructure

BOX 1 (Continued)

- Utilities (water, energy, communication)
- Universities or research institutions
- Service, faith-based, and volunteer organizations
- Nonprofit agencies
- Media
- Interested members of the public (individuals affected by a disaster)
- Draft a hypothetical agenda for this meeting. As you think about who to invite to the hypothetical meeting and the agenda, here are some topics to reflect on:
 - o What questions would you ask and why? What issues would you raise and why are these issues important?
 - What are the risks and hazards for your geographical jurisdiction? What vulnerabilities do these hazards and risks pose for your population, your profession, and your work setting?
 - o Please consider the following disaster planning and logistical issues:
 - Communications
 - Staffing
 - Command & Control: Who is in charge? Who is giving direction?
 - Safety & Security
 - Resources
 - Medical: medications, supplies, assistive technologies
 - Nonmedical
 - Transport
 - Continuum of care and services
 - o What decisions would you want to make in this meeting?

Part 2:

What are 3 action steps that you can take so you individually, your workplace, your profession, or your community can plan to better care for older adults in disasters?

For example, these could be areas in which you want to learn more, conversations you want to have, or any other ways in which you want to follow up on what you have learned in this curriculum.

Identify a timeframe for you to accomplish these action steps.

Tell 2 fellow learners about your action steps. Then, ask 2 of your fellow learners what their action steps will be.

Sources Cited in Preparing Outline and Activities Above

1. *Standing Together: An Emergency Planning Guide for America's Communities*. The Joint Commission. http://www.jointcommission.org/assets/1/18/planning_guide.pdf. Published 2005. Accessed December 4, 2014.
2. Stakeholders and their roles in recovery. Federal Emergency Management Agency website. <http://training.fema.gov/emiweb/downloads/hdr/session%204%20powerpoint.pdf>. Accessed December 4, 2014.
3. VOAD network: national organization member. National Voluntary Organizations Active in Disaster website. <http://www.nvoad.org/voad-network/national-members/>. Accessed December 4, 2014.

with no required registration. In the future, we intend to add supplementary resources for educators and trainers that are associated with individual lessons. A pilot process for the curriculum is currently under way. We hope that this curriculum and its use will enhance the care of older adults in future disasters.

About the Authors

The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, Maryland (Dr Altman, Ms Gulley, and Ms Strauss-Riggs); National Center for Disaster Medicine and Public Health, Uniformed Services University of the Health Sciences, Rockville, Maryland (Dr Schor); and Canadian Armed Forces, Royal Canadian Medical Service (Dr Rossi).

Correspondence and reprint requests to Kelly Gulley, MPH, Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, National Center for Disaster Medicine and Public Health, 11300 Rockville Pike, Suite 1000, Rockville, MD 20815 (e-mail: kelly.gulley.ctr@usuhs.edu).

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Disclaimer

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REFERENCES

1. Administration on Aging (AoA): Aging Statistics. Administration for Community Living website. http://www.aoa.acl.gov/Aging_Statistics/index.aspx. Accessed December 28, 2015.
2. Jenkins JL, Levy M, Rutkow L, et al. Variables associated with effects on morbidity in older adults following disasters. *PLoS Currents*. 2014 Dec 5:6. doi:10.1371/currents.dis.0fe970aa16d51cde6a962b7a732e494a.
3. Ortman JM, Velkoff VA, Hogan H. An Aging Nation: The Older Population in the United States Population Estimates and Projections Current Population Reports. <https://www.census.gov/prod/2014pubs/p25-1140.pdf>. Published May 2014. Accessed April 5, 2016.
4. Rapid assessment of the needs and health status of older adults after Hurricane Charley—Charlotte, DeSoto, and Hardee Counties, Florida, August 27-31, 2004. *MMWR Morb Mortal Wkly Rep*. 2004;53(36):837-840. PubMed PMID:15371964.
5. Assessment of health-related needs after Hurricanes Katrina and Rita—Orleans and Jefferson Parishes, New Orleans area, Louisiana, October 17-22, 2005. *MMWR Morb Mortal Wkly Rep*. 2006;55(2):38-41. PubMed PMID:16424857.
6. Evans J. Mapping the vulnerability of older persons to disasters. *Int J Older People Nurs*. 2010;5(1):63-70. PubMed PMID:20925759.
7. Fernandez LS, Byard D, Lin CC, et al. Frail elderly as disaster victims: emergency management strategies. *Prehosp Disaster Med*. 2002;17(2):67-74. PubMed PMID:12500729.
8. Gibson MJ. We Can Do Better: Lessons Learned for Protecting Older Persons in Disasters. AARP website. <http://www.aarp.org/home-garden/livable-communities/info-2006/better.html>. Published May 2006. Accessed January 4, 2014.
9. Somes J, Stephens Donatelli N. Disaster planning considerations involving the geriatric patient: part I. *J Emerg Nurs*. 2012;38(5):479-481. PubMed PMID:22819373.
10. Trust for America's Health. Ready or Not? Protecting the Public's Health From Diseases, Disasters, and Bioterrorism. <http://healthyamericans.org/assets/files/TFAH2012ReadyorNot10.pdf>. Published December 2012. Accessed December 10, 2013.
11. Education & Training: Meeting the Needs of Older Adults. Eldercare Workforce Alliance website. <http://www.eldercareworkforce.org/research/issue-briefs/research:education-and-training/>. Originally published on February 16, 2011. Accessed December 28, 2015.
12. Institute of Medicine. Committee on the Future Health Care Workforce for Older Americans. *Retooling for an aging America: Building the Health Care Workforce*. National Academies Press. <http://nationalacademies.org/hmd/reports/2008/retooling-for-an-aging-america-building-the-health-care-workforce.aspx>. Published April 11, 2008. Accessed April 5, 2016.
13. Johnson HL, McBee EC, Ling CG. Curriculum Recommendations for Disaster Health Professionals: The Geriatric Population. <https://ncdmp.usuhs.edu/Documents/GeriatricCurrRec-201407.pdf>. Published August 2014. Accessed July 1, 2015.
14. Walsh L, Subbarao I, Gebbie K, et al. Core competencies for disaster medicine and public health. *Disaster Med Public Health Prep*. 2012;6(1):44-52. doi: 10.1001/dmp.2012.4.
15. Psychological and emotional effects of the September 11 attacks on the World Trade Center—Connecticut, New Jersey, and New York, 2001. *MMWR Morb Mortal Wkly Rep*. 2002;51(35):784-786. PubMed PMID:12227439.

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